

Ben More Wind Farm Project

Community Open House – Questions and Answers

Transfield Services hosted a Community Open House at Amphitheatre on Thursday 12 August to provide the community with information on the proposed Ben More Wind Farm project. Over 150 interested community members attended the Open House and various views were expressed and questions asked. The community feedback received will be used by Transfield Services to guide the planning permit application and wind farm design.

Below is a summary of the questions recorded at the Open House by Transfield Services and answers to these. Should you require further detail on any of these matters, or have additional questions, please don't hesitate to contact Transfield Services' Project Manager, Nick Valentine, on 02 9963 9924 or by email at valentinen@transfieldservices.com.

How many wind farms has Transfield Services already built and currently operating?

Transfield Services currently owns and operates three wind farms in Australia: Toora (VIC), Windy Hill (QLD) and Starfish Hill (SA).

How is the distribution of wind farms regulated by government and will the government release plans of all future wind farms under consideration?

The Victorian Government's renewable energy policy – entitled Victoria's Energy Future – is available here: <http://www.new.dpi.vic.gov.au/energy-future>. Further information is available from the Department of Primary Industries on 136 186.

What is the distance between the turbine towers?

Normally towers are spaced out using a circular or elliptical separation. For sites with a predominant wind direction an elliptical separation can be used with the long axis of the ellipse aligned with the wind direction. Using an elliptical pattern the minimum distance between turbine towers would be 160 metres.

At what wind speed are the turbines activated or stopped?

Wind turbines are activated at wind speeds of approximately 10 km/h and are shut down when speeds reach 100 km/h, which means that turbines can continue to operate safely at up to gale-force wind speeds. Individual turbines are shut down by feathering the turbine blades to lower the wind resistance before applying a brake to stop the rotor completely.

How often will the turbines be inspected and what is the proposed maintenance regime?

Turbines are subject to regular scheduled maintenance activities on a six-monthly cycle. Turbine operation is monitored 24 hours a day from the wind farm control room.

What are the maintenance costs per MWH produced per turbine?

Maintenance costs would vary depending on the make and model of wind turbine installed; however \$7-10 per megawatt hour of energy produced is anticipated.

Are overheating problems a risk to wind turbine operation?

Modern wind turbines are able to operate through a large temperature range; generally between -20°C and 50°C. Turbines are fitted with sophisticated electronic controllers which monitor each turbine's operating conditions. If the potential for overheating is detected an emergency stop would be activated from the wind farm control room.

How many wind turbines will there be at the Ben More site and is there potential to expand the number of turbines at the site in the future?

The Ben More wind farm would comprise between 50 and 60 turbines, with the exact number dependent on the individual capacity of the turbines. Once the final number is determined there would be no additional turbines included in the wind farm.

What type of turbines will be used?

Transfield Services is yet to secure a wind turbine supplier for the Ben More wind farm. A supplier would be chosen following a tender process.

What infrastructure is required to connect the wind farm to the grid?

The wind farm would be connected to the grid via a substation and overhead transmission line. The proposed grid connection would be at the main line running parallel to the Lexton-Ararat Road.

What are the standard dimensions of a turbine and the actual size of the proposed turbines?

Wind turbine towers are generally 80 to 90 metres tall and the blades have a diameter of between 90 and 100 metres. The exact size of the turbines to be used at the Ben More wind farm would be confirmed once a supplier has been appointed.

What happens to the turbines when the wind farm is no longer operational?

The wind farm planning approval would dictate that all above-ground infrastructure be removed from the site at decommissioning. The wind farm owner is responsible for all decommissioning costs.

What is the size of the concrete pad at the base of each turbine?

The size of the concrete pad would depend on the type of footing to be used at individual turbine sites which, in turn, is determined by the underlying geological conditions. In the majority of cases, where "standard" geological conditions are encountered, a gravity footing of approximately 250m³ would be required. If geological conditions are suitable a rock anchor footing would be used, requiring approximately 100 m³ of concrete.

What is the visual impact on the landscape?

