

Dundonnell Wind Farm

Frequently
Asked
Questions

March
2019

At a glance

Capacity 336MW

Location 23km north-east of
Mortlake, Victoria

Investment \$560m

Turbines 80 turbines

Blade tip height
189 metres

Other wind farm infrastructure
Underground 33kV cables between
the turbines, onsite quarry and
concrete batching plant

Transmission connection
38km of 220kV overhead transmission
line and a new substation

Wind farm landholders
12 host landholders over
approximately 4500ha

Transmission line landholders
12 host landholders

Construction timeframes

Commencement:
Mid January 2019

Connection completion:
Late 2019

Wind farm and project completion:
Late 2020

Who is building the wind farm?

Tilt Renewables is building the Dundonnell Wind Farm in much the same way that owner/builders build their home. We have appointed Vestas to provide the 80 turbines and to manage the construction of the wind farm. Vestas has appointed Zenviron as their contractors.

Who will be operating the wind farm?

Tilt Renewables will own and operate the wind farm once operational.

Who is building and will be responsible for the transmission line?

The new transmission line will be designed, built, owned and operated by AusNet Services. AusNet Services has engaged Downer as the contractor to construct the line.

What can I expect during construction?

Construction of large projects like Dundonnell Wind Farm impact those that live, work or visit the surrounding area. We do our best to minimise those impacts but we are realistic and understand that you may be affected. On the next page are some of the mitigation measures we have in place to reduce construction impact.

Traffic and roads

The construction phase will generate a significant amount of traffic. Two Traffic Management Plans have been prepared and carefully consider how traffic is managed.

For the wind farm, most of the traffic will be funnelled to site using the VicRoads arterial road network, which incorporates highways and main roads. The site has one entry location, on Woorndoo-Streatham Road. Once constructed this will be used for all the turbine deliveries as well as other deliveries and daily access for workers. Expect to see workers travelling from all parts of the district. Currently we have employees from Ballarat to Warrnambool, Terang and Hamilton and many places in between. For the transmission line, the traffic numbers are lower and not as concentrated, though expect to see short hot spots pop up during construction as foundations are poured or lines are strung. Local roads such as Connewarren Lane, Boonerah Estate Road and Castle Carey Road will be affected at various times and – where required under Council or VicRoads permits – traffic control will be in place. We have undertaken dilapidation surveys and video recordings of the affected roads and will monitor them during the construction phase, rectifying or maintaining as required in accordance with Council's road management plan.

Dust

Civil construction kicks up dust. To minimise the amount of dust that becomes airborne we undertake a number of measures, with water the main and most commonly used. Water trucks are on site and constantly used to wet down areas that are being worked. You may notice increased dust through the road upgrade areas or coming off access tracks or unsealed roads.

Noise

Construction noise can be disruptive to sensitive receivers or neighbours. We have standard work hours for noisy machinery that are adhered to and protocols for notifying anyone that may be affected by works outside those areas. Given the isolated nature of the project, it is unlikely that construction noise will affect you.

Social impacts

There will be additional people and vehicles in nearby townships such as Mortlake and Lake Bolac. Temporary accommodation such as motels and pubs may be fuller than normal. While the construction timeframe is two years, most workers are only on site for a portion of this time, which means leasing properties for six months or more is not always ideal.

For those longer-term workers leases are usually preferred. Generally impacts on towns are net positive through the increased spend in retailers and service providers. We have established an office in Mortlake, which is also used by our contractors.

How many jobs will the project provide?

The construction of the Dundonnell Wind Farm will directly provide about 200 jobs over a two-year period. This will be gradual at first before building up for a period then winding down towards commissioning. It will provide an economic boost and employment opportunities by bringing demand for local goods and services which has been evident during the commencement of construction (local accommodation, cafes, hotels etc).

Our economic assessment has found that Dundonnell Wind Farm will provide more than 1,500 indirect jobs as a result of its construction. Local businesses that will supply the construction of Dundonnell Wind Farm include:

- Electricians
- Transport operators
- Machine operators
- General labourers
- Quarry and material suppliers
- Concrete businesses.

How can I get work on the project?

Anyone interested in supplying local services or gaining employment is encouraged to register their interest on the goods and services register at the project website.

Once operational, Dundonnell Wind Farm will employ 10 full-time staff.

Tilt Renewables, as the owner of the wind farm, will not be directly employing workers, this will be done by our delivery partners and contractors (Vestas, Zenvion, AusNet and Downer) and their subcontractors.

People wanting to work on the project can leave their details with Tilt Renewables by visiting our shopfront at 97 Dunlop Street Mortlake or online at www.dundonnellwindfarm.com.au and we will pass them on to the appropriate sub-contractor.

What was the planning and environmental approval process for the project?

We have had extensive consultation with the community and general public as part of the Environment Effects Statement (EES). Our planning permit applications were submitted to the relevant authorities in April 2015, and the EES process also included public notification and an inquiry and panel hearing.

Following this, planning approval for the wind farm was granted for up to 96 turbines, as well as approvals for the transmission line and offsite substation. In December 2017, the Minister for Planning granted an increase in the maximum turbine tip height to 189 metres and a reduction to up to 88 turbines.

Cultural Heritage Management Plans have been prepared to ensure heritage impact is minimal.

Every piece of work is approved prior to construction, from the crossing of existing infrastructure, waterways, and any work within road reserves.

What are the benefits of the project to this community?

As a long-term good corporate citizen Tilt Renewables is committed to sharing and enhancing its host communities by offering community benefits for all of its projects, including the Dundonnell Wind Farm.

Tilt Renewables consulted with the local community to determine the range of benefit sharing programs which will address key social, economic and environmental needs in the region.

Programs include a range of training and skills development programs, and a community fund to support social and environmental programs. The community fund will operate for the life of the wind farm and be run by a community-led group.

Further information relating to benefit sharing will be communicated over the coming months.

What are the environmental benefits of the project?

The Dundonnell Wind Farm will produce enough energy to power more than 245,000 homes each year – or more than enough for all of Ballarat, Warrnambool and Geelong. It will save the emission of roughly 1.5 million tonnes of carbon, the equivalent of removing about 440,000 cars from our roads.

WIND FARM

Why is the wind farm located at Dundonnell?

A lot of work goes into finding the right site for a potential wind farm. There are many factors to consider, such as:

- The availability of wind;
- Access to the electricity grid;
- Current land use;
- Environmental impacts.

The Dundonnell Wind Farm was identified as a desirable location for a wind farm for all of these factors. Will I be able to hear the turbines?

Modern wind turbines make relatively little noise. The level of sound can vary considerably depending on the shape of the land, the position of the listener and the speed of the wind. In most instances, it is possible to carry on a conversation at the base of a wind turbine without having to raise your voice.

The sound that a modern wind turbine produces is most commonly described as a cyclic whooshing or swishing sound.

Extensive assessments are undertaken through the design of the project to ensure that noise will not negatively impact on local residents. Additionally, once operational Tilt Renewables will undertake monitoring to ensure the project is meeting the required standards.



Will the electromagnetic interference affect my TV or my livestock?

There is no evidence to suggest that electromagnetic fields produced by the generation and of electricity from wind farms poses a risk to human or livestock health.

As of December 2013, all television broadcasts in Australia are now digital broadcasts. Digital TV signals are generally much less susceptible to interference from wind farms than analogue signals, however, interference is possible in areas of low signal strength. Potential TV interference from the Dundonnell Wind Farm was independently assessed as part of the Environmental Effects Statement assessment process. It was found that the area around the Dundonnell site generally experiences good digital television coverage, however, there are some small areas where the signal strength is lower and interference may be possible.

Tilt Renewables is happy to assist any residents who experience tv reception issues after construction of the wind farm. A baseline assessment was undertaken prior to the construction of the wind farm to determine the existing strength of the television and radio reception in the area so that if a concern is raised, we can assess whether the wind farm is causing any impacts.

What if there is no wind or extreme temperatures?

The Dundonnell Wind Farm will connect into the National Electricity Grid, which is an interconnected system that covers Qld, NSW, ACT, Vic, Tas and SA. The grid is supplied by electricity from a large number of geographically and technologically diverse generators. The Australian Energy Market Operator (AEMO) manages the system to ensure that a mix of generators and storage technologies are available to meet demand on the system at any moment. If the wind is not blowing in Western Victoria generators in other regions or based on other technologies will be available to meet demand.

TRANSMISSION LINE

What influences the design of the transmission line?

The design of the transmission line (including the size and location of the poles) is influenced by numerous factors, including:

- Voltage (e.g. 66kV, 132kV, 220kV), number of circuits, conductor (the wires) type/size, security level and design life requirements;
- Line length, spans between poles, changes in direction;
- Topography;
- Structural loads due to the weight, wind, earthquake risk, ground water and others;
- Electrical safety requirements;
- Communication and earthing requirements;
- Temperature limits and fluctuations;
- Existing infrastructure constraints
- Land access (both public and private);
- Native vegetation;
- Planning requirements;
- Areas of cultural heritage significance;
- Property configurations and dwelling locations;
- Road and traffic safety;
- Drainage;
- Fire safety.

During the development and approval phase of the project, a number of proposed transmission line routes were investigated. This included the review of environmental, planning, safety and social impacts, as well as active engagement with local landholders who would potentially be impacted by each proposed route.



What will the Dundonnell Wind Farm transmission line look like?

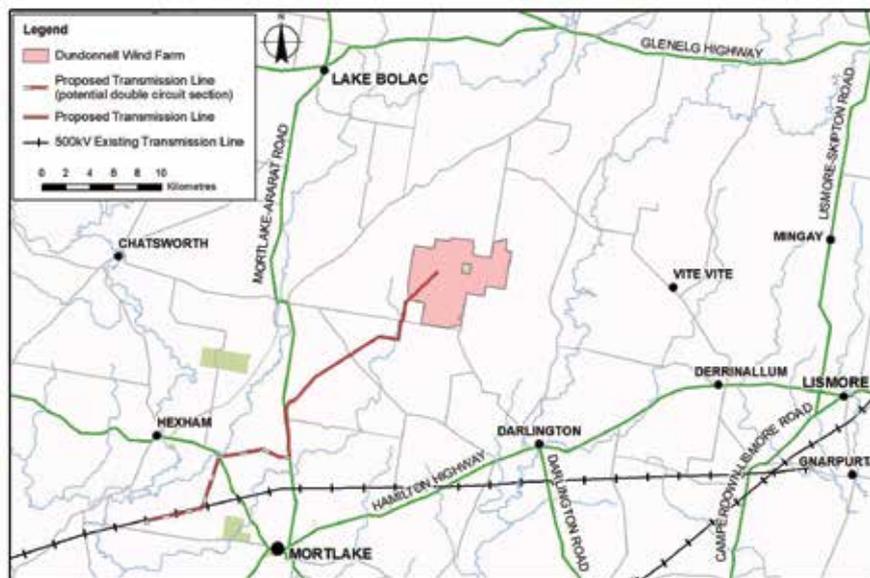
The transmission line is 38 kilometres long and will consist of galvanised steel poles that range between 36 and 42 metres high with base diameters of about two metres. There are 124 pole locations along the route, spaced roughly 300 metres apart.

Of the 38 kilometres, 15 kilometres is being constructed using double circuit structures that will allow for the future connection of another wind farm (e.g the Mount Fyans Wind Farm). The double circuit construction results in larger poles with larger foundations and double pole structures in some corner locations. Double poles are used to ensure safe electrical clearances are maintained for both circuits. The concrete foundations for the poles will be up to 2.4 metres in diameter.

There is a small section (about 600 metres) of the transmission line between the offsite substation and the Mortlake Power Station (MOPS) which will include two lattice towers that are 65m high. These are similar to the existing tower structures that are nearby.

Why can't the transmission line be underground?

Transmission lines can be underground. However, for projects of this nature, it is often cost prohibitive to install transmission lines underground for the distances they require. Underground placement may also be a significantly greater environmental impact and limits the ability for multiple projects to share a line. This is because laying cables underground will likely impact a far greater area of native vegetation and environment due to trenching and the process of undergrounding the lines.



Above: Indicative single circuit steel suspension pole 31m



Above: Indicative double circuit steel pole



Above: Indicative double circuit steel pole

Can more than one wind farm share the same transmission line?

The short answer is yes – and Tilt Renewables is proud to have established an agreement for a shared transmission line solution which will be able to be used by other wind farm operators, avoiding the need for duplicate infrastructure.

However, there are many commercial, technical and regulatory considerations to enable this to happen. It also requires both wind farm operators to be fully committed to construction of these projects at or around the same time to allow full coordination and agreement on the transmission line contractor(s), design, construction and operational contracts.

Tilt Renewables has worked closely with Woolnorth and AusNet Services over a long period to create a network solution to reduce the amount of transmission line infrastructure required for other proposed renewable energy projects in the region.

Will the transmission line be a safety risk?

The transmission line will be designed to meet or exceed appropriate design and safety standards. Bushfires from powerlines and other incidents causing the lines to fall are major concerns and critical risks for network operators; while these risks cannot be eliminated entirely, the powerlines are equipped with fast-acting protection systems designed to prevent injury to people, damage to property and grass or bush fire.

The transmission network service provider will apply electricity industry best practice to the maintenance of the transmission line (including for example, vegetation clearance) and ensure all required regulations in relation to electricity safety and bushfire mitigation are met (such as Energy Safety Victoria requirements).

Once the transmission line is built, it will be managed in accordance with an Electricity Safety Management Scheme for the Victorian Transmission Network, which must be accepted, approved and regularly audited by Energy Safety Victoria.

