

Abbreviations

Abbreviation	Expanded form
AEMO	Australian Energy Market Operator
AEP	Annual Exceedance Probability
AHD	Australian Height Datum
CASA	Civil Aviation Safety Authority
CFA	Country Fire Authority
CHMP	Cultural Heritage Management Plan
Glenelg Hopkins CMA	Glenelg Hopkins Catchment Management Authority
EES	Environment Effects Statement
EPA Victoria	Environment Protection Authority Victoria
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
ERS	Environment Reference Standard
EVC	Ecological Vegetation Class
DAWE	Department of Agriculture, Water and the Environment
DELWP	Department of Environment, Land, Water and Planning
DEPI	Department of Environment and Primary Industries
Draft National Guidelines	<i>National wind farm development guidelines – draft</i> (Environment Protection and Heritage Council, 2010)
DSE	Department of Sustainability and Environment
FFG Act	Victorian <i>Flora and Fauna Guarantee Act 1988</i>
GDE	Groundwater Dependent Ecosystem
the Interim Brolga Guidelines	<i>Interim Guidelines for the Assessment, Avoidance, Mitigation and Offsetting of Potential Wind Farm Impacts on the Victorian Brolga Population 2011</i>
LiDAR	Light Detection and Ranging
µg	Microgram
the Minister	Minister for Planning
NOTAM	Notice to Airmen
the project	Willatook Wind Farm
the wind energy guidelines	<i>Policy and planning guidelines for development of wind energy facilities in Victoria</i>
New Zealand Standard	New Zealand Standard 6808:2010 <i>Acoustics – Wind Farm Noise</i>
Noise Protocol	EPA Victoria (2021) <i>Publication 1826.4: Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues</i>
PASS	Potential acid sulfate soil
PM	Particulate matter

Abbreviation	Expanded form
Policy and Planning Guidelines	<i>Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria</i> (DELWP, 2021)
Project proponent	Willatook Wind Farm Pty Ltd
SEPP	State Environment Protection Policy
SEPP (AAQ)	State Environment Protection Policy (Ambient Air Quality)
SEPP (AQM)	State Environment Protection Policy (Air Quality Management)
TAPM	The Air Pollution Model
TDS	Total dissolved solids
UK wind industry guidelines	<i>Planning for Renewable Energy – A Companion Guide to PPS22</i> (Office of the Deputy Prime Minister, 2004)
VRET	Victorian Renewable Energy Target

Glossary

Term	Definition
A-weighting	Frequency adjustment representing the response of the human ear, devised to attempt to take into consideration that human response (or sensitivity) to sound is not consistent across all frequencies.
Acid sulfate soil	Naturally occurring soils, sediments and peats that contain iron sulfides, predominantly in the form of pyrite materials. Without oxygen, these materials remain and do not pose a significant risk to human health or the environment. However, if acid sulfate soil is disturbed and exposed to oxygen, the iron sulfides in the material produces sulfuric acid. The acidification of the soil from this process can impact the environment, land use, infrastructure and human health. See also ' potential acid sulfate soil '.
AERMOD	Victoria's regulatory air dispersion model, used to assess pollutants emitted to the air from quarry activities (PM ₁₀ , PM _{2.5} , respirable crystalline silica and dust deposition).
Affected parties	Those directly affected by the project, typically (but not always) within (nominally) 6 kilometres of a wind turbine. See also ' interested parties '.
Airblast (overpressure)	Sub-audible, low frequency (1–20 Hertz) change of air pressure that radiates from blast sites
Annual Exceedance Probability	The probability or risk of a flood of a given size occurring or being exceeded in any given year. A flood with a 1% AEP has a one in a hundred chance of being exceeded in any year, whereas a flood with a 10% AEP has a ten in a hundred chance of being exceeded.
Aquifer	Permeable rock which collects water that seeps into the ground (i.e., groundwater).
Area of Aboriginal Cultural Heritage Sensitivity	Areas (defined in the Aboriginal Heritage Regulations 2018) that potentially retain Aboriginal cultural heritage. This includes land within 200 metres of named waterways and within 50 metres of registered Aboriginal cultural heritage places.
Batters	The slope of a wall, expressed as vertical/horizontal (e.g., 1V:2H). That is, for every two units moved horizontally, the slope height increases/decreases by one unit.
Bilateral agreement	An agreement between the Australian Commonwealth and Victoria that allows the Commonwealth Minister for the Environment to rely on environmental impact assessments (undertaken in accordance with Victorian legislation) to assess actions under the Commonwealth EPBC Act.
Blade glint	The reflection of sunlight from wind turbine blades.
Broader community	The broader regional community within the entire Moyne Shire. See also ' local community ' and ' near neighbours '.
Carbon dioxide equivalent	A term describing different greenhouse gases in a common unit. Carbon dioxide equivalent or CO _{2e} signifies the amount of CO ₂ , which would have the equivalent global warming impact for any quantity and type of greenhouse gas.
Chord length	Wind turbine blade width along the length of the blade, with the thickest part of the blade (close to the hub) the maximum chord and the thinnest part (at the tip) the minimum chord.
Community Engagement Committee	Committee established by Moyne Shire Council in 2010 to provide a forum for direct engagement between the project team, representatives from the local community, and the Moyne Shire Council (including councillors and staff).

Term	Definition
Concept design	Initial project design, developed based on a preliminary understanding of the environment, early stakeholder consultation, and experience developing comparable projects in similar environments. This was the design in the EES and EPBC Act referral submissions. See also ' current design '.
Construction footprint	Land which would be disturbed to construct the project.
Crown land	Crown land is land that is owned and managed by the State Government, which is generally not freehold title.
Cultural Heritage Management Plan	Required under the <i>Aboriginal Heritage Act 2006</i> when an activity is considered to pose a risk to Aboriginal cultural heritage, being both a 'high impact activity' and occurring in an 'area of cultural heritage sensitivity' (as defined in the Aboriginal Heritage Regulations 2018), or if an EES is required.
Cumulative impact	Combination of effects on the existing environment from multiple projects (or activities) occurring in the same area and over similar timeframes.
'Current wetlands'	Wetlands mapped within the DELWP Victorian Wetland Inventory, which shows the extent and types of wetlands in Victoria, incorporating local and regional wetland datasets.
dB(A)	A-weighted noise level measured in decibels (i.e., unit for expressing sound intensity). See also ' A-weighting '.
dB _{A90(10mins)}	Used in the <i>New Zealand Standard 6808:2010 Acoustics – Wind Farm Noise</i> to assess noise generated by wind energy facilities. It refers to a sound level measurement being the average decibel that, over a 10-minute interval period, was equalled or exceeded 90% of the time.
dB _L	Measure of airblast (overpressure), associated with sound pressure levels. This a separate measure to the audible component of a blast, which uses dBA and measures noise levels that affect hearing. See also ' dBA ' and ' airblast (overpressure) '.
Dewatering	In-pit sump pumping of groundwater inflow, surface water run-off and rainfall.
Ecological Vegetation Class	The basic mapping unit for ecosystem assessment, biodiversity planning and conservation management. An Ecological Vegetation Class is described through a combination of its floristic, life form and ecological characteristics.
Electromagnetic interference	Interference with radiocommunication services to communication signals such as television broadcast signals and fixed point-to-point signals.
Environment Reference Standard	The Environment Reference Standard (ERS) identifies environmental values and provides a way to assess those environmental values in locations across Victoria. The ERS is itself made up of 'reference standards' that cover ambient air, ambient sound, land, and water (surface water and groundwater).
Environmental Management Framework	Environmental Management Framework has been developed for the project to provide the project with a transparent and integrated framework for managing environmental risk and mitigating adverse effects. The Environmental Management Framework 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.

Term	Definition
Environmental values	<p>Identified in the Environment Reference Standard, environmental values are aspects of the environment and how we use it that are important to the Victorian community.</p> <p>Environmental values relevant to the project are:</p> <ul style="list-style-type: none"> • Water dependent ecosystems and species – water quality that is suitable to protect the integrity and biodiversity of water dependent ecosystems. • Agriculture and irrigation – water quality that is suitable for agricultural activities such as stock watering and irrigation, as well as a range of other uses such as the irrigation of domestic gardens, commercial agriculture, parks and golf courses. • Traditional Owner cultural values.
Extraction area	<p>Area of 10.5 hectares and a maximum depth of 14 metres within the work authority area.</p> <p>See also 'work authority area'.</p>
General environmental duty	<p>At the centre of the <i>Environment Protection Act 2017</i>, the general environmental duty requires any person in Victoria (businesses, industry and the community) engaging in an activity that may risk harming human health and the environment from pollution and waste to minimise those risks, so far as reasonably practicable.</p>
Geoheritage	<p>Encompasses global, national, statewide, and local features of geology, at all scales that are intrinsically important sites or culturally important sites offering information or insights into the evolution of the Earth; or into the history of science, or that can be used for research, teaching, or reference (M Brocx & V Semeniuk, 2007).</p>
Groundwater dependent ecosystem	<p>Ecosystem (terrestrial or aquatic) that relies on groundwater (either permanently or intermittently) to meet some or all of its water requirements to maintain the flora and fauna, ecological processes and ecosystem services it supports.</p>
Hardstand area	<p>Paved area to locate product stockpiles and any mobile processing plant.</p>
Hydraulic conductivity (K)	<p>Represents the ease in which water can move through the pore spaces and fractures in the rock.</p>
Hydraulic modelling	<p>Rain-on-grid, or direct rainfall model used to establish the extent of the floodplain and streamflow characteristics for different flood events by simulating runoff generated. These characteristics include flood level, velocity and duration.</p> <p>The project used hydraulic modelling software TUFLOW.</p> <p>See also 'hydrologic modelling'.</p>
Hydrogeological conceptual model	<p>Represents the hydrogeological (groundwater) setting, including movement of groundwater, groundwater-surface water interactions and groundwater receptors (users and receiving environments).</p>
Hydrologic modelling	<p>Rainfall runoff model, used to define the existing flood conditions within a catchment by estimating the runoff generated during a rainfall event, and takes into consideration the land cover, topography and soil types within the catchment.</p> <p>The project used hydrologic modelling software RORB.</p> <p>See also 'hydraulic modelling'.</p>
Infrasound	<p>Generally defined as noise at frequencies less than 20 Hertz. Non-audible perception of infrasound through vibrations felt in various parts of the body can occur at levels well above the threshold of hearing.</p>
Instrument flight rules	<p>Rules applicable to the conduct of flight under instrument meteorological conditions and where flight by visual reference is not possible.</p> <p>See also 'visual flight rules'.</p>

Term	Definition
Interested parties	Those interested in the project and/or could affect the project in some way. See also ' affected parties '.
Large tree	A tree is considered to be a large tree if it is greater or equal to the large tree benchmark diameter at breast height for the relevant bioregional Ecological Vegetation Class.
Local community	Defined as being within 10 kilometres of proposed wind turbine locations. See also ' broader community ' and ' near neighbours '.
Matters of national environmental significance	The EPBC Act provides a framework for the protection and management of defined matters of national environmental significance. Under this Act there are nine matters of national environmental significance, which includes nationally threatened species and ecological communities, migratory species and wetlands of international importance.
Meteorological mast ('met mast')	Lattice tower that includes equipment (anemometers and wind vanes at various heights) to record wind speed and direction, temperature and atmospheric pressure.
Migratory species	Animals that move cyclically and at certain times of the year, passing through or migrating to Australia during their annual migration.
Minimum Safe Altitude	The lowest safe altitude is defined for each air route segment to ensure terrain and obstacle clearance.
Nacelle	Located on the top of a wind turbine tower, where the wind turbine hub is mounted with the three blades attached to the hub. The nacelle houses the generator and gearbox (if there is a gearbox) and shafts to convert mechanical energy to electrical energy.
National Electricity Market	The wholesale generation of electricity, which is transported via transmission lines (incorporating about 40,000 kilometres of state and private assets) to industrial energy users and local energy distributors in all states and territories except Western Australia and Northern Territory. In total, the National Electricity Market supplies around 10 million customers.
Near neighbours	Communities, groups and individuals within 6 kilometres of proposed wind turbine locations. See also ' local community ' and ' broader community '.
Neighbour Benefit Sharing Program	A program developed for the project in 2019 to ensure the financial benefits of the p project would be shared with those closest to the project.
Non-stakeholder dwelling	Landowner not hosting wind farm infrastructure. See also ' stakeholder dwelling '.
Obstacle Limitation Surface	Series of planes, associated with each runway at an aerodrome, that define the desirable limits to which objects or structures may project into the surrounding airspace (i.e., the aerodrome airspace to be kept free of obstacles such as vegetation, buildings, large structures or transmission lines). See also ' Procedures for Air Navigation Services – Aircraft Operations surface '.
Offset	In Victoria, an offset is generally required when an approval or permit to remove native vegetation is granted. An offset compensates for biodiversity losses arising from native vegetation removal.
Overburden	Material (excluding soil and topsoil) that needs to be removed to access the materials to be mined.
Particulate matter (PM) – including PM _{2.5} and PM ₁₀	Refers to particles (solid and liquid droplets) in the air. PM ₁₀ are particles with diameters less than or equal to 10 microns that, when inhaled, can enter the lungs. Smaller than PM ₁₀ particles are those with diameters less than or equal to 2.5 microns (referred to as PM _{2.5}). These particles can pass from the lungs into the bloodstream.

Term	Definition
Photomontage	Photomontage is the process and the result of making a composite photograph whereby the visual representation of project infrastructure is incorporated to site-based photograph.
Point-to-point links	Often used for line-of-sight connections for data, voice and video (such as on mobile and television broadcast towers). See also ' Point-to-multipoint links '.
Point-to-multipoint links	Provide connections from one location to multiple locations, via multiple paths (e.g., wireless internet connections). See also ' Point-to-point links '.
Potential acid sulfate soil (PASS)	Potential acid sulfate soils are soils containing iron sulfides (commonly pyrite) which have the potential to produce sulfuric acid if they are drained or excavated. Actual acid sulfate soils have already undergone oxidation to produce acid, resulting in a soil pH of less than 4. See also ' acid sulfate soil '.
Procedures for Air Navigation Services – Aircraft Operations surface	Surface that extends further and is higher than the Obstacle Limitation Surface, and provides protection for when a pilot is flying using instruments during poor weather. See also ' Obstacle Limitation Surface '.
Project site	Land parcels (mostly defined by land titles) on which the project is proposed.
Quarry sump	Runoff capture point in the low point of the quarry floor. Surface water runoff would be directed to a sediment trap then the quarry sump.
Quarry Work Plan	The work plan is the primary document describing the permitted activities to be undertaken on a work authority. It is intended to provide guidance to operations staff at the quarry as well as informing other readers such as Council or Government officers in order to facilitate decisions, approvals, compliance, and enforcement functions. See also ' Work Authority '.
Current design	Project design, refined based on findings from initial technical studies, feasibility investigations and input from stakeholders. This is the design assessed by the technical specialists and presented in this EES. See also ' concept design '.
Registered Aboriginal Party	Recognised under the <i>Aboriginal Heritage Act 2006</i> as having responsibilities to manage and protect Aboriginal Cultural Heritage, being the primary source of advice and knowledge on matters relating to Aboriginal places or Aboriginal objects in their region. The western portion of the project is located in an area that the Eastern Maar Aboriginal Corporation and the Gunditj Mirring Traditional Owners Aboriginal Corporation exercise joint responsibility as Registered Aboriginal Parties. The remainder of the project is located in an area over which the Eastern Maar exercise exclusive Registered Aboriginal Party status.
Renewable Energy Target	A Commonwealth Government policy, administered by the Clean Energy Regulator, designed to ensure at least 33,000 gigawatt hours of Australia's electricity came from renewable sources by 2020. Under the Renewable Energy Target, the Large-scale Renewable Energy Target scheme requires high-energy users to acquire a fixed proportion of their electricity from renewable sources (in the form of large-scale generation certificates).
Renewable Energy Zone	Regions identified in the AEMO 2020 Integrated System Plan with the greatest potential for renewable energy development, based on initial assessments of their resource, infrastructure and transmission capacity.
Respirable crystalline silica	Created during activities such as cutting, grinding, and drilling of materials such as stone, rock, concrete and mortar that contain silica, and can enter lungs when inhaled.

Term	Definition
Rotor diameter	The span of the circle (i.e., diameter) swept by wind turbine blades as they rotate.
Scattered tree	A native canopy tree that does not form part of a patch (can be a large or small trees).
Sensitive receptor	Defined by EPA Victoria as land uses that require protection of the air environment, such as for human health and wellbeing and local amenity. This includes places such as residential dwellings, education facilities and outdoor recreation sites.
Shadow flicker	Caused when the sun passes behind the rotating blades of a wind turbine and casts a moving shadow over the neighbouring areas.
Stakeholder dwelling	A dwelling located on the same land as the wind energy facility, or one that has an agreement with the wind energy facility to exceed the noise or shadow flicker limit. See also ' Non-stakeholder dwelling '.
Swept paths	Analysis of how different parts of a vehicle moves in a steering path. This analysis is used to determine if there is enough room for vehicles to safely make turns.
Synchronous condenser	A synchronous condenser is a device that provides improved voltage regulation and stability by continuously generating/absorbing adjustable reactive power as well as improved short-circuit strength and frequency stability by providing synchronous inertia.
Technical Reference Group	Group formed to provide technical advice to DELWP and the project proponent during the preparation of the EES, made up of relevant state, and local government representatives, as well as representatives from project approval authorities.
Total Suspended Particulates	Mass concentration of particulate matter comprising particles with diameters less than or equal to approximately 50 microns
Victorian Heritage Inventory	A listing of all known historical (non-Indigenous) archaeological sites in Victoria, protected under the <i>Heritage Act 2017</i> . Sites listed on the Victorian Heritage Inventory can also be included on the Victorian Heritage Register. See also ' Victorian Heritage Register '.
Victorian Heritage Register	A listing of historical (non-Indigenous) heritage sites (places and objects), protected under the <i>Heritage Act 2017</i> , that are significant to the history and development of Victoria. Heritage places include buildings, trees and archaeological sites, while heritage objects include items such as furniture and art. See also ' Victorian Heritage Inventory '.
Visual flight rules	Rules applicable to flight under visual meteorological conditions (i.e., weather conditions clear enough the pilot can remain clear of cloud and see the terrain and where the aircraft is going). See also ' instrument flight rules '
Volatile organic compounds	Carbon-based chemicals that easily evaporate (as gas) at room temperature from certain soils or liquids (e.g., paints, cleaning products). Volatile organic compounds can also comprise components of petroleum fuels.
Work authority	Required under section 771 of the <i>Mineral Resources (Sustainable Development) Act 1990</i> , regulated by Earth Resources Regulation, for the extraction of stone. To obtain a work authority, the proponent must prepare a work plan for the proposed quarry under section 77G of the <i>Mineral Resources (Sustainable Development) Act 1990</i> , which includes a Risk Management Plan, Rehabilitation Plan and Community Engagement Plan.
Work authority area	About 30 hectares, containing the on-site quarry. See also ' extraction area '.