The wind farm would be visible from various locations in the surrounding area, including from residences and roads. The visual significance of the wind farm would vary from person to person and is largely subjective. A comprehensive visual impact assessment will be prepared to accompany the planning permit application.



Do the wind turbine towers need to have flashing red lights on them at night?

Lights are installed on wind turbines as they pose a potential hazard for aviation operations. The need for aviation obstacle lighting at Ben More would be determined following consultation with the Civil Aviation Safety Authority (CASA). We are optimistic that CASA would recommend only a limited number of low-intensity lights be installed, if any at all.

What is the projected timeframe for commencement of the project?

The time frame for commencement of this project would be determined by Transfield Services following a decision on the Planning Permit Application.

What is the operating life of a wind farm?

The operating life of a wind farm is generally determined by the life span of the turbines, which is approximately 25 years under current technology.

What reduction in carbon dioxide emissions is expected per wind turbine after emissions associated with backup power, operational consumption, manufacture and installation are taken into account?

A typical 2 megawatt wind turbine installed in Victoria will reduce greenhouse gas emissions by approximately 6,000 tonnes per annum. In the first few months of operation a wind turbine has generated sufficient clean energy to offset the carbon dioxide emissions associated with its manufacture, transport, installation and operation.

There is no dedicated back-up power required for the wind farm. The entire Victorian electricity network requires sufficient back-up to ensure it operates to meet demand at all times. In Victoria the amount of back-up power (or "spinning reserve") available at all times is equivalent to the largest single generator in the system: the 525 megawatt unit at Loy Yang. This back-up is much larger than the total capacity of the proposed Ben More wind farm.

What impact will the turbines have on the eagles in the area?

Bird collisions with wind turbines are rare and turbines are required to be re-sited if there is a significant risk. The risk to regional populations of eagles from the Ben More wind farm has been assessed by expert consultants and is considered negligible.

Are trees being removed for road placement or turbine placement?

The wind farm would be designed to minimise the need for tree removal with no infrastructure to be sited within the Ben More Nature Reserve.

What is the projected level of energy produced by each turbine?

Each wind turbine at Ben More would produce approximately 6,000 megawatt hours (MWh) per year. An average Victorian household uses approximately 5.3 MWh of energy per year.

How much oil is consumed per turbine during operation?

There is no actual consumption of oil in a turbine. The amount of oil required for safe and efficient operation depends on the make and model of wind turbine. A typical turbine with a gearbox and hydraulic system contains approximately 1,000 litres of lubricating oil.

How will the Ben More wind farm contribute to the reduction of greenhouse emissions?

Wind farms produce clean renewable energy; energy that does not produce greenhouse gas emissions during its production. Wind farms provide energy for use that would otherwise come from sources such as coal-fired power stations which produce large quantities of greenhouse gases, particularly carbon dioxide. It is estimated that the Ben More wind farm would reduce greenhouse gas emissions by approximately 420,000 tonnes per annum.

Will the areas revegetated by the Lexton Landcare Group at the wind farm site need to be cleared?

The wind farm would be designed to avoid the need for vegetation removal. Transfield Services will consult with the Lexton Landcare Group to understand the location of revegetated areas and future proposals.

What proportion of wind farm profits are reinvested into the community and what proportion are paid to the State government?

Transfield Services would establish a community investment program for the Ben More project. This program would be developed in consultation with Pyrenees Shire Council and the local community. No dividend is payable to the State government.

What will the impact be to neighbours during the construction phase?

During the construction phase the main impact on neighbouring properties would result from a temporary increase in traffic volumes, including oversized loads. This traffic has the potential to cause noise impacts and minor disruptions to local traffic movement.

Will the project generate local employment?

The Ben More project would generate employment in the local area during construction and operation. Workers required for the project would include plant operators, truck drivers, mechanics, welders, fencers, electricians, labourers and other trades typically used in civil construction. It is estimated that the onsite workforce would peak at around 110 employees.

Is it likely that the Ben More wind farm will generate tourism?

Many wind farms throughout Australia have become tourist attractions. Several Australian wind farms have established viewing areas, information displays, cafes and educational tours. Transfