

Hexham Wind Farm

Executive summary



A significant transition is occurring both nationally and internationally from traditional forms of electricity generation that use fossil fuel resources to the use of renewable resources such as wind energy. This transition is occurring in response to several factors including climate change, cost of energy, government policy, and community expectations.

The Hexham Wind Farm (the project) is a proposed wind farm development in Moyne Shire in south-western Victoria that would consist of up to 106 wind turbine generators, a battery energy storage facility and supporting infrastructure. The project aims to deliver affordable and reliable electricity through the conversion of wind energy into electrical energy. It would generate around 2,559 gigawatt hours of renewable electricity to the National Electricity Market annually over 25 years, equivalent to the average electricity usage of around 515,000 Victorian households.

Hexham Wind Farm Pty Ltd, owned by Wind Prospect Pty Ltd (Wind Prospect), is the project proponent. Wind Prospect is an independently owned renewable energy project developer that has operated in Australia since 2000. During that time Wind Prospect has gained planning approval for twenty-two wind farms (e.g., see Figure ES.1) and three solar farms within Australia, totalling more than 3,700 megawatts of generating capacity.

The project was referred to the Minister for Planning (the Minister) in March 2022 under the *Environment Effects Act 1978*. On 19 April 2022, the Minister determined an Environment Effects Statement (EES) was required due to the potential for the project significantly affect environment and community values. An EES allows for the detailed assessment of potential environmental, social and economic impacts and benefits of a proposed project, and informs government decision-making around the assessment of the acceptability of the project's environmental effects and project approvals.

The EES has been informed by 18 supporting studies, which identify the existing conditions of the study area and the potential effects of the construction, operation and eventual decommissioning of the project. The EES also outlines avoidance and minimisation measures applied during the design development process, and environmental management measures (EMMs) that have been proposed to further avoid, minimise, mitigate or offset potential impacts.

This executive summary provides a high-level overview including the project need and benefits, project description, community and stakeholder engagement process, key findings of the EES, and the next steps of the planning and approvals process.

Project objectives and benefits

The project objectives describe why the project is needed and what it proposes to achieve. These objectives are to:

- deliver affordable and reliable electricity to the electricity grid
- support Victoria's Renewable Energy Target
- support the Commonwealth Government's greenhouse gas emissions reduction target
- improve network strength through the development of a firmed power supply
- minimise the negative and maximise the positive effects on the environment and communities
- support the local community and the local economy
- support participating and neighbouring landowners
- engage and work with community and other stakeholders to identify any potential environmental impacts and implement appropriate mitigation and management measures.

The project benefits are discussed below.

Further information on the objectives and benefits of the project is provided in Chapter 2 – **Project rationale and benefits**.



Figure ES.1 Willogoleche wind farm developed by Wind Prospect in open and relatively flat terrain

Employment

The project would support the local and regional economy by providing around 360 direct full-time equivalent jobs during construction, and 26.8 ongoing full-time equivalent jobs during project operation.

The project would also indirectly support jobs in the Moyne Shire and surrounding local government areas. An additional 192.6 indirect full-time equivalent jobs are anticipated to be created during construction through supply chains and local service industries, and 7.1 indirect full-time equivalent jobs once the wind farm is operating.

Economic

The project is predicted to generate considerable economic benefits during its 25-year life, including:

- expenditure during construction of approximately \$2.4 billion, of which \$249.8 million is expected to be invested locally
- operational expenditure estimated at \$310 million per annum during the project's operational life, of which \$13.4 million is expected annually within the Moyne and Warrnambool local government areas.
- additional expected economic stimulus of \$1.2 million per annum through the Neighbour Benefit Sharing Program, during the project's operational life
- total rates to the Moyne Shire estimated to be more than \$10 million each year during the project's operational life.

Community

A Neighbour Benefit Sharing Program has been developed in consultation with the local community to share benefits more broadly with the community. The program would be eligible to landowners and/or residents with a dwelling within six kilometres of a constructed wind turbine (excluding those hosting infrastructure). The program would offer:

- a one-off construction payment of \$1,000
- an annual neighbour benefit payment of between \$1,000 and \$30,000 and
- an energy cost offset plan of up to \$2,000 per year.

A Community Benefit Fund would also be established, which would comprise \$1,000 per year for every operational turbine commencing at the commissioning of the wind farm and continue annually for as long as the wind farm is operational. A fund committee, made up of a number of community representatives and a representative from the wind farm company, would decide how these funds would be allocated to eligible initiatives.

The project would also upgrade several roads to provide access for the oversized project infrastructure components such as wind turbine blades and tower sections. These upgrades would also improve the road conditions for local road users in the longer term.

Environmental

The project would contribute significantly to both the Commonwealth and Victoria's renewable energy generation target of 65% by 2030 and 95% by 2035. It will contribute around 2,559 gigawatt hours per year of electricity to the National Electricity Market, which is enough to power more than 515,000 homes with renewable energy.

As long as the electricity generated by the project replaces electricity generated by brown coal, this would save about 2.2 million tonnes of carbon dioxide equivalent each year.

Approvals

The project is being assessed via this EES under the *Environment Effects Act 1978*, which will inform the Minister's assessment of the acceptability of the environmental effects of the project. This assessment will be provided to relevant Commonwealth, Victorian and local decision makers to inform all applicable planning and environmental approvals. These statutory decision makers must consider the Minister's assessment in deciding whether to grant approval to construct, operate and decommission the project.

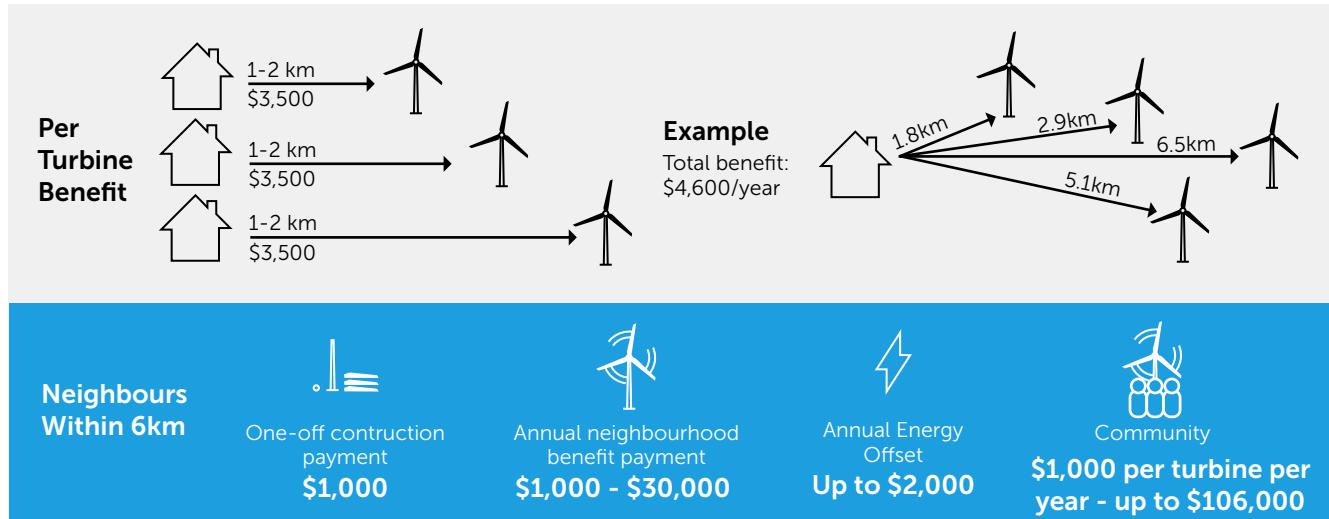


Figure ES.2 Neighbour Benefit Sharing Program

Primary approvals

Environment Protection and Biodiversity Conservation Act 1999

The project was referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the EPBC Act on 30 April 2019. On 31 August 2022, a delegate for the Minister for the Environment determined the project was a 'controlled action' due to potential impacts to listed threatened species and communities, and listed migratory species.

The project will be assessed under the assessment bilateral agreement with Victoria. Under this agreement, the Victorian Minister for Planning's assessment of the environmental effects of the project will be provided to the Commonwealth Minister for the Environment to inform the approval decision under the EPBC Act.

Planning and Environment Act 1987

Under the *Planning and Environment Act 1987*, the Minister for Planning is the Responsible Authority for all large energy generation facilities and utility installations, which includes wind farms. The Minister also has the power to call in any planning permit applications associated with the project under Section 97B of the *Planning and Environment Act 1987*. This includes applications for which the Minister is already the responsible authority. It is anticipated that all planning permits for the project will be called in by the Minister, enabling a combined assessment under Section 97B(1)(c) of the *Planning and Environment Act 1987*. As such, a planning permit application has been prepared and is exhibited alongside the EES.

Aboriginal Heritage Act 2006

Under the *Aboriginal Heritage Act 2006*, Aboriginal cultural heritage is protected by requiring planning permit applicants to prepare a Cultural Heritage Management Plan if, and when, their proposed actions pose a risk to Aboriginal cultural heritage. Section 49 of the *Aboriginal Heritage Act 2006* also states that projects assessed under the *Environment Effects Act 1978* (i.e., where an EES is required) require the preparation and approval of a Cultural Heritage Management Plan (CHMP) prior to commencing project construction. The CHMP for the project will be evaluated by Eastern Maar Aboriginal Corporation as the Registered Aboriginal Party for the project site.

Mineral Resources (Sustainable Development) Act 1990

The option to develop an on-site quarry to supply materials to construct internal access tracks, hardstand areas and turbine foundations (if the material is of suitable quality) is being considered. The extraction of stone requires a work authority under section 77I of the *Mineral Resources (Sustainable Development) Act 1990*, regulated by Resources Victoria (part of DEECA).

To obtain a work authority, the project has prepared a draft quarry work plan in accordance with section 77G of the *Mineral Resources (Sustainable Development) Act 1990* (refer to Attachment II – *Preliminary draft Quarry Work Plan*).

Secondary approvals

Further consents, permits and licences to be obtained prior to the commencement of project construction or operation will likely include:

- A licence to Take or Use groundwater from Southern Rural Water under Section 51 of the *Water Act 1989* for dewatering, should the project intercept groundwater at the on-site quarry or construct a bore.
- A works on a waterway licence to construct works across any designated waterway or to construct a bore from Glenelg Hopkins Catchment Management Authority, pursuant to Section 67 of the *Water Act 1989*.
- A permit from DEECA to remove species protected under the *Flora and Fauna Guarantee Act 1988* from public land and for impacts to 'critical habitat' on private land.
- A licence or authorisation from DEECA in accordance with the *Wildlife Act 1975*, should wildlife require relocation during construction.
- Consent from the coordinating road authority to develop and upgrade intersections and local roads to enable access to the site, and for electricity transmission cables to cross roads within the project site pursuant to Section 63 of the *Road Management Act 2004*.
- Consent under the *Crown Land (Reserves) Act 1978* where the project intersects unnamed government roads and road reserve, and where wind turbine generators will result in blade overhang onto Crown land.
- A permit to impact on unreserved crown land under the *Land Act 1958*.

Further information on the project approvals is provided in Chapter 3 – **Legislation and policy framework**.

Project overview

Location

The project is located about 15 kilometres west of Mortlake and 15 kilometres north-east of Woolsthorpe. Locally, it is situated about three kilometres south-west of the town of Hexham, three kilometres north-west of Ellerslie and four kilometres south-east of Caramut (Figure ES.4). The project site is entirely within the Moyne Shire.

The project is bordered to the north by the Hamilton Highway and lies between Woolsthorpe-Hexham Road and Hexham-Ballangeich Road to the east, Warrnambool-Caramut Road to the west and Gordons Lane to the south. The project site, defined as the area within the project boundary, covers an

area of about 16,000 hectares of mostly private land used for agriculture (predominantly sheep and cattle grazing as well as some cropping). As a result of past clearing for agriculture, native vegetation within the project site is largely restricted to roadside reserves and along watercourses.

The project site is well-suited for a wind farm development, with strong prevailing winds and a short link to the existing Moorabool to Heywood 500-kilovolt transmission line. The area has a low density of houses compared to other parts of Victoria and contains an open landscape with good road access. The project is located within the South West Renewable Energy Zone established by the Victorian State Government Figure ES.3).

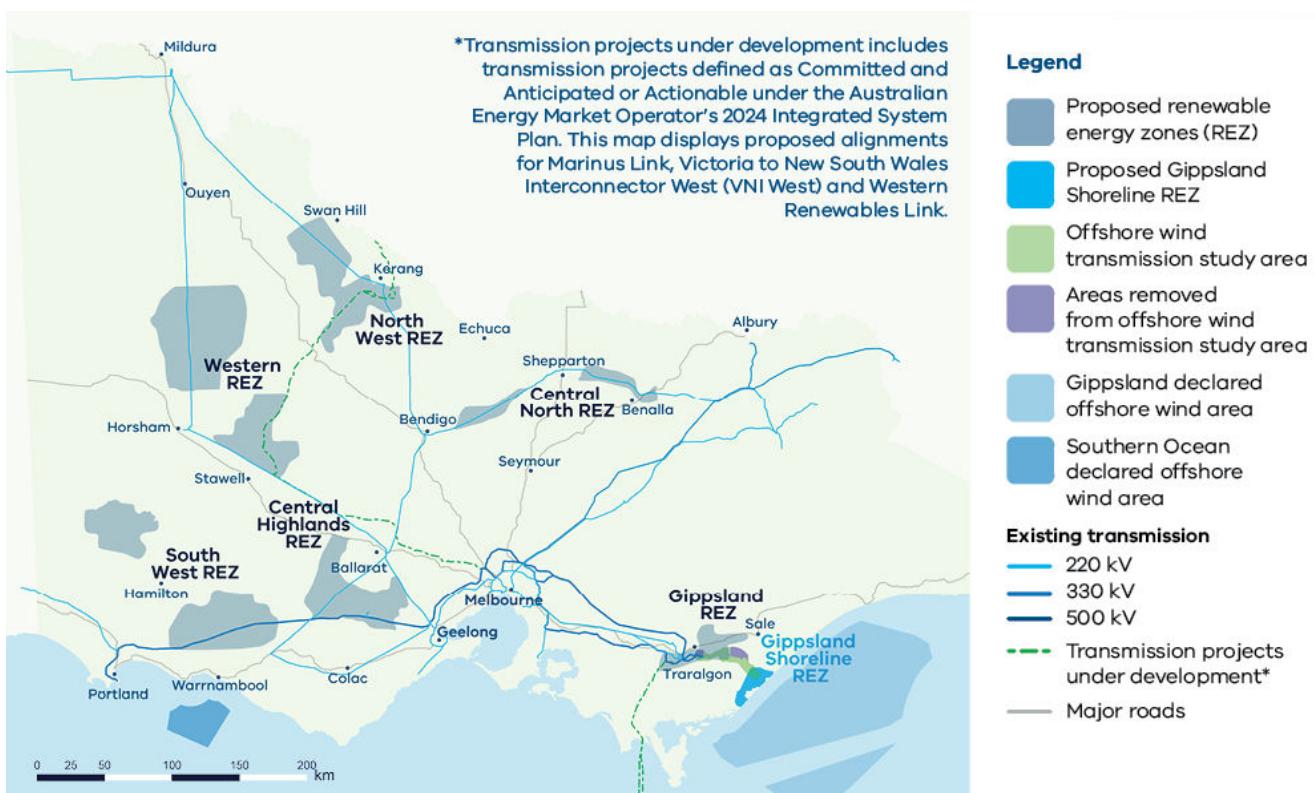


Figure ES.3 Victorian Renewable Energy Zones (Source: VicGrid, 2025)

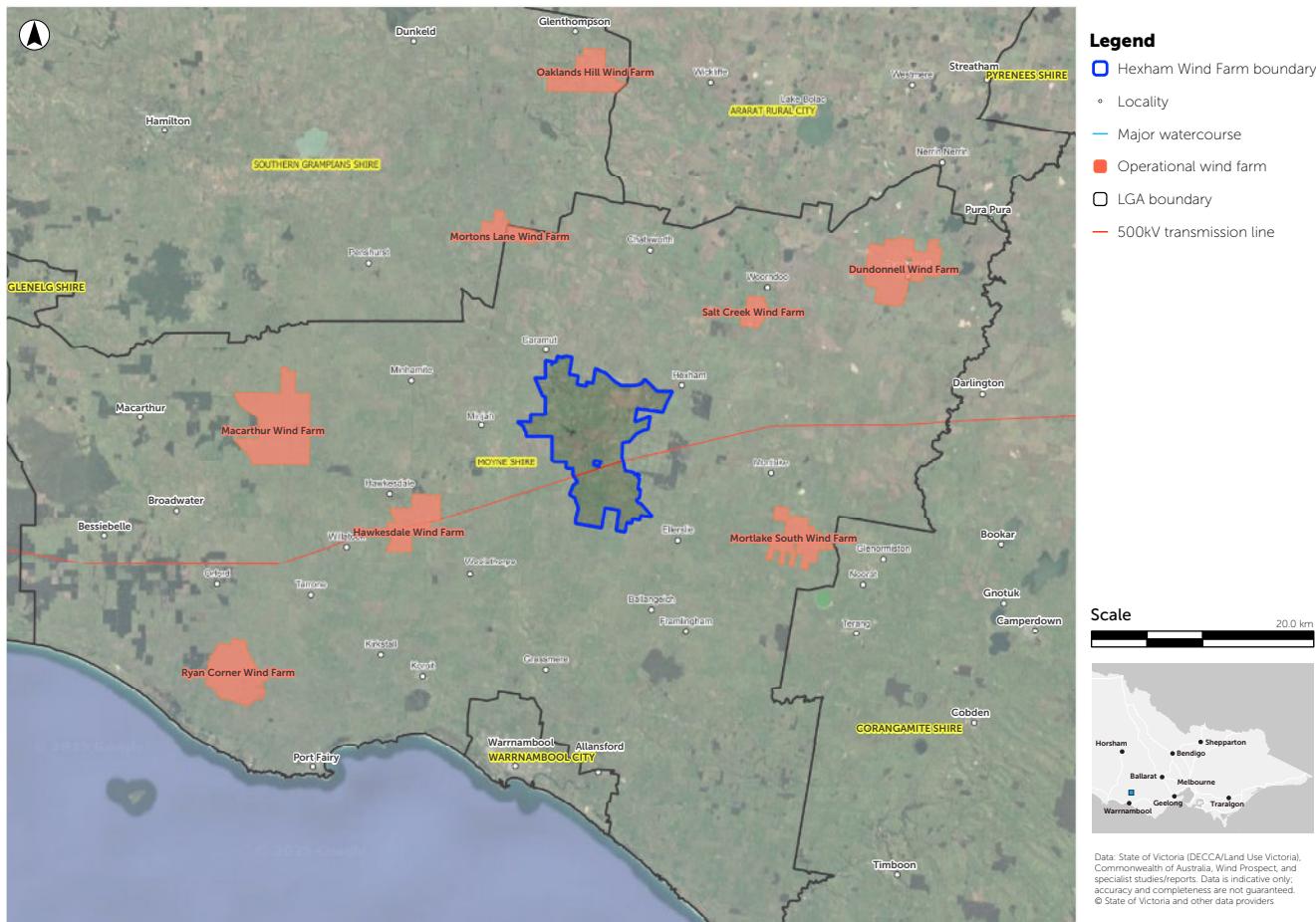


Figure ES.4 Project location

Project description

The project would harness strong and reliable winds to generate renewable energy. This electricity would be distributed by underground and overhead cables to the new on-site terminal station and battery energy storage system, from where it would be exported to the national electricity transmission network via the existing Moorabool to Heywood 500-kilovolt transmission line.

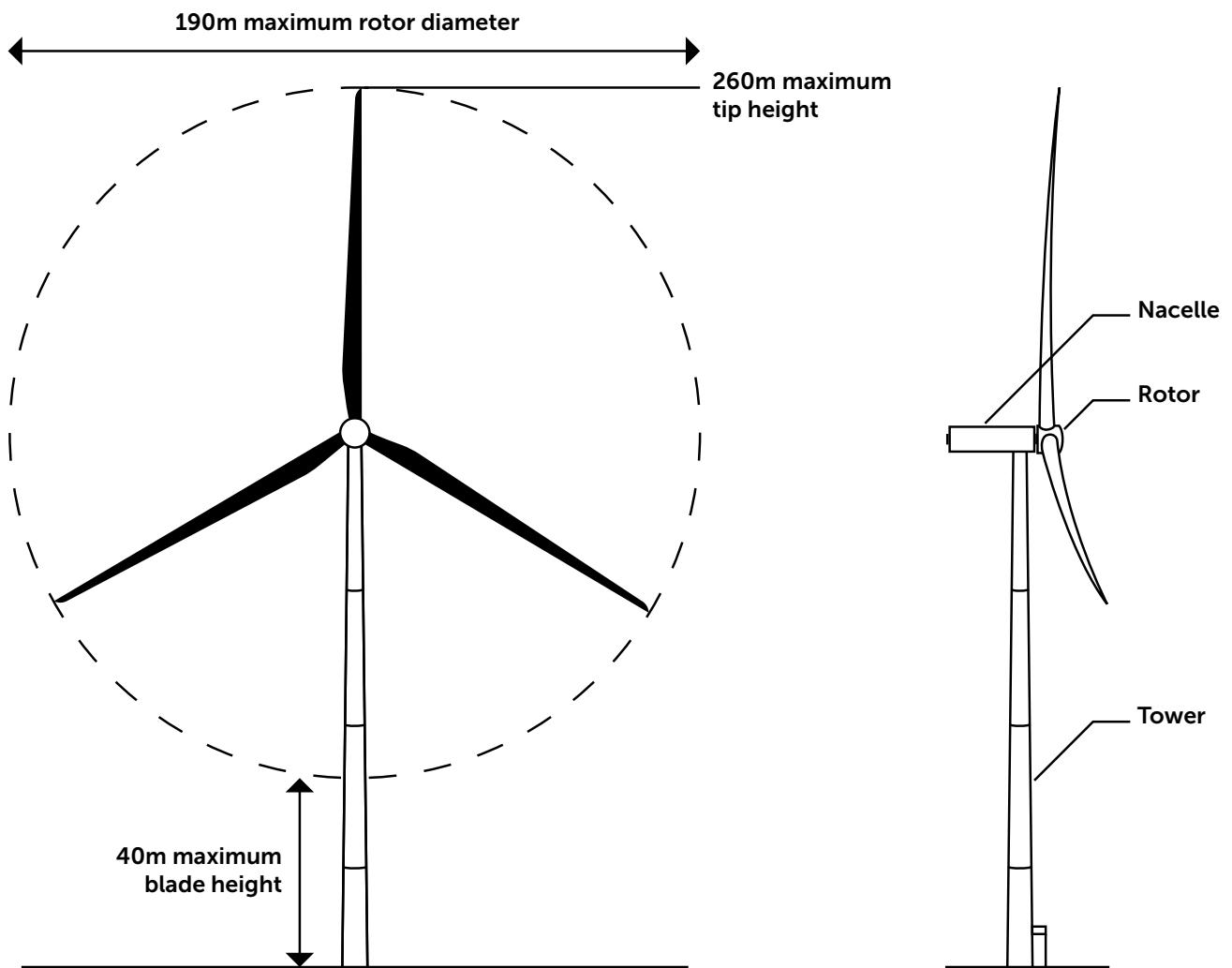


Figure ES.5 Proposed wind turbine dimensions

The key elements of the project are listed below. The project is described in more detail in Chapter 6 – **Project description**. The project includes:

- up to 106 wind turbine generators with a generating capacity of 6.8 megawatts or more, each consisting of foundations, a hardstand area, tower, three rotor blades with a maximum tip height of 260 metres and a minimum blade tip clearance from the ground of 40 metres, and a nacelle (housing for the generator, gearbox etc) (Figure ES.5)
- access tracks with a final width of nine metres (inclusive of drainage, where required) to provide access to each wind turbine and supporting infrastructure from the public road network
- underground electricity cables laid within trenches up to one metre below the surface to connect wind turbines to the new on-site terminal station.
- overhead powerlines (with an expected distribution voltage of 33 kilovolts) to connect wind turbines to the new on-site terminal station

- on-site terminal station to transfer electricity generated by the wind turbines to the existing Moorabool to Heywood 500-kilovolt transmission line located in the southern portion of the project site
- a battery energy storage system with a nominal capacity of 200 megawatts / 800 megawatt-hours located next to the on-site terminal station would store electricity and dispatch electricity when demand is higher and/or supply decreases (e.g., Figure ES.6)
- an operations and maintenance building, located next to the on-site terminal station and battery energy storage system
- up to five meteorological masts supporting meteorological monitoring equipment
- temporary construction infrastructure including construction site office compounds, staging areas, concrete batching plants, laydown areas and washdown facilities
- on-site quarry (as the preferred option) to supply crushed rock aggregate for the construction of the project. The alternative option of sourcing all quarry material from existing quarries has also been assessed as part of the EES process.

An overview of the project and key infrastructure is provided in Figure ES.7.

Phases

The project would consist of four phases: pre-construction (12 to 18 months), construction (two years), operation (25 to 30 years) and decommissioning (6 to 12 months).

Pre-construction

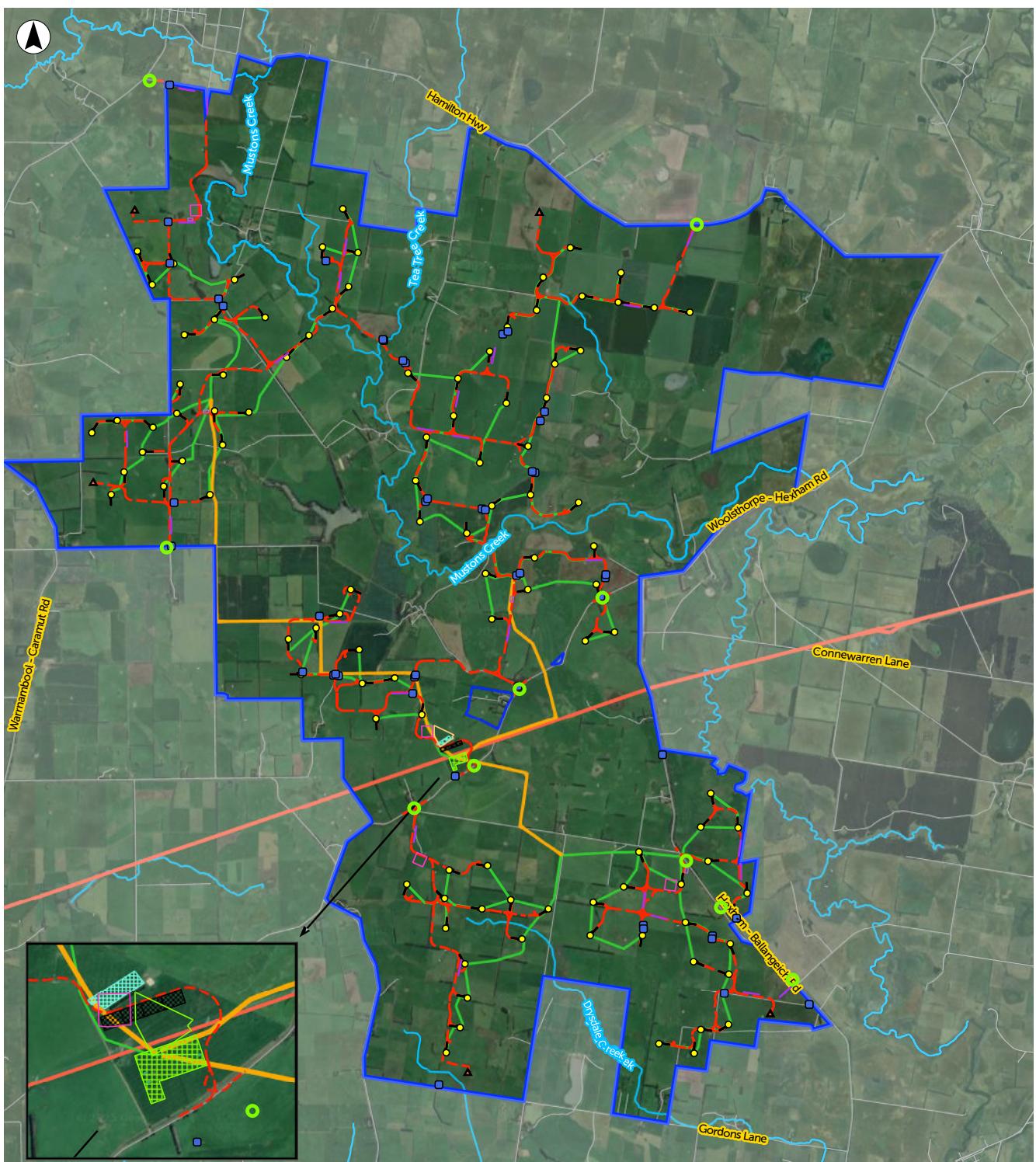
Before project construction starts, a range of pre-construction activities would be completed, including a geophysical investigation to determine ground conditions and inform any micro-siting of project infrastructure, and development of management plans (including the Construction Environmental Management Plan and its sub-plans).

Construction

The construction process would commence with project enabling works, including local road upgrades, construction of site access points and initial access tracks needed for the delivery of materials, and establishment of temporary concrete batching plants and construction offices, and the on-site quarry.



Figure ES.6 Hornsdale big battery in South Australia (Source: *Financial Times*, 2017)



Legend

Proposed wind farm infrastructure

- Wind farm boundary
- Internal overhead powerline
- Wind turbine generator and hardstand area
- Site accessway
- Underground powerlines
- ▲ Permanent wind monitoring mast
- Site O&M facility and carpark
- Electrical terminal station
- Battery energy storage system

Proposed temporary infrastructure

- Site compound
- Concrete batching plant
- Staging areas
- Construction site office & compound
- Quarry
- Access Gate
- Wash Down Facilities

Existing infrastructure

- 500kV powerline



Data: State of Victoria (DECCA/Land Use Victoria), Commonwealth of Australia, Wind Prospect, and specialist studies/reports. Data is indicative only; accuracy and completeness are not guaranteed. © State of Victoria and other data providers

Scale

5.00 km

Figure ES.7 Project overview

The next phase of construction would be civil works including development of remaining access tracks, construction of wind turbine foundations (Figure ES.8) and turbine hardstands, underground and overhead electrical cabling, and building of the on-site terminal station and battery energy storage system.

Final construction activities would involve wind turbine delivery and installation (Figure ES.9), demobilisation of key plant and rehabilitation of temporary construction areas, and commissioning.



Figure ES.8 Wind turbine foundation



Figure ES.9 Wind turbine installation



Figure ES.10 Example of wind farm substation and operations and maintenance facility

The construction footprint would total approximately 603.1 hectares (or around 3.75% of the site). This includes an area of around 150.3 hectares (or 0.9% of the site) which would be used for the life of the project.

The Port of Portland is proposed to be the primary port of entry for major imported components. An over-dimensional vehicle transport route has been nominated between the port and the project site.

Ten site access points are proposed from two arterial and four local council roads, being:

- One access point from the Hamilton Highway
- One access point from Warrnambool-Caramut Road and Hamilton Lane
- Four access points from Woolsthorpe-Hexham Road
- One access gate on Immigrants Lane
- One access point from Keillors Road
- Two access point from Hexham-Ballangeich Road.

Project construction is anticipated to take approximately two years, commencing at the end of 2027, subject to a planning permit and project financing being obtained in 2026.

Construction would be undertaken in line with EPA Victoria guidelines, with work generally occurring between 7 am and 6 pm Monday to Friday, and 7 am and 1 pm on Saturdays. Any specific works required to be completed outside of these hours would only occur in consultation with Moyne Shire Council and the community.

Operation

Once the wind turbines are in operation, the project would be monitored by both on-site staff and remote monitoring. Around 24 staff, mostly involved in technical maintenance, would be located on-site. These on-site staff and specialised contractors would carry out routine and responsive operation, maintenance and repair activities. The project would have an operating life of at least 25 years.

Decommissioning

Decommissioning activities are expected to occur over a period of six to 12 months and would involve large equipment (e.g., cranes, excavators and graders) and the transport of large project components from the site (e.g., wind turbine towers and blades). Most above-ground components of the project can be recycled at the end of their life, including wind turbine components such as steel towers, copper wiring, and concrete foundations which are commonly recycled where feasible. Blades, which are often made of composite materials, may be repurposed, landfilled, or sent to specialised recycling facilities if available.

Below-ground infrastructure, including wind turbine foundations and underground cables, may be left in situ to minimise further ground disturbance and covered with at least 500 millimetres of clean fill material. The ground surface would be rehabilitated to reflect the natural surface that existed pre-development and to avoid soil erosion.

Project development and alternatives

The project has been in planning and development since 2011, and considerable activity occurred between then and the submission of the EES referral in 2022.

After the selection of the Hexham project site as a preferred location, a systematic and risk-based approach was adopted to identify aspects of the design that warrant consideration of alternatives, then identifying and comparing feasible alternatives (e.g., location of infrastructure, construction methods, transport routes). Reasonable alternatives for the project have been assessed at every stage of development, and opportunities for input to potential project alternatives were provided during EES public exhibition, Technical Reference Group meetings and presentations to the Department of Transport and Planning (DTP) Impact Assessment Unit, and panel hearings.

Avoidance and minimisation of impacts have been central to the development of the project. The

approach has been to firstly avoid potential impacts, if possible, then, where avoidance was not practicable, to minimise the severity of the impact over space and time. This is followed by applying targeted mitigation and management measures to protect environmental and social values.

Initial design

An initial concept site boundary was developed based on landowner discussions. The project's early design consisted of 207 wind turbines and sought to maximise the potential energy production based on the technology available at that time.

A range of environmental and cultural heritage investigations were commissioned to gain a better understanding of the initial project site and surrounds.

Revised concept design

Following detailed wind monitoring, preliminary information on potential biodiversity and Aboriginal heritage sensitivities within the project area, and landowner negotiations, the project was publicly launched in 2019 with a design consisting of 125 wind turbines and maximum blade tip height of 250 metres.

Between 2019 and 2022, project activities focused on developing a more comprehensive understanding of site-specific conditions based on a wide variety of technical assessments as well as significant engagement with stakeholders and the community. This resulted in a concept design consisting of 108 turbines with a maximum wind turbine blade tip height of 250 metres. This design was referred under the Victorian *Environment Effects Act 1978* and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in 2022.

Current project design

Following the EES referral the project design underwent a series of updates and improvements. This included:

- increasing Brolga buffer zones and application of buffers from Wedge-tailed Eagle nests.
- minimising the presence of wind turbines within 269 metres of potential Southern Bent-wing Bat habitat.
- improved mapping of native vegetation and habitat across the project site.
- siting of access tracks and cables, and other ancillary infrastructure, to avoid and minimise native vegetation removal or disturbance.
- reduction in site access gates to minimise native vegetation impacts and disruption to local traffic.
- proposal of a temporary on-site quarry to reduce heavy vehicle movements on local roads.

Figure ES.11 presents a summary of the design development process to date.

Project identification and refinement

Extensive search for suitable wind farm locations within Victoria with a short list of potential sites selected

Following detailed analysis to establish the suitability of the sites, Hexham was selected as the preferred project location with an initial design developed

Concept design developed based on preliminary investigations, which was referred to State and Commonwealth Governments

Further project refinement based on technical assessments concluding with the design presented within the EES

Constraints considered

Preliminary assessment of locations based on:

- Wind resource
- Proximity to grid connection with capacity
- Low dwelling density
- Environmental constraints

Detailed analysis to establish the suitability of the sites considering:

- Supportive host landowners
- Potential for significant environmental effects
- Condition of road network
- Transport route to port for turbine components
- Avoidance of coastal areas (high amenity value and usually higher population density)
- Appropriate planning zone(s)

Preliminary on-site assessments of site constraints including:

- Flora and fauna
- Aboriginal heritage
- Stakeholder engagement

Detailed assessments of site constraints including:

- Noise
- Landscape and visual amenity
- Flora and fauna
- Aboriginal heritage
- Historical heritage
- Traffic and transport
- Social and economic
- Hydrology and hydrogeology
- Aviation
- Electromagnetic interference
- Shadow flicker
- Landform and soils
- Air quality
- Land use and planning

Figure ES.11 Project identification and refinement process for the Hexham Wind Farm

Stakeholder and community engagement

The project team has actively engaged with community and other stakeholders to develop a project that considers the full range of local opinions, incorporating local knowledge of the environment, minimising potential impacts and improving project outcomes.

Community and stakeholder engagement started in 2019 and included the distribution of newsletters to dwellings within 10 kilometres of the project. A neighbour doorknock of properties was carried out within six kilometres of the project site, and local organisations and businesses were contacted to let them know about the project. A community engagement committee with local representatives was established around that time by Moyne Shire Council, which has subsequently held 18 meetings to date (with meetings expected to continue).

At the start of the EES process, a Technical Reference Group was established by DEECA to advise on the scoping and adequacy of the EES impact assessments and chapters. Consultation and engagement with the Technical Reference Group has occurred throughout the EES process, up until its lodgement for exhibition.

Continued engagement with the local community also occurred throughout the EES process and included:

- initial community information sessions in Caramut and Ellerslie in May 2019 (Figure ES.12)
- public excursions to the operational Murra Warra Wind Farm in November 2019
- drop-in information sessions in June 2022 over two days at Hexham, Caramut and Ellerslie to outline the EES process and explain how residents could be involved
- drop-in sessions at Caramut, Ellerslie and Hexham in July 2023 to coincide with the release of the draft Scoping Requirements for the EES
- drop-in sessions in Hexham, Caramut and Ellerslie in May 2025 to update the community on the status of the project, expected exhibition timelines for the EES, and to provide information about the completed impact assessments and proposed mitigation measures
- distribution of 12 project newsletters to landowners within 10 kilometres of the project site (between 2019 and the finalisation of the EES) (Figure ES.13)
- project fact sheets, providing accessible, easy to understand information about key aspects of the project (available at community drop-in sessions, market stalls and via the project website).

A timeline of community engagement activities is provided in Figure ES.14.

The coronavirus (COVID-19) pandemic impacted the ability to carry out in-person engagement activities throughout much of 2020 and 2021. However, during this time, a virtual presence was maintained through the project website, email and phone, updates provided to the community engagement committee, and project update newsletters were distributed in October 2021, March 2022, May 2022 and December 2022. A leaflet containing Frequently Asked Questions and answers was also distributed in July 2020.



Figure ES.12 Community information session at Ellerslie Hall in May 2019



Figure ES.13 Project newsletters



Hexham Wind Farm Community Engagement Activities*



Figure ES.14 Timeline of community engagement activities

As part of the public launch of the proposed project, a doorknock at all dwellings within six kilometres of a project wind turbine was undertaken, and neighbours were asked for their opinions about the proposed project. The doorknock recorded 178 opinions of the owners of habitable dwellings within this area, with 111 respondents either supportive or neutral towards the project, 10 undecided and 57 objecting to the project. There were 40 landowners who could not be contacted during the doorknock, so their opinions are unknown.

Public opinion surveys were also provided to all neighbouring landowners within 10 kilometres of the project site and was available to access to provide feedback through the project website from 2019 to early 2025. In both surveys, over 60% of respondents were supportive of the project, as shown in Figure ES.15.

Not all respondents provided reasons for their opinion about the proposed project. However, where they did provide a response, their comments most commonly reported concerns related to noise, visual, cumulative and traffic impacts, as well as impacts on property values.

Further information on community and stakeholder engagement undertaken during the EES process is provided in Chapter 7 – **Stakeholder engagement**.

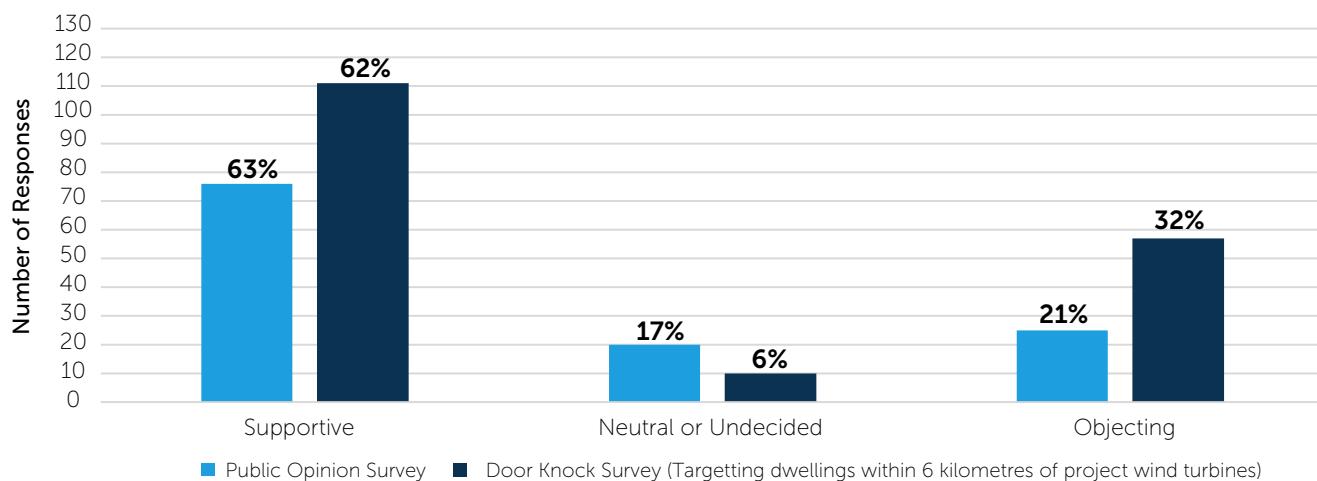


Figure ES.15 Public opinion survey results

Environment Effects Statement

Requirement for an EES

On 19 April 2022, the Minister assessed the EES referral for the project and determined an EES was required because of the potential for the project to have significant effects on the local community and the environment. The reasons for this decision were due to potentially significant effects to:

- biodiversity values, including threatened species and communities listed under the *Flora and Fauna Guarantee Act 1988* and *Environment Protection and Biodiversity Conservation Act 1999*
- native vegetation and ecology of the area's terrestrial environments and freshwater environments, including wetlands and creeks
- Aboriginal cultural heritage
- landscape and visual amenity.

The Minister's decision also noted that further assessment regarding potential effects on historic heritage, traffic, shadow flicker, soils, groundwater, electromagnetic interference, aviation, amenity and socioeconomic values is required. Additionally, the Minister determined the project has the potential for cumulative adverse effects (particularly on local and regional biodiversity, social and landscape values) due to other proposed, approved and operating wind farms in the vicinity of the project.

EES purpose

The *Environment Effects Act 1978* provides for the assessment of projects that have the potential to have a significant adverse effect on the environment, which is taken to encompass "*the physical, biological, heritage, cultural, social health, safety and economic aspects of human surroundings including the wider ecological and physical systems within which humans live*".

The EES aims to provide sufficient information to enable the Minister to prepare a final assessment report of the effects a project. The Minister's assessment is then provided to relevant decision-makers to enable them to make decisions about a proposal based on the Minister's advice about whether the likely environmental effects are acceptable.

Scoping requirements

The final Scoping Requirements for Hexham Wind Farm Environment Effects Statement (scoping requirements) were issued by the Minister in September 2024 after consideration of the EES referral and public submissions on the draft scoping requirements. The scoping requirements specify the matters to be investigated and documented within the EES and include evaluation objectives for each of the topics to be addressed. These topics and evaluation objectives are summarised in Figure ES.16. Key issues to be addressed through the EES process to meet the evaluation objectives (as contained within the scoping requirements) are included in relevant technical chapters in the main EES document.

EES process

The EES process is managed by DTP on behalf of the Minister. DTP convened a Technical Reference Group, consisting of representatives from Victorian Government agencies and regional authorities, as well as the Moyst Shire Council and Representative Aboriginal Party. All these organisations have an interest in matters affected by the project. In conjunction with the Technical Reference Group, DTP provided advice throughout the assessment process, including on the adequacy of the EES in responding to the final scoping requirements.

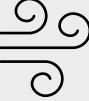
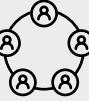
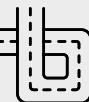
| | | |
|--|---------------------------------------|--|
|  | Biodiversity and habitat | To avoid, and where avoidance is not possible, minimise potential adverse effects on biodiversity values within and near the site including native vegetation, listed threatened species and ecological communities, and habitat for these species. Where relevant, offset requirements are to be addressed consistent with state and Commonwealth policies. |
|  | Catchment values and hydrology | To maintain the functions and values of aquatic environments, surface water and groundwater quality and stream flows and avoid adverse effects on protected environmental values |
|  | Landscape and visual | Avoid and, where avoidance is not possible, minimise and manage potential adverse effects on landscape and visual amenity. |
|  | Amenity | To minimise and manage adverse air quality and noise and vibration effects on residents and local communities as far as practicable during construction, operation and decommissioning having regard to applicable limits, targets or standards. |
|  | Cultural heritage | Protect, avoid, or minimise where avoidance is not possible, adverse effects on historic heritage values, and tangible and intangible Aboriginal cultural heritage values, in partnership with Traditional Owners. |
|  | Land use and socioeconomic | To avoid and minimise adverse effects on land use (including agricultural and residential), social fabric of the community (with regard to wellbeing and community cohesion), local infrastructure, electromagnetic interference, aviation safety and to neighbouring landowners during construction, operation and decommissioning of the project. |
|  | Traffic and roads | To avoid and minimise adverse effects on roads and road users during construction, operation and decommissioning of the project. |

Figure ES.16 Evaluation objectives

Assessment of potential impacts

The following sections summarise the main potential impacts of the project.

More information is provided the EES Main Report, particularly in chapters 8 to 27, which provide a comprehensive assessment of the potential impacts of the project.

Biodiversity and habitat

Most of the project site has been highly modified by past and ongoing agricultural practices, with land cleared of original native vegetation to facilitate grazing and cropping. As such, native vegetation is largely restricted to roadsides, waterways and wetland areas. Many of these areas are also highly modified, and some contain a high abundance of invasive species.

Extensive vegetation, flora and fauna surveys have been conducted for the project over more than a decade. These surveys have included concentrated efforts to characterise the presence of threatened ecological communities and flora, and the use of the site by threatened fauna and protected migratory birds.

Vegetation assessments identified 87.3 hectares of native vegetation in patches within the project site, transport route and roadside upgrade investigations areas, consisting of nine Ecological Vegetation Classes.

Two ecological communities, listed as Critically Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), were recorded during vegetation surveys. These are Grassy Eucalypt Woodland of the Victorian Volcanic Plain (Figure ES.17) and Natural Temperate Grassland of the Victorian Volcanic Plains. Two communities listed under the *Flora and Fauna Guarantee Act 1988* (FFG Act) were also recorded: Western (Basalt) Plains Grassland Community, and Western Basalt Plains (River Red Gum) Grassy Woodland.

Spiny Rice-flower (*Pimelea spinescens* subsp. *Spinescens*) (Figure ES), listed as Critically Endangered under the EPBC Act and FFG Act, and Purple Blown-grass (*Lachnagrostis semibarbata* var. *filifolia*), listed as Endangered under the FFG Act, were recorded during targeted flora surveys. Additionally, a single *Dianella* individual was observed outside of the construction disturbance area and operational footprint, however this could not be identified to the species level due to a lack of flowering material. No other flora species listed as threatened were recorded within the investigation areas, and all other flora species listed as threatened are now considered unlikely to occur within the investigation areas based on the targeted flora survey results.



Figure ES.17 Grassy Eucalypt Woodland of the Victorian Volcanic Plain on Hexham-Ballangeich Road



Figure ES.18 Spiny Rice-flower recorded within the investigation area

A range of fauna species listed as threatened or migratory under the EPBC Act and/or FFG Act are either known to reside within, or are likely to use the project site, roadside upgrade and transport route investigation areas. This includes:

- migratory bird species: Common Greenshank (*Tringa nebularia*), Common Sandpiper (*Actitis hypoleucos*), Double-banded Plover (*Charadrius bicinctus*), Latham's Snipe (*Gallinago hardwickii*), Red-necked Stint (*Calidris ruficollis*) and Sharp-tailed Sandpiper (*Calidris acuminata*)
- other birds: Australasian Shoveler (*Spatula rhynchos*), Black Falcon (*Falco subniger*), Blue-billed Duck (*Oxyura australis*), Blue-winged Parrot (*Neophema chrysostoma*), Eastern Great Egret (*Ardea alba modesta*), Little Eagle (*Hieraetus morphoides*) and Musk Duck (*Biziura lobata*)
- Growling Grass Frog (*Litoria raniformis*)
- Tussock Skink (*Pseudemoia pagenstecheri*)
- Hairy Burrowing Crayfish (*Engaeus sericatus*).

Potential impacts to biodiversity and habitat during construction may include loss of native vegetation and habitat due to direct earthworks and physical disturbance, and indirect impacts to wetlands and adjacent habitats. Degradation of native vegetation and habitat (such as from the spread of invasive species transported by construction equipment, and changes to surface water hydrology and groundwater availability), and fauna mortality or disturbance from construction activities may also occur.

The project has applied the mitigation hierarchy whereby the approach has been to firstly avoid potential impacts if possible and practical, then to minimise the severity of the impact, followed by the application of targeted mitigation and management measures. Re-alignment and micro-siting of project infrastructure undertaken during the design development resulted in most native vegetation within the project construction disturbance area being avoided, and a reduction in impacts to mapped threatened ecological communities and Purple Blown-grass.

Depending on the selected transport route, construction of the project will result in impacts to 8.238 hectares (Geelong Transport Route option) or 8.533 hectares (Combined Transport Route option, utilising both the Port of Geelong and Portland) of native vegetation, including six scattered trees and up to nine large trees in patches. These direct impacts equate to approximately 1.4% of the total area within the project construction disturbance area. This vegetation removal will also impact one listed flora, Purple Blown-grass, with between one and six individuals to be impacted (depending on the preferred transport route), as well as:

- 0.247 hectares of Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- up to 0.605 hectares of Natural Temperate Grasslands of the Victorian Volcanic Plain
- up to 0.808 hectares of Western (Basalt) Plains Grassland Community
- up to 0.007 hectares of Western Basalt Plain (River Red gum) Grassy Woodland.

The significance of the residual impact from the removal of these mapped ecological communities is considered **low**, with less than 3% of each community within the investigation areas proposed to be impacted. The removal of wetland vegetation is considered to have **low to moderate** impact on migratory shorebirds and waterbirds, depending on the frequency and timing of wetland inundation, and depth and extent of water when flooded. The predicted impacts to Purple Blown-grass were assessed as **low to moderate** (depending on the chosen Transport Route option).

Losses of native vegetation and large trees would be offset according to DELWP's (2017c) Guidelines for the removal, destruction or lopping of native vegetation. Offsets will also be used to compensate for significant impacts to protected migratory species and threatened ecological communities, flora and fauna listed in the EPBC Act, that could not be avoided through design mitigations. These offsets will be managed in accordance with the EPBC Act Environmental Offsets Policy (DSEWPaC, 2012).

Indirect impact pathways such as spreading weeds and pathogens and degradation of surrounding land would be managed through the implementation of biodiversity and biosecurity management measures (including the requirement for decontamination bays and protection zones), and erosion and sediment control measures, which would be incorporated into the project Construction Environmental Management Plan.

Where project activities are close to watercourses or watercourses are downslope of earthworks and construction activities, erosion may cause sediment-laden runoff to enter watercourses and reduce water quality, affecting riparian habitats. A 100-metre buffer was placed around all watercourses and DEECA mapped wetlands to exclude all project infrastructure as a means of avoiding physical disturbance to wetlands and their fringes, and to limit the likelihood of poor-quality surface water runoff from construction works zones reaching these areas. Waterway protection measures, included in the Construction Environmental Management Plan, will also minimise impacts to habitat for Growling Grass Frog and Hairy Burrowing Crayfish.

A 500-metre turbine and overhead transmission line exclusion buffer was applied around all known and potential Wedge-tailed Eagle nests to minimise disturbance from project activity.

Where potential Blue-winged Parrot nesting habitat is identified during pre-clearance surveys and removed, impacts would be mitigated through the installation of nest boxes. The significance of the residual impact is considered **low to moderate**, depending on whether Blue-winged Parrot is confirmed to breed on site and the type and extent of habitat removed. Impacts from direct habitat loss for Fat-tailed Dunnart, Striped Legless Lizard and Hairy Burrowing Crayfish are considered **low to moderate** depending on the occurrence of the species.

During operation of the project, some bird deaths from collisions with wind turbines would be expected. Some bird species are more susceptible to collision with turbine blades based on their flying behaviour. A range of management measures have been proposed in *Attachment V - Bat and Avifauna Management Plan* to avoid and minimise collision risk. With the implementation of this plan, residual risks of collision to bird species are assessed as **very low to moderate** (depending on the species).

Threatened bats

Over the last decade, there has been a significant effort to assess the presence and activity of threatened bat species within the project site. This included numerous bat detector surveys, undertaken across various seasons between Spring 2010 and Autumn 2023. Vocalisations recorded were analysed to identify unique call sequences and the presence of different bat species. Calls from nine bat species were recorded during bat detector surveys, including two listed threatened species:

- Southern Bent-wing Bat
- Yellow-bellied Sheath-tailed Bat.

Targeted surveys were also undertaken to understand the movement of Grey-headed Flying-fox from a temporary camp at a pine plantation to the east of the project site, however no flights towards the project site were observed (likely due to a lack of significant food sources within the project site).

The Southern Bent-wing Bat is a cave-roosting microbat species with a restricted distribution in south-eastern Australia. It has undergone significant population decline since the 1960s (DELWP, 2020a) and is listed as critically endangered under the EPBC Act and the FFG Act).

The Yellow-bellied Sheath-tailed Bat is a wide-ranging microbat species found throughout tropical and sub-tropical Australia. Rare occurrences have been recorded in southern regions such as Victoria. It is listed as threatened under the FFG Act.

The Grey-headed Flying-fox, a megabat species shown in Figure ES.19, is distributed along the east coast of Australia from Bundaberg, Queensland to Melbourne, Victoria. They roost in large groups, known as camps, that can support up to tens of thousands of bats. Population decline of the Grey-headed Flying-fox across Australia is estimated to be in the order of 30% between 1998 and 2001 (DAWE, 2021). It is listed as vulnerable under the EPBC Act and FFG Act.

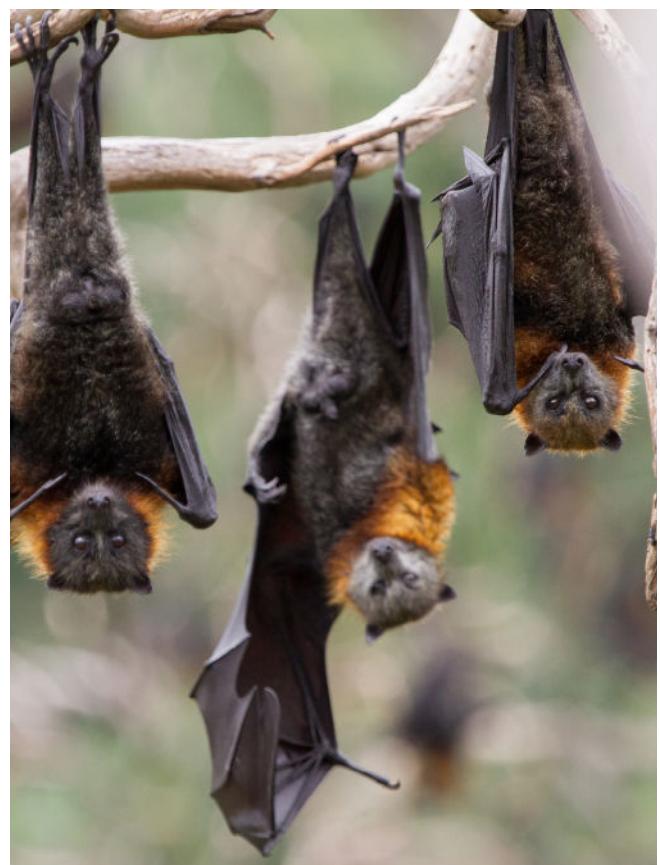


Figure ES.19 Grey-headed Flying-fox

During construction, human presence and construction noise from project activities may result in temporary disturbance of local bat populations, and construction works may also result in foraging habitat being removed. During project operation, bats may collide with operating wind turbine blades, leading to bat mortality.

To minimise the impact of the project on threatened bat species, proactive avoidance and minimisation strategies were developed during the design development process in consultation with DEECA and DCCEEW. This included turbine design and micro-siting to avoid impacts to threatened Southern Bent-wing Bat and Yellow-bellied Sheath-tailed Bat populations. A mitigation hierarchy was developed to preferentially avoid high-quality habitat and areas where high levels of Southern Bent-wing Bat activity were recorded.

As Southern Bent-wing Bat were recorded within the project site, there is a risk that individuals may collide with operating wind turbines. However, given this species primarily flies at lower heights (between 0 and 30 metres) and the infrequent calls recorded during surveys, if individuals were to cross the project site, the risk of turbine collision is considered to be **low**. For Yellow-bellied Sheath-tail Bat, noting the very small number of calls recorded within the investigation area in recent years, it is unlikely that the project would result in levels of mortality sufficient to cause a significant impact on the species, with a **very low** impact anticipated. It is unlikely that Grey-headed Flying-fox would visit the project site regularly to feed (due to limited food resources within the project site), however they may occasionally fly across the project site which may put the species at risk of collision with turbines.

A **Bat and Avifauna Management Plan** (see Attachment V) will be implemented during project operation to minimise bat collisions with wind turbines. Mitigation measures outlined in this plan include increasing the wind turbine cut-in windspeed (i.e., the windspeed at which turbines start operating), and implementing blade feathering at designated times and seasons. Bat detector surveys will be undertaken for at least two years post-commissioning to collect further data on temporal activity patterns of Southern Bent-wing Bat and Yellow-bellied Sheath-tail Bat in the project site. A Grey-headed Flying-fox monitoring program will also be undertaken for the first two years post-commissioning.

While the likelihood of bat collisions with project wind turbines has been minimised as far as practical, a **low** to **very low** level of bat mortality is anticipated.

Brolga

Brolga is listed as endangered in Victoria under the FFG Act. The Planning Guidelines for Development of Wind Energy Facilities (DTP, 2023a) require that impacts of wind farms on FFG Act listed species be assessed.

Twenty-two Brolga breeding wetlands are located within five kilometres of the project site. Eight breeding pairs of Brolga are considered to be the maximum that would occur in this area in any given year. This was the number of breeding pairs identified within the investigation area in 2019, a year in which good rainfall and wetland availability provided good conditions for successful breeding.

Wind farms have the potential to impact on Brolgas through direct effects, particularly due to collisions with wind turbines or powerlines, and indirect effects such as habitat avoidance, disturbance due to construction activities and barrier effects created by long rows of wind turbines.

Hydrological modelling was used in combination with ecological field surveys to predict which wetlands are likely to be suitable for Brolga breeding.

To minimise the impact of the project on the Victorian Brolga population, turbine-free buffers were established around wetlands used for Brolga breeding (nest, egg incubation) (Figure ES.21). The buffer was then extended using an 'elastic band' approach to include other suitable wetlands within 2,000 metres of the breeding wetland that may be used for foraging and night roosting as well the non-wetland areas located between these wetlands. A further 300-metre buffer was then applied to this area to limit disturbance from human activity.

No Brolga flocking activities have been observed within the investigation area, with the closest flocking site 20 kilometres to the north-west near Penshurst.



Figure ES.20 Brolga

Once buffers had been applied, the risk of Brolga colliding with wind turbines was assessed by developing a Collision Risk Model. This model was used to predict the risk of Brolga colliding with wind turbines over the 30-year life of the project. With the application of a conservative 90% avoidance rate, it was found that between one and ten birds may be affected over the life of the project.

A Population Viability Assessment was also undertaken to assess the potential impact of the project on the Victorian Brolga population. This assessment estimates that after 30 years the population would be potentially reduced by 2.5 birds compared with baseline conditions, assuming a conservative 90% avoidance rate of turbine collision. This represents up to 0.005% of the estimated Victorian Brolga population.

In accordance with the Interim Brolga Guidelines, a Brolga Compensation Plan would be implemented, which would restore of lost Brolga breeding habitat so that additional breeding pairs can produce increased numbers of young that survive to become breeding adults. In this way, the impact on the population predicted by the Population Viability Assessment will be offset.

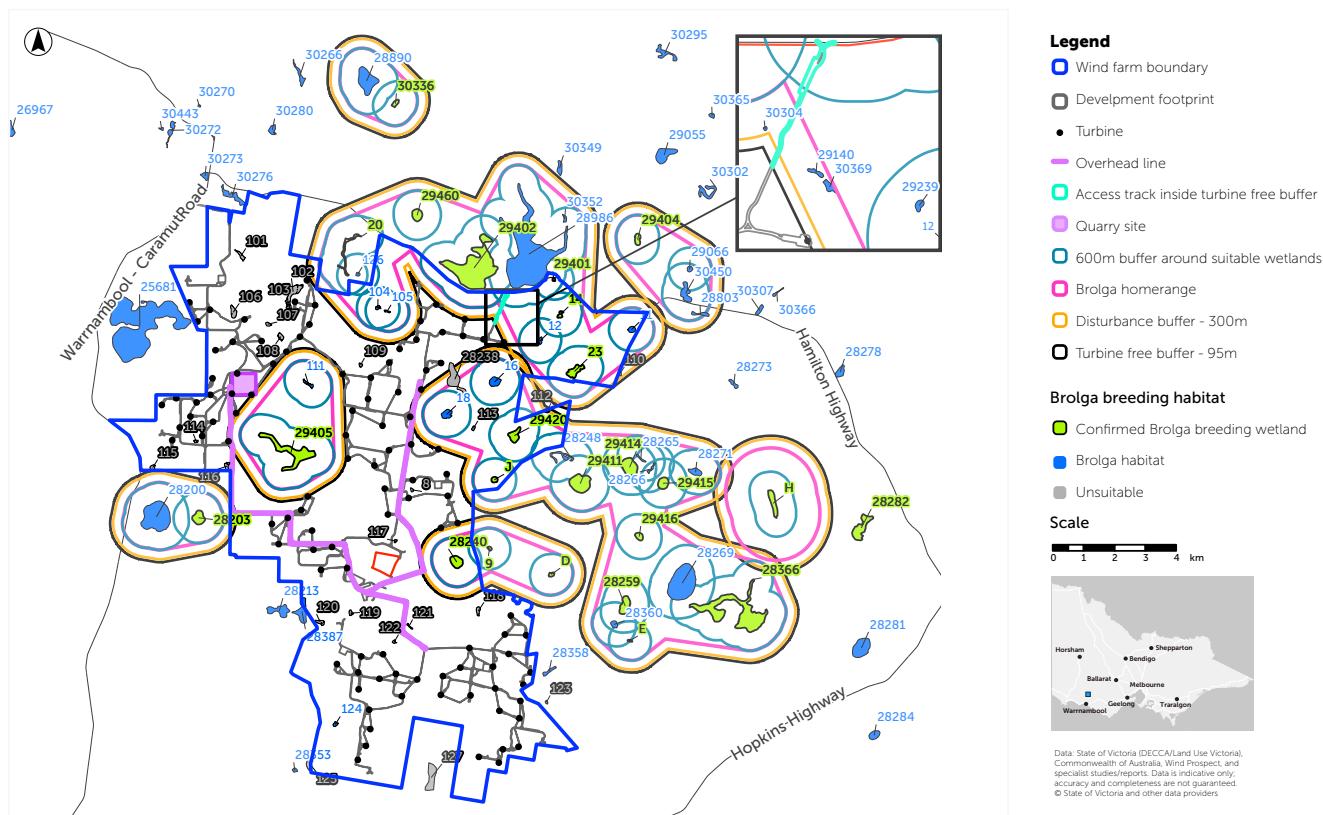


Figure ES.21 Turbine-free buffers to protect potential Brolga breeding habitat

Groundwater

The surface geology within the project site primarily consists of the Newer Volcanic Group basalt flows, with outcrops of Whalers Bluff / Hanson Plain sand in the north and to the east of the project site and alluvial deposits scattered across the landscape, mainly in and adjacent to drainage lines. The main aquifer within the project site is the Newer Volcanic Group basalt.

Groundwater level measurements taken from the 15 groundwater bores across the investigation area ranged from 3.25 to 13.75 metres below ground level. Seasonally, groundwater levels vary by about 0.2 metres, with the highest levels generally observed around spring and the lowest levels around autumn. Based on a review of Visualising Victoria's Groundwater database, there are 59 bores within the project site (most listed as being used for stock and domestic purposes) and two state observation bores. Aquatic and terrestrial groundwater dependent ecosystems (GDEs) rated as having moderate to high likelihood of receiving groundwater inflows are mapped in the project site by the Bureau of Meteorology's GDE Atlas maps.

The potential for groundwater-related issues associated with the project relates to the potential for adverse impacts to existing users of groundwater and to GDEs due to reduced groundwater levels and/or quality, or impacts to groundwater supply. Impacts can occur through localised lowering of the water table from groundwater dewatering during quarry operation and, to a lesser extent, during wind turbine foundation excavation. Other potential impacts may include altered groundwater recharge and flows from infrastructure foundations and hardstands (creating barriers to water movement), and reduced water quality from accidental spills of hazardous chemicals.

Design measures implemented to avoid potential groundwater impacts to local groundwater users and environmental values include:

- applying a 100-metre buffer around all mapped aquatic GDEs and DEECA wetlands, and a 25-metre buffer around all mapped terrestrial GDEs to exclude turbine foundations within the buffered area, except crossing of waterways where this cannot be avoided.
- locating the on-site quarry on a topographic high where the water table is deep, therefore minimising dewatering requirements.
- locating the proposed on-site quarry more than 500 metres from nearest potential aquatic GDE, terrestrial GDE and DEECA wetland.

Operation of the quarry would require dewatering. One groundwater bore (Bore 2), located within the boundary of the proposed on-site quarry, is within the predicted extent of drawdown. An alternate water source may need to be provided to replace this bore. If dewatering of turbine foundations is required, this may temporarily lower the water table before the concrete foundations are laid. If active pumping is needed, groundwater inflow monitoring would be required as part of the Water Management Plan.

All potential aquatic and terrestrial GDEs are located outside the predicted drawdown extent at the on-site quarry and with the application of buffer distances, the impact of groundwater drawdown associated with turbine foundations and cable excavations near potential aquatic GDEs, DEECA wetlands and potential terrestrial GDEs is considered **very low**. Any impacts to groundwater flow around infrastructure foundations are anticipated to be localised and minor and would only occur when groundwater levels are high.

Management measures have been proposed for the construction, operational and decommissioning phases of the project to further manage potential groundwater impacts. With these measures in place, the impacts to groundwater users and groundwater quality were assessed to be **very low** to **low**.

Surface water

The project is situated within the Hopkins River and Mustons Creek catchments within the Hopkins basin. Surface water in the investigation area generally flows towards Mustons Creek, which joins the Hopkins River east of the project site. In the southern portion of the project site, surface water either flows south to Drysdale Creek and Lyall Creek or south-east to the Hopkins River. The latest Index of Stream Condition report found that most reaches assessed within the Hopkins River were in very poor or poor condition, with one reach in moderate condition. Two reaches assessed in the Index of Stream Condition report are located on Mustons Creek and were in very poor and poor condition.



Figure ES.22 Mustons Creek 1.5 km south of confluence with Tea Tree Creek (within project site)

Due to the relatively flat topography, most depressions within the project site are inundated during winter and spring (during some years) but largely dry out during summer. The larger swampy areas are known to hold water for approximately three to four months then dry (through both natural flow paths and artificial drains) and form modified grasslands, which are grazed by sheep and cattle. During drier years, these wetlands do not fill and remain modified grasslands. Wetlands within the project site capture localised runoff from isolated catchment areas, however there are some that receive flood overflows from Mustons Creek or its tributaries. The wetlands are mainly linked through natural channels, with some wetlands connected by constructed channels or drained to increase the area of land available for agricultural production.

Key impact pathways to surface water features during project construction and operation include physical disturbance from watercourse crossings, reduced water quality from surface water runoff and sedimentation during periods of high rainfall, and accidental spills of hazardous materials such as fuels and oils. Construction of project infrastructure also has the potential to alter the existing hydrology of the site.

The project would require 56 waterway crossings for access tracks and electrical cables. This includes crossings over Mustons Creek (two crossings), Tea Tree Creek (one crossing), Lyall Creek (one crossing) and Drysdale Creek (three crossings). During construction, there is the potential for a temporary increase in sedimentation (and to a lesser extent

other contaminants) from these access tracks and cable trenches, as well as runoff from stockpiles or cleared areas including hardstand areas. This has the potential to reduce water quality and cause impacts for other users of a watercourse or for aquatic and semi-aquatic flora and fauna.

The project has sought to eliminate potential impacts through design. This included applying a 100-metre buffer around all mapped wetlands and watercourses and 30-metre buffer of ephemeral drainages to exclude all project infrastructure, with the exception of access track and cable crossings. Hydrological flood modelling was used to inform the placement of turbine locations and other infrastructure outside water flow paths, and the temporary on-site quarry has been designed as a 'zero discharge' site (i.e., all surface water and groundwater is to be managed within the quarry site using retention basins).

With the implementation of design and control measures, the potential impacts associated with physical disturbance and poor water quality runoff at watercourse crossings would be localised and of **low** severity.

Based on modelling undertaken for the project, no permanent changes to the hydrology and flow of the Hopkins River or local creek catchments within the project site, including ephemeral wetlands, is predicted and impacts were assessed to be **low**. Residual effects to the hydrology and water quality of ephemeral wetlands were assessed as **negligible**.

Landform and soils

The project site is in an area of south-west Victoria known for its volcanic plains, with the geology of the area (Newer Volcanic Group) formed by volcanic activity that occurred during the last 4.6 million years.



Figure ES.23 Basalt rock outcrop in the upper slope of the Mustons Creek valley

The construction of the project has the potential to impact existing landforms and result in soil-related issues from project earthworks (e.g., associated with the foundations for wind turbines, cable trenches and other structures). These impacts may include modifications to the existing landform, ground settlement following construction due to unstable soils, erosion of exposed soils, and exposure and disposal of waste or hazardous soils.

Prior to the finalisation of the detailed design, a site-specific geotechnical investigation will be undertaken to determine the local geotechnical conditions and inform the design of infrastructure foundations, excavation methods, and pavement requirements for access roads and hardstand areas, and whether acid sulfate soils and soil contamination are present.

With the incorporation of recommended management measures, the significance of impacts to landform and soil values are predominately considered to be **very low** or **low**. However, should preparation of access road pavements and hardstand areas occur during the wetter months of the year, surface drainage paths or ponded water may result in poorer performance of the surface beneath these areas and lead to increased ongoing maintenance of roads and access tracks. The significance of these impacts during wetter months are considered **low to medium**.

Landscape and visual

The project site is located within the Western Volcanic Plain, which is characterised by large, windswept flat plains with gentle undulations. Extinct volcanoes create key landscape features within an otherwise flat, farming landscape. Quarries have been established on these high points to mine volcanic scoria gravel.

Land has been cleared for agricultural activity and native grasslands replaced with exotic pasture species and monocultural crops. Canopy cover of exotic and native species is restricted to windbreak vegetation along rural residential lot boundaries, and sparse corridor vegetation along main roads / highways. The landscape character of the Western Plains is highly modified due to this agricultural activity.

With a proposed blade tip height of 260 metres, the 'Zone of Visual Influence' (i.e., project investigation area) is considered to be up to six kilometres from the nearest wind turbine. At this distance, wind turbines are discernible but not likely to dominate the existing visual setting.

The greatest visual impacts are most likely to be experienced by residents in the immediate vicinity of the project, however existing vegetation surrounding dwellings that provide windbreaks may also assist in screening views to the wind farm. Visual impacts can be influenced by various factors, including the existing land use, visibility and distance to the wind farm infrastructure, and the individual viewer's sensitivity to and acceptance of change.

The landscape sensitivity and potential visual impact of the project was assessed from 25 representative and key publicly accessible viewpoints (predominately local roads) and 28 non-involved dwellings based on the topography, existing landscape character and screening elements (e.g., structures, vegetation). Photomontages were prepared for six public viewpoint locations, based on feedback received from the community, to illustrate the potential appearance of the project from varying distances and locations. An example photomontage is provided in Figure ES.24.

Of the publicly accessible viewpoints assessed, six were considered to have a moderate visual impact. Prior to the implementation of management measures, seven non-involved dwellings were assessed as having a moderate visual impact and two were assessed as having a high visual impact.

Management measures have been proposed for the design, construction and operational phases of the project to minimise potential landscape and visual impacts. These include:

- incorporation of a 1.5-kilometre buffer of non-involved dwellings (i.e., neighbouring dwellings not participating in the project), and a three-kilometre buffer of surrounding townships
- landscape screening for residential dwellings within six kilometres, where there are views of a wind turbine
- an on-site landscape plan for the screening of substations, buildings and lower infrastructure
- for dwellings within six kilometres of a project turbine, an off-site landscape plan for vegetation screening of eligible dwelling rooms, in consultation with the landowner on a case-by-case basis.



Figure ES.24 Section of an existing view (top) and photomontage (bottom) of project wind turbines from Warrnambool-Caramut Road, looking north-east

With the implementation of the recommended management measures, two non-involved dwellings within three kilometres of a proposed project wind turbine are expected to have a **moderate-low to moderate** visual impact. However, once vegetation screening is established, it is anticipated that residual impacts would be acceptable at all non-involved dwellings.

Due to the relatively flat topography, there are few locations along local roads where simultaneous views of the project and the proposed Mt Fyans Wind Farm

may be possible. However, considering the direction and speed of travel along these roads and patches of dense roadside vegetation, these factors would limit views of multiple wind farm projects. Simultaneous views of Mortons Lane Wind Farm, Salt Creek Wind Farm and the project along Hamilton Highway would also be possible. However, the wind turbines are located at a distance where they would not be a dominant element in the landscape, and vegetation along the roadsides would also assist to screen views.

Shadow flicker and blade glint

Shadows cast by rotating wind turbine blades can cause a flickering effect, known as shadow flicker. This can be of annoyance to people nearby. Wind turbines can have differing potential shadow flicker impacts when the sun is in different locations in the sky because of the time of day (and time of year), as depicted in Figure ES.25

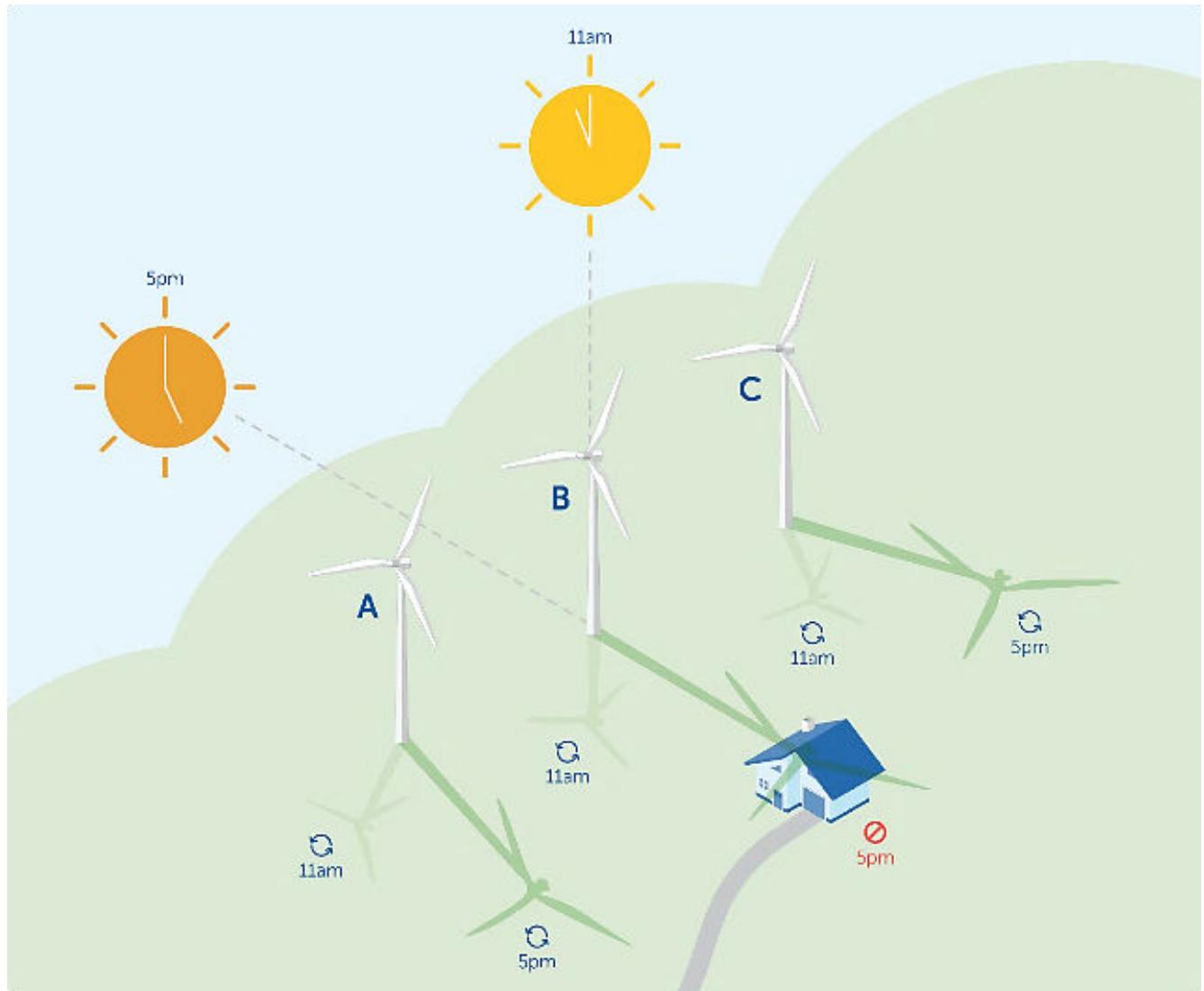


Figure ES.25 Diagram highlighting the different potential for shadows to be created with the sun in different locations in the sky (adapted from: Vestas Wind Systems A/S 2017)

The Planning Guidelines for Development of Wind Energy Facilities in Victoria (Planning Guidelines) (DTP, 2023a) state that: *"The shadow flicker experienced immediately surrounding the area of a dwelling (garden fenced area) must not exceed 30 hours per year as a result of the operation of the wind energy facility."* Where a landowner has consented to greater shadow flicker durations, this limit does not apply.

An assessment of shadow flicker was undertaken by modelled the 'theoretical' worst-case shadow flicker by applying a range of conservative assumptions, as recommended in the National wind farm development guidelines – draft (Draft National Guidelines) (Environment Protection and Heritage Council, 2010). 'Actual' real-world shadow flicker was also modelled by incorporating factors such as cloud cover and wind turbine orientation to provide a more realistic (yet still conservative) assessment of potential impacts.

The project has been designed to avoid unacceptable levels of nuisance from shadow flicker, and the shadow flicker assessment confirms that the project satisfies the limits established in the Planning Guidelines at all neighbouring dwellings.

While 23 participating landowner dwellings were modelled to experience theoretical shadow flicker above the 30 hours recommended in the Planning Guidelines, when considering the effect of cloud cover, only six are predicted to receive actual shadow flicker for more than 30 hours per year. For these dwellings, management controls would be implemented (e.g., through micro-siting of turbines in the final design, conducting strategic screen plantings, using smaller wind turbine blades, or implementation of a curtailment strategy, if required) to further reduce actual shadow flicker experienced.

Blade glint is not considered an issue for the project as, in line with standard practice for modern large wind turbines, the wind turbine blades will be finished with a low-reflectivity treatment that prevents reflective glint from the surface of the blades and a strobing reflection when the blades are spinning.

Air quality

The primary air quality impact for the project is expected to be due to the generation of dust from construction activities such as materials handling, concrete batching activities, and materials extraction, treatment and transport from the on-site quarry.

At the centre of the *Environment Protection Act 2017* is the general environment duty, which requires proponents to understand and minimise risks to human health and the environment from pollution and waste. The approach has been to first avoid or limit potential impacts by creating appropriate separation distances between proposed project infrastructure and sensitive receptors.

To avoid air quality impacts, the quarry and concrete batch plants have been proposed in areas of the project site away from occupied dwellings. The closest sensitive receptor to the quarry is 2,300 metres and to any of the concrete batch plants is approximately 1,100 metres. These distances are greater than the minimum separation distances specified in Environment Protection Authority (EPA) Victoria Publication 1949: Separation distance guidelines.

With the implementation of a site-specific air quality management plan, residual air quality impacts from dust during construction are anticipated to be **moderate** (i.e., very unlikely, only occurring on rare occasions). Air quality impacts from vehicle, plant and equipment emissions during all project phases, as well as dust during project operation and decommissioning, are considered unlikely. However, management controls have been proposed to avoid and minimise these impacts. A Decommissioning Plan, to be prepared in accordance with the legislative and policy requirements in-force at the time, would include a sub-plan for the management of dust during decommissioning works.

Greenhouse gas

GHG emissions projected to result from the project include energy-related emissions (e.g. from the use of fuels) and non-energy related emission (e.g. embedded emissions from the production of construction materials).

The project is predicted to result in overall GHG emissions of 1,324,393 tCO₂e over the construction period. Embedded emissions (non-energy related) in project construction materials would form the majority of overall construction emissions for the project (comprising approximately 93% of overall construction emissions) (Figure ES.26).

Over the 25-year life of the project, the overall GHG emissions are expected to be 1,705,821 tonnes of CO₂e. The impact significance of these annual, unmitigated emissions from the operation of the project would initially be considered moderate, however this would reduce to negligible as grid decarbonisation continues. Approximately 98% of total operational emissions would be associated with the battery energy storage system (which would be powered by the grid and not the wind farm) as some electricity would be lost in the charge/discharge process during periods of low and peak demand (Figure ES.26). Decommissioning emissions would likely be similar to construction emissions, without the embedded emissions or land clearing.

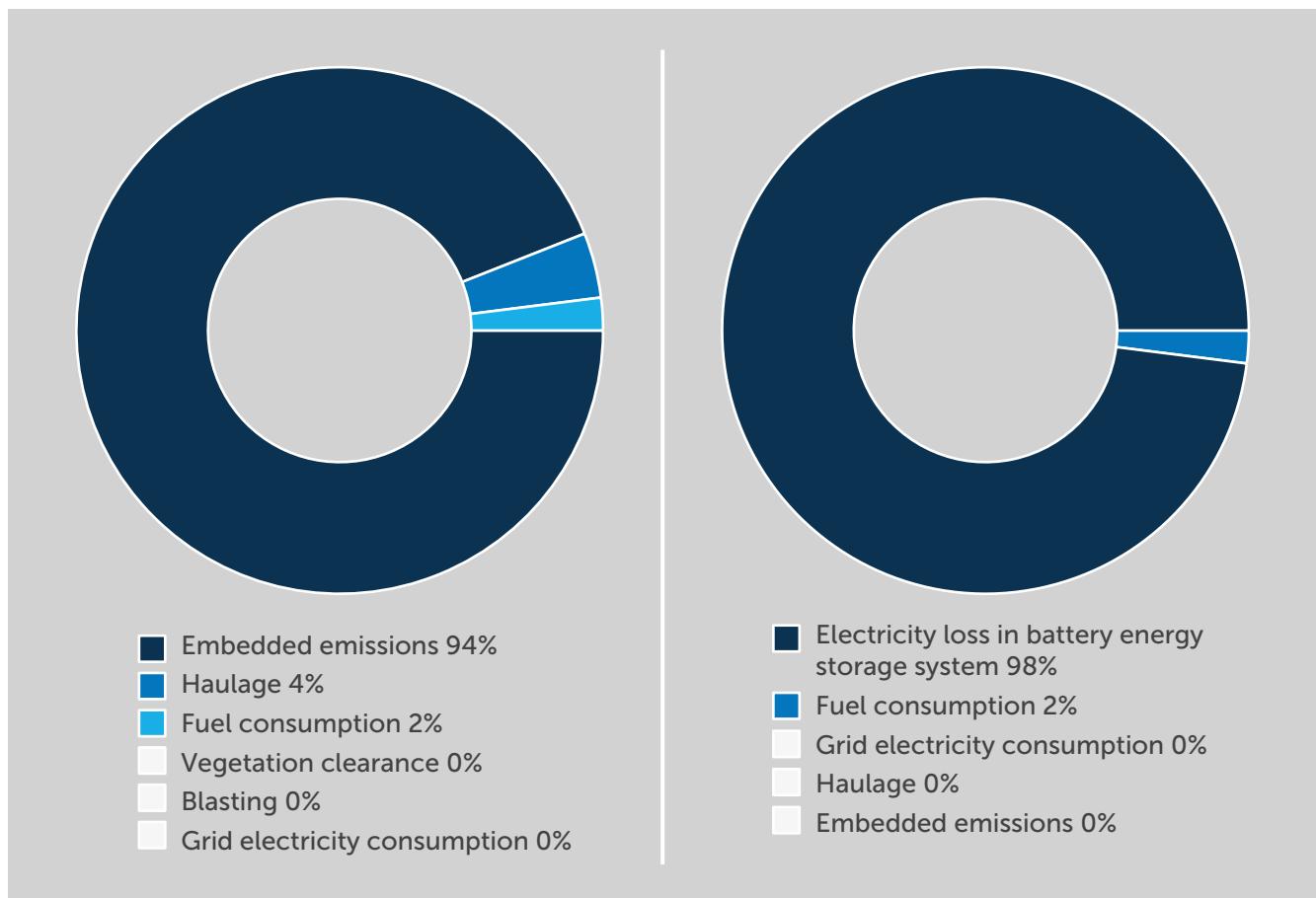


Figure ES.26 Percentage of predicted total GHG emissions for each emission source over the two-year construction period (left) and 25-year operation period (right)

Overall, the project will have a positive GHG contribution and has minimised the risks associated with its GHG emissions so far as reasonably practicable.

Noise and vibration generated during project operation may include that from wind turbine generators and movement of rotor blades, and the on-site substation, battery energy storage system and ancillary activities.

Noise and vibration

Potential noise and vibration impacts were assessed for both the construction and operation phases of the project.

Background noise monitoring was undertaken at seven sensitive receptor locations near the project site, considered representative of noise levels in different directions from the project, to establish existing noise levels.

During project construction, potential noise- and vibration-generating activities will include works associated with:

Noise from construction activities was predicted based on maximum overall sound power levels. Noise generated from the on-site quarry and concrete batching plants during construction, as well as operational noise associated with the proposed on-site terminal station and battery energy storage system, was undertaken in accordance with EPA Victoria Publication 1826.5: Noise limit and assessment protocol (the Noise Protocol).

- wind turbine construction including civil works, excavations (e.g., cable trench digging), foundation construction and turbine erection
- traffic movements
- proposed on-site quarry and concrete batching plant operation, including rock crushing.

The nearest receiver to a construction activity is a participating landowner located approximately 140 metres from the proposed access tracks. For most construction activities, the predicted noise levels in areas surrounding the project site are above the daytime objective of 40 dB $L_{Aeq,16hr}$ defined in the Environmental Reference Standard, which sets out the environmental and human health outcomes that area sought to be achieved and maintained in Victoria. The highest noise levels are expected occur during the construction of access roads near a non-stakeholder receiver. However, these activities will progress quickly and therefore these levels would only be expected to be reached for a short period of time. Vibration impacts are considered a low risk as construction activities are beyond the safe working distances for both cosmetic damage and human comfort.

The noise from the proposed on-site quarry and temporary concrete batching plants during construction are predicted to be below the noise limits of the Noise Protocol.

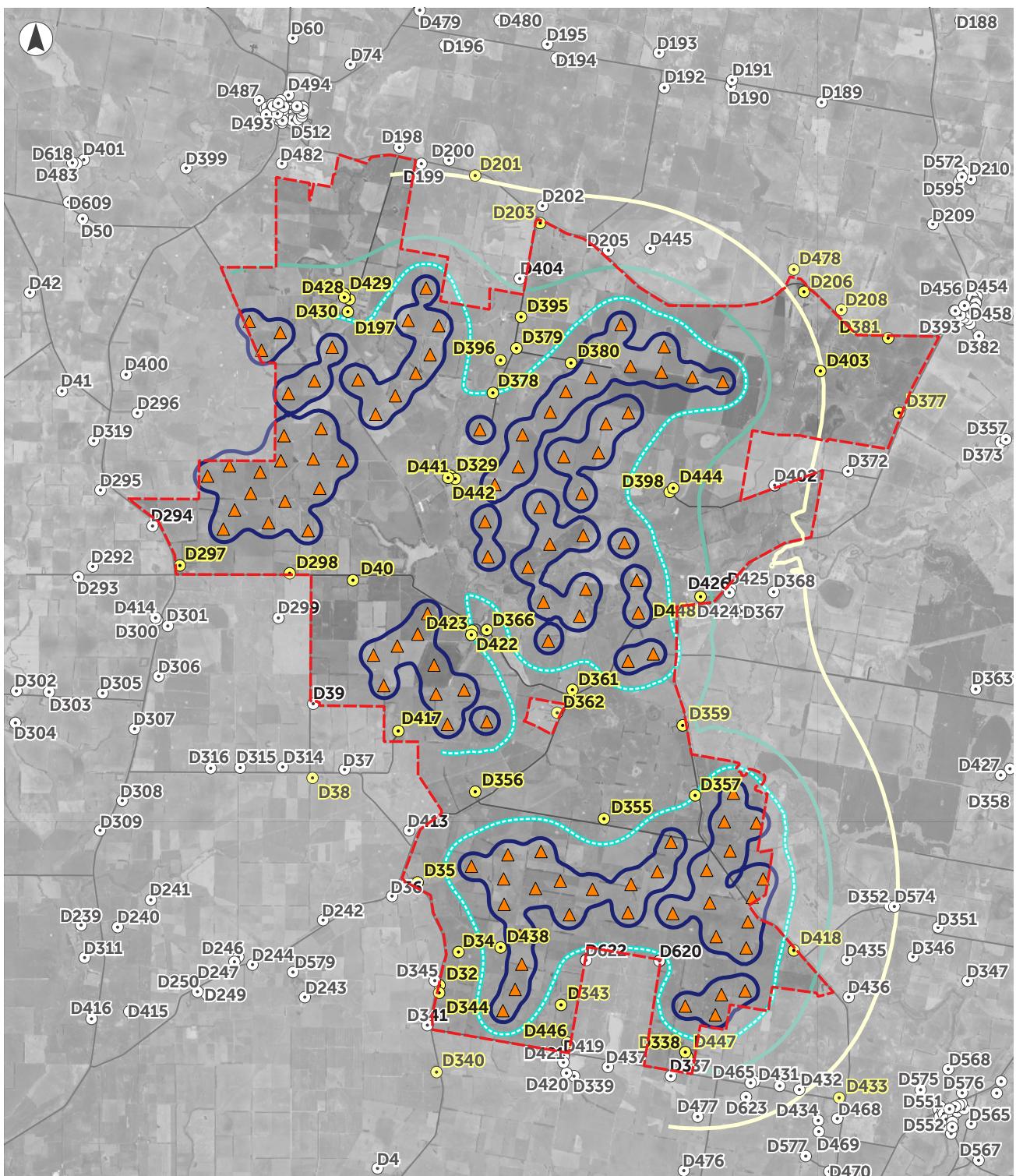
In Victoria wind farms must comply with the New Zealand Standard Acoustics – wind farm noise (NZS 6808:2010) for wind turbine-related noise. This standard requires wind farm noise from wind turbines to not exceed 40 dB, or 5 dB above the background level, whichever is higher. Noise is measured in dB L_{A90} , which is the A-weighted sound pressure level that is exceeded for 90% of the time over which a given sound is measured.

Operational noise levels associated with the wind turbines, on-site terminal station and battery energy storage system were predicted using noise emission data for the relevant equipment, a 3D digital model of the site and surrounding environment, and international standards for the calculation of environmental sound propagation.

The noise model predicts that wind turbine noise levels are predicted to comply with the noise limits determined in accordance with NZS 6808:2010 for all receivers. The locations of the predicted 30, 35, 40 and 45 dB L_{A90} noise contours are shown in Figure ES.27 corresponding to the hub height wind speed, which results in the highest predicted noise levels

Noise modelling shows that the proposed on-site terminal station and battery energy storage system are capable of being designed and operated to achieve applicable noise limits in accordance with the Noise Protocol.

With the implementation of identified management measures, residual noise and vibration impacts associated with the project's construction, operation and decommissioning are anticipated to be **low**, with the exception of impacts related to off-site traffic noise, which were rated **medium**.



Data: State of Victoria (DECCA/Land Use Victoria), Commonwealth of Australia, Wind Prospect, and specialist studies/reports. Data is indicative only; accuracy and completeness are not guaranteed.

© State of Victoria and other data providers

Figure ES.27 Highest predicted noise level contours, dB L_{A90}

Aboriginal cultural heritage

CHMP no. 19602 has been prepared for the project in accordance with Part 4 of the *Aboriginal Heritage Act 2006* and will be submitted to the relevant Registered Aboriginal Party (RAP), the Eastern Maar Aboriginal Corporation, for evaluation and approval prior to commencing project construction.

The Phase 1 standard assessment was undertaken in June and July 2019, attended by representatives from the Eastern Maar Aboriginal Corporation and Gunditj Mirring Traditional Owners Aboriginal Corporation (who both had a RAP application over the project area at the time of assessment). The Phase 2 standard assessment and complex assessment were undertaken from June to July and August to September 2025, respectively, and attended by Eastern Maar Aboriginal Corporation representatives.

The standard and complex assessments identified five stone artefacts within the investigation area. Consultation with the Eastern Maar Aboriginal Corporation also identified intangible Aboriginal cultural heritage values, being the Wedge-tailed Eagle and Southern Bent-wing Bat, and culturally significant flora, hydrology and ephemeral wetlands.

Avoidance by design has been the primary means to limit impacts to Aboriginal cultural heritage places. The project footprint avoids registered Aboriginal places and minimises encroachment on legislated areas of Aboriginal cultural heritage sensitivity. Impacts to identified Aboriginal places, including previously registered mound sites and possible mound sites identified in the LiDAR investigation, have been avoided through design modifications including micro-siting of turbines, cabling, tracks and other associated infrastructure. All recorded Aboriginal heritage places that were identified were included within the project constraints mapping and actively avoided through implementation of appropriate buffers.

Protective measures would be implemented during project construction, operation and decommissioning to avoid and minimise impacts to Aboriginal cultural heritage values. These conditions include the requirement for a cultural heritage induction for key personnel and supervisors prior to commencing work on project construction, contingency plans for the unexpected discovery of Aboriginal cultural heritage and human remains, and measures for reviewing compliance with the CHMP. To avoid and minimise impacts to intangible Aboriginal cultural heritage values, the project will engage with Eastern Maar Aboriginal Corporation 'On Country Guardians' who will support the development of proposed eagle impact mitigations and be responsible for ongoing monitoring of the impact of the project on intangible Aboriginal cultural heritage values.

Historical heritage

The historical heritage assessment identified and assessed historic heritage and archaeology relevant to the project based on a desktop review of heritage registers and databases, and previous archaeological and heritage studies. Field surveys, involving inspection (from a vehicle) of existing trafficable roads within the project site and a ground surface survey on foot, were also undertaken to investigate the presence of historic heritage.

Avoidance by design has been the primary measure to limit impacts to historical heritage values. As the project became aware of the locations of known locations containing historical heritage values, the design was reviewed to ensure the project did not impact these places.

All identified heritage places within the investigation area are located outside the project site with exception of two components of a heritage place, which is listed on the Victorian Heritage Register (H1700), Heritage Overlay (HO37) and Australian Heritage Database (101568):

- Stone Milepost B: located north-east of the intersection of Warrnambool-Caramut Road and Keillors Road
- Stone Milepost C: located in the Keillors Road reserve.

This heritage place is comprised of three nineteenth-century basalt mileposts significant for their association with road transport system in Victoria. However, due to the location of the proposed infrastructure, the project is unlikely to impact this site, as well as the other known historic heritage places recorded in the investigation area.



Figure ES.28 Historic Stone Milepost B (Keillors Road and Warrnambool-Caramut Road)



Figure ES.29 Historic Stone Milepost C (Keillors Road Reserve)

The project has avoided impacts on all identified historical heritage places, and it is considered that the construction and operation of the proposed project is consistent with maintaining the historical heritage value of the project site.

Land use and planning

The project is subject to the provisions of the Moyne Planning Scheme. Most of the project is within the Farming Zone, with small areas of land affected by the Transport 2 Zone. A small area of the project site, on the south-eastern perimeter, is located within the Bushfire Management Overlay, however no wind turbines are proposed to be located within the Bushfire Management Overlay.

The project site consists of broad acre agricultural land holdings. The agricultural land use includes livestock production and associated grazing of cattle and sheep, as well as cropping of grains and cereals. The land is highly altered from its original form due to the clearance of remnant native vegetation for agricultural land use. Little canopy vegetation is present in the landscape, except for trees located on road reservations and surrounding existing dwellings. There are 34 dwellings within 1,500 metres of a proposed wind turbine. Of these, two are non-host (not participating) dwellings and are located more than 1,000 metres of a proposed wind turbine.

The use and development of the project site for a wind farm is a permissible use within the Farming Zone, subject to a permit being issued. Planning approval for the project is being sought via a planning permit application under the *Planning and Environment Act 1987*, which is exhibited alongside the EES for public comment.

Approximately 440 hectares, or 2.7% of the project site, would be required for the construction of the project. Most land within the project site would remain unaltered, allowing for farming practices to continue. During project operation, approximately 0.9% of land within the project site would not be available for agricultural land use and therefore reduce a small proportion of land for agricultural production.

The proposed use of the land is compatible with the existing agricultural land use and will have a negligible impact on agricultural land use during the operation of the project.

An assessment of neighbouring wind energy facilities within 25 kilometres of the project site was undertaken to determine potential cumulative impacts. While there is potential for cumulative land use impacts, if multiple nearby projects are constructed and/or decommissioned at the same time, it is considered that these activities are unlikely to increase impacts beyond what is approved by each project.

Socio-economic

The socio-economic investigation area comprises the project's 'social locality' which includes the host townships of Hexham, Caramut, Minjah, Woolsthorpe and Ellerslie, and adjacent townships of Mortlake and Koroit. These townships are within the rural area of Moyne Shire. Larger towns and regional centres within the wider region include the townships of Port Fairy, Warrnambool, Portland, Ararat and Hamilton.

The region is largely agricultural, and has an aging population and disproportionate socio-economic disadvantage. These barriers highlight the need for tailored strategies that address the unique socio-economic and demographic characteristics of the community to foster a more adaptive and accepting environment for renewable energy initiatives.

The social and economic impact assessment considered a broad range of potential impacts and benefits arising from the construction, operation and decommissioning of the project.

During the construction phase, temporary social impacts are predominately associated with the following:

- arrival of the construction workforce (e.g., resulting in temporary changes to community composition and character, and increased demand on existing community services and housing),
- construction activities, resulting in:
- generation of noise, vibration and dust, reducing social amenity
- changes to the visual character of the landscape
- loss of biodiversity and impacts to cultural values
- increased construction vehicle movements on local roads (affecting travel times and safety).

The local economy may benefit from skills development and local employment opportunities during this phase. The expected to support 360 full-time equivalent (FTE) direct jobs and around 192 FTE indirect jobs in the region during the construction period, with \$249.8 million expected to be invested locally during this phase. Most procurement and employment opportunities will be within the construction industry (supporting an additional 390.4 direct and indirect FTE jobs), followed by health and social services (supporting an additional 26.5 direct and indirect FTE jobs), manufacturing (supporting an additional 21.2 direct and indirect FTE jobs), and public administration and safety (supporting an additional 13.9 direct and indirect FTE jobs).

Once operating, potential social and economic impact pathways mostly relate to the physical presence of wind turbines. Economic benefits during this phase would be associated with the creation of jobs to support project operation and income generation for the community and landholders. Decommissioning would have similar impact pathways to construction, associated with large equipment and transport of project components away from the site, but would be of lower magnitude and for a shorter duration.

The project is expected to generate \$13.4 million in local operation expenditure over the life of the project. In an average year of the operational phase, the project is expected to support 32.7 FTE jobs in the region directly related to the operations and to employment generated from supplying industries in the region. There would also be ongoing economic stimulus through the financial returns to host landowners and Council, and community fund payments.

Through the design process, the project has sought to avoid and minimise potential impacts to people and the local community by applying buffers between neighbour (non-participating) dwellings and wind turbines, and townships. Buffers have also been applied around mapped wetlands (including Brolga breeding wetlands), and infrastructure micro-sited or realigned to avoid impacts to Aboriginal cultural heritage and most native vegetation.

With the implementation of these and other design and management measures, the significance of potential social impacts during construction, operation and decommissioning were assessed as either **low** or **medium**. Economic benefits were assessed as **high** or **very high**.

Electromagnetic interference

Wind turbines have the potential to cause electromagnetic interferences with existing communication services including broadcast radio and television, meteorological radars, and wireless and satellite internet, and radiocommunication licences.

The assessment for potential electromagnetic interference identified limited radiocommunication services are in the vicinity of the project, with five point-to-point link (operated by AusNet Services, VerTel and NBN Co) passing over the project site and two point-to-multipoint stations located within 20 kilometres of the site (operated by Aussie Broadband and Wannon Region Water Corporation).

The project has sought to eliminate potential electromagnetic interference impacts from the project, including relocating turbines away from fixed point-to-point links, and the adoption of a buffer to further avoid any potential interference

To determine the potential for electromagnetic interference, consultation was conducted with radiocommunications service providers, emergency services, mobile phone providers, NBN, Bureau of Meteorology and operators of fixed point-to-point communications links. Respondents typically advised that no impacts, or acceptable (negligible) levels of impact were expected. Where they advised of potential impacts, respondents provided a range of feedback on conditions they require the project adopt.

To ensure that mobile phone, NBN, broadcast radio and broadcast television are not negatively impacted, a Signal Strength Survey at neighbouring dwellings will be conducted prior to construction, and then after construction if issues are identified. The proponent would undertake measures necessary to rectify any impacted services.

The assessment of electromagnetic interference concluded that, following the implementation of design and management controls, the project is unlikely or had a **low** potential to cause interference. Further consultation with the operators of communications and other service providers would occur during detailed design to confirm the avoidance of electromagnetic interference impacts, and to address any impacts identified.

Aviation

The project has the potential to impact on the operation of aerodromes and local airstrips due to the introduction of new obstacles, including wind turbines and meteorological masts.

There are two certified aerodromes (Hamilton and Warrnambool) and three uncertified aerodromes (Cobden, Derrinallum and Camperdown) within 30 nautical miles of the project site. Of these uncertified aerodromes, Derrinallum and Camperdown are operated as the base for aerial agricultural applications operators. Two uncertified private airstrips are on properties close to the project site and are used occasionally for aerial agricultural operations (spraying and spreading).

Avoidance by design has been the primary measure to limit aviation impacts. This has included establishing buffers around local airstrips in the concept design, incorporating the recommendations of the Country Fire Authority (2025) Design Guidelines and Model Requirements for Renewable Energy Facilities in the project design and management measures, and committing to marking the meteorological monitoring masts in accordance with the National Airports Safeguarding Framework Guideline D: Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation (National Airports Safeguarding Advisory Group, 2012) to improve visibility of these structures for pilots of low-flying aircraft.

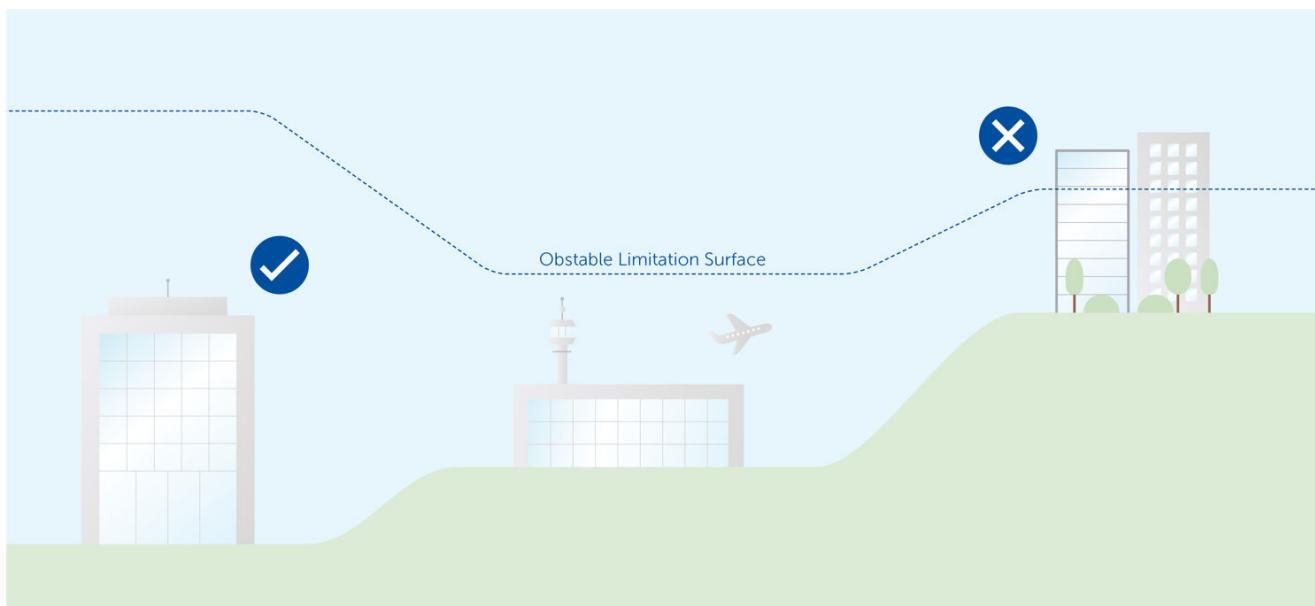


Figure ES.30 Aircraft obstacle limitation surface

The project would not impact the Obstacle Limitation Surface (Figure ES.30) or the Procedures for Air Navigation Services – Aircraft Operations surfaces protected airspace of the Instrument Approach Procedures for the Hamilton Aerodrome. The project would also not impact the Obstacle Limitation Surface for the Warrnambool Aerodrome. However, to enable the proposed maximum wind turbine tip height to be accommodated, the 10 nautical mile Minimum Safe Altitude would need to be raised to 2,300 feet to ensure minimum factors of safety are maintained for aircraft using the Warrnambool Aerodrome Instrument Approach Procedures.

The project may impact aerial agricultural operations immediately surrounding wind turbines and meteorological monitoring masts, however, these impacts would largely be experienced by stakeholder (participating) landowners. With the implementation of design mitigation measures (i.e., turbines appropriately painted to ensure they are visible by day) the impact to aerial agricultural operations is considered to be **low**. Wind turbines are not expected to pose unacceptable risks to aerial firefighting.

Overall, the potential to impact aviation operations in the project region is **low** and does not pose a hazard to aircraft safety.

Traffic

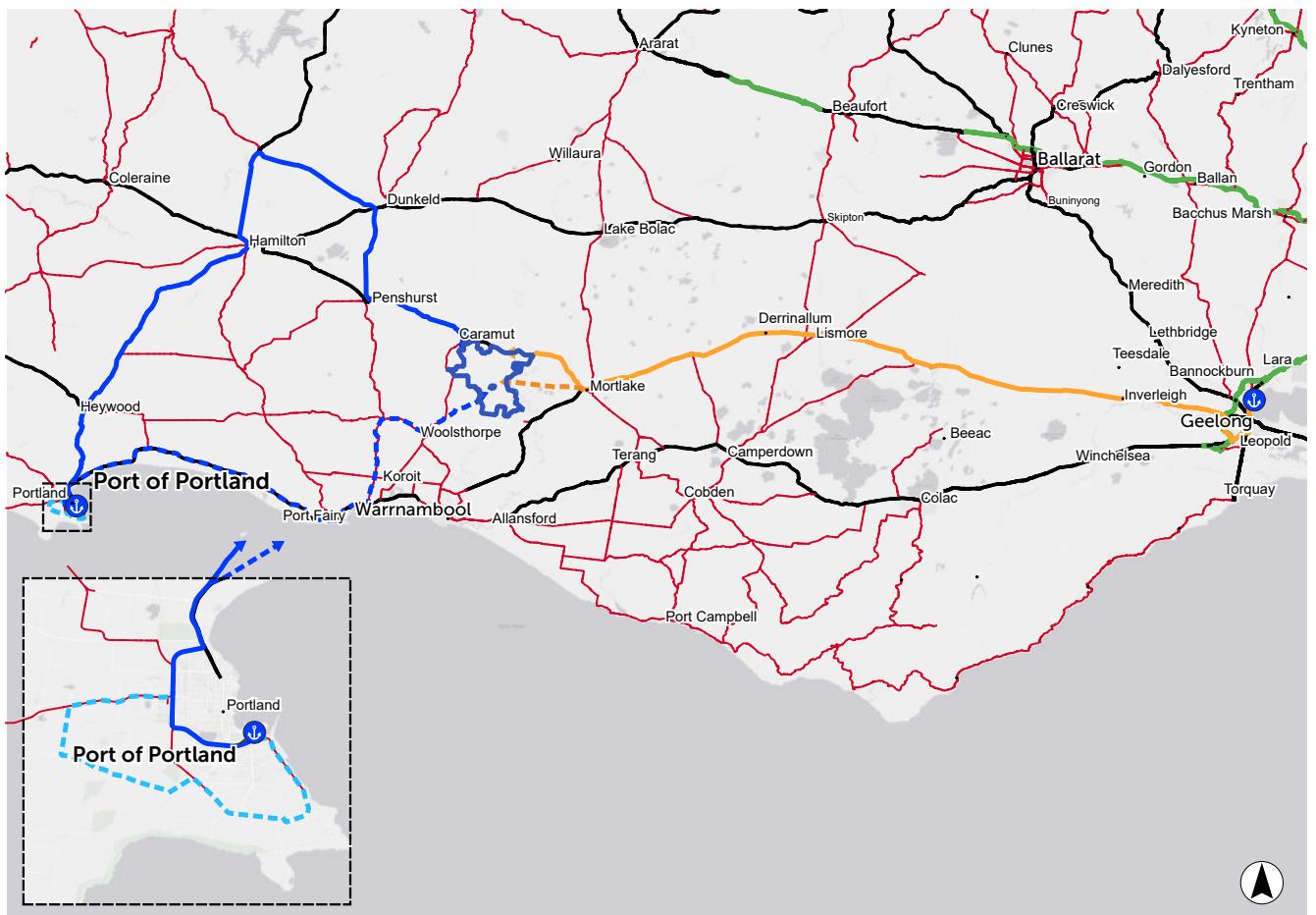
The road network surrounding the project site is consistent with its rural setting, designed to accommodate the transportation needs of the agricultural land uses and the low volume of traffic that typically use these roads. The road network around the project site includes unsealed local roads and arterial roads that are a mix of single- and double-lane sealed roads. Several other minor local rural roads extend

through the project site that typically provide access to the land within and surrounding the project site. Public transport routes do not extend through the project site, but services operate on roads that would be used by project traffic. School buses operate on some roads that will be used to access the project site.

Construction of the project would increase traffic on the surrounding road network used to access the site due to the transport of construction staff, materials, plant and equipment, and wind turbine components. At the time of peak construction activity, external project traffic will add between 1,070 to 1,740 vehicle movements per day across the external road network, subject to the level of on-site materials sourcing. The highest increases in traffic volumes will be along Woolsthorpe-Hexham Road, with the project generating around 600 to 750 vehicle movements per day, subject to the level of on-site materials sourcing. Volume increases on other roads will be less.

Upgrades to sections of Hamiltons Lane, Keillors Road, Immigrants Lane, and Hexham-Ballangeich Road relied on by project traffic will be required. The project would also upgrade single-lane or narrow two-lane roads segments of Woolsthorpe-Hexham Road and Hexham-Ballangeich Road, north of Connewarren Lane. These roads and other local roads within and around the project site relied on by project traffic would be maintained during the construction phase through appropriate traffic management plans and road maintenance agreements.

Port of Portland is the preferred port of entry for all wind turbine generators and other major imported componentry, however the Port of Geelong is identified as an alternate option for key component delivery (Figure ES.31). To transport these large project components to the project site, several intersections along the route would be modified to accommodate the long vehicles and their wider turning circles.



Legend

- Site Boundary
- Port Location

Road Network

- Freeway
- Highway
- Arterial Roads

Port of Portland:

- Primary OD Route
- Secondary OD Route
- Alternative Port Access



Data: State of Victoria (DECCA/Land Use Victoria), Commonwealth of Australia, Wind Prospect, and specialist studies/reports. Data is indicative only; accuracy and completeness are not guaranteed.
© State of Victoria and other data providers

0 25 50 km

Figure ES.31 Proposed route for over dimensional loads between Portland and the project site

The project has adopted design measures and road upgrades to mitigate impacts on the road network where possible. These include:

- design of a network of internal access tracks to minimise the use of public roads for internal traffic between different parts of the project site
- use of an on-site quarry as the preferred source of crushed rock to limit heavy vehicle movements
- use of higher order roads and/or routes gazetted as appropriate to cater for the traffic generated by materials haulage associated with project construction.

A detailed Traffic Management Plan containing a range of other management measures would be prepared in consultation with the Moyne Shire Council and Department of Transport and Planning, and 'road maintenance and management agreements' would be entered into with both authorities.

Based on the existing traffic volumes and usage, and the upgrades that have been committed to, traffic specialists concluded the standard and capacity of existing road infrastructure is appropriate to accommodate project traffic, and that local traffic impacts within the project site during all project phases can be suitably and safely managed.

Cumulative impacts

Cumulative impacts may arise where a combination of activities in a region occur together or interact which may have a significant impact.

Key areas of that were assessed for cumulative impacts were landscape and visual impacts, noise and biodiversity when considered in the context of operating and approved wind farms surrounding the project.

Cumulative visual impacts may result in changes to the perceptions of the local community or a visitor to the region due to the presence of more wind turbines (than were already there before the project was built). Visual impact can occur in two ways: sequential views to multiple wind farms, and simultaneous views to multiple wind farms from a single location. Viewers travelling along highways and local roads within the area would likely experience views that take in the project and other wind farms sequentially (i.e., one after another), impacting the viewer's perception of the landscape. Despite limited opportunities to simultaneously view the project and other operational, approved, and planned wind farms from private dwellings and public viewpoints, the project may contribute to cumulative impacts on the broader landscape character of the region. Irrespective of whether there was a cumulative impact, landscape screening would be offered for residential dwellings within six kilometres where there are views of one or more Hexham wind turbines.

The noise and vibration assessment considered potential cumulative impacts associated with the operational Mortlake Power Station, approved Mortlake Energy Hub, and approved Mortlake Power Station Battery Energy Storage System. During construction of the project, the receivers nearest to the project are located far enough from these other projects so that the noise of these projects is not expected to approach the noise limits. Due to the significant distance to the nearest operational, approved and planned wind farms, cumulative operational impacts due to wind turbine noise from the project are not anticipated. The minimum distance between the noise generating infrastructure associated with the terminal station and battery energy storage system and the other existing and planned activities is approximately eight kilometres. This means that the nearest receivers are sufficiently far from the other activities such that the noise from these sites is unlikely to approach the relevant noise limits.

With each project added to the landscape, there is land disturbance and some vegetation clearance. The removal and potential degradation of native vegetation, threatened ecological communities and habitat due to project construction may result in additive cumulative effects to biodiversity values. Construction of the project was identified as contributing to cumulative impacts to the EPBC Act listed Natural Temperate Grasslands of the Victorian Volcanic Plain, and Striped Legless Lizard. However, cumulative impacts will be minimal with the implementation of appropriate offsets.

During the operation of wind farms, some birds and bats are known to collide with turbine blades. Monitoring of bird and bat deaths from turbine collisions is now routine for operating wind farms. If the project was constructed there would be expected to be some bird and bat deaths from collisions with wind turbines, as would other operating wind farms in the region. Operational cumulative impacts are difficult to quantify due to limited data on the extent of impacts of operational wind farms on biodiversity, and uncertainty regarding the future impacts arising from each wind farm. However, significant cumulative impacts to species of concern including the White-throated Needletail and Black Falcon are considered unlikely due to their limited presence within the project site. Compared to other wind farms sites in the region, the project site has lower levels of bat activity, lessening its potential cumulative impact.

Most of the potential social and economic impacts of the project may also result in cumulative impacts when considered in conjunction with the multiple renewable energy developments within the South West Renewable Energy Zone. Projects within 30 kilometres of the Hexham Wind Farm may generate cumulative impacts due to:

- Traffic congestion during construction
- Competing demands on the local workforce
- Workforce competition for local resources (e.g., accommodation and other key services)
- Visual, noise and impacts to sense of place.

Project social and economic cumulative impacts will be managed through the application of controls such as the Community and Stakeholder Engagement Plan, Neighbour Benefit Sharing Program, and Accommodation and Employment Strategy. There would also be a range of benefits associated with employment opportunities, particularly during construction, and broader economic benefits to the region.

Managing residual impacts

The project will be designed, constructed, operated and decommissioned in accordance with the project's environmental management framework (refer to Chapter 28 – **Environmental management framework**).

The systems, processes and measures that will make up this framework have been designed to avoid, minimise and manage environmental impacts caused by the project.

The environmental management framework provides the project with a transparent and integrated framework for managing environmental risk and mitigating adverse effects. It contains the environmental management measures developed with environmental specialists during the preparation of this EES.

It outlines clear accountabilities for the delivery of the project in accordance with the environmental management measures and compliance with all relevant environmental laws, approvals, approval conditions and environmental management plans and procedures to ensure that the environmental risks and potential impacts of the project are effectively managed.

The environmental management framework also outlines the processes to be followed in the preparation, review, approval and implementation of environmental management plans and procedures. It also provides for the regular review and updating of these plans and procedures as well as independent monitoring, auditing and reporting of compliance.

How to get involved

As required by the *Environment Effects Act 1978* and the decision by the Minister, the EES will be on public exhibition for at least 30 working days. The Planning Permit Application will also be placed on Notice

During this time the public are invited to review the EES documents and planning permit applications and make written submissions.

Exhibition

The EES will be on public exhibition from 27th January 2026 to 11.59 pm 11th March 2026.

The complete EES documentation can be downloaded from the project website:

<https://www.hexhamwindfarm.com.au/>

Hard copies can be viewed at the following locations:

- **Mortlake Moyne Shire Council Office**
1 Jamieson Avenue, Mortlake
*Monday to Friday from 9am to 3pm
(Closed 1pm-1.30pm)*
- **Port Fairy Moyne Shire Council Office**
Princes Street, Port Fairy VIC 3284
Monday to Friday from 8.45am to 4.45pm
- **State Library Victoria**
328 Swanston Street, Melbourne
Monday to Sunday from 10am to 6pm
- **Department of Transport and Planning**
1 Spring Street, Melbourne VIC 3000
Monday to Friday 9am to 5pm

A USB flash drive will be sent to any stakeholder at any time during the public exhibition period upon request.

Hard copies of the EES can be obtained from Hexham Wind Farm Pty Ltd at cost by contacting:

Tel: 1800 934 322

Email: info@hexhamwindfarm.com.au

Submissions

Submissions on the EES

The submission process for the EES is independently managed by Planning Panels Victoria and any enquiries regarding the management of submissions for the EES and the Inquiry and Hearing process should be directed to Planning Panels Victoria.

Only one submission on the EES is needed to address all your views about the project, its effects, and the relevant documents.

Online submissions on the EES are preferred and can be lodged via an online form on the Victorian Government's engagement website: <https://engage.vic.gov.au/Hexham-IAC>

Where a submitter on the EES is unable to lodge a submission online, they must contact Planning Panels Victoria through the DEECA Customer Call Centre on 136 186 (select option 6) and request a hardcopy submission coversheet. Each hardcopy submission must be accompanied by a completed coversheet issued by Planning Panels Victoria for privacy reasons.

All submissions must state the name and address of the person making the submission. Petitions will be treated as a single submission and only the first names from a petition will be registered and contacted. Pro-forma submitters will be registered and contacted individually if they provide their contact details. However, pro-forma submitters who want to be heard at the Hearing will be encouraged to present as a group, given their submissions raise the same issues.

Submissions on the EES will be treated as public documents and will be published on the Engage Victoria website. Do not include personal information in the body of your submission (such as your email address or phone number) or photos of people, particularly children. Your submission and your name will be made public.

For more information about the EES submission process, contact Planning Panels Victoria:

- Online: <https://engage.vic.gov.au/Hexham-IAC>
- Tel: 136 186 (select option 6)
- Email: development.assessment@transport.vic.gov.au

Submissions on the planning permit applications

Objections or submissions for the planning permit applications are being collected by the Minister for Planning who is the responsible authority.

Any person who may be affected by the granting of the permits may object or make other submissions at either:

- Post: The Minister for Planning, C/- Department of Transport and Planning, GPO Box 2392, Melbourne VIC 3001
- Email: development.assessment@transport.vic.gov.au

An objection or submission must be made to the responsible authority in writing, include the reasons for the objection or submission and state how the objector or submitter would be affected.

Any person who makes an objection or submission on the planning permit applications will be contacted by Planning Panels Victoria and offered the opportunity to make a request to be heard at the public Hearing to speak in support of their submission.

Next steps

Joint Inquiry and Panel hearing

The Minister has stated in his EES referral decision that an independent Inquiry will be appointed to consider and report on the environmental effects of the proposal through a public hearing. It is intended that the Inquiry will also be asked to advise on the project's planning application, submitted alongside the EES. In this case it would form a joint Inquiry and Panel.

The Inquiry will conduct a hearing, which provides an opportunity for those who have made submissions on the EES or planning applications and indicated they would like to be heard at the hearing to speak in support of their written submission.

Following conclusion of the hearing, the inquiry will submit its report to the Minister to inform their assessment of the project.

Minister for Planning's Assessment

The Minister for Planning will conclude the EES process by issuing a written assessment of the project's environmental impacts under the *Environment Effects Act 1978*.

The Minister's assessment is not an approval in its own right, but will recommend whether the project's environmental effects are acceptable, and may set out modifications or further management measures that the Minister thinks are appropriate.

The Minister's assessment is authoritative statutory advice that needs to be considered by relevant decision makers of project approvals. The Commonwealth Minister for the Environment will also use the advice provided by the Minister in deciding whether to approve the project under the EPBC Act and what conditions will apply to that approval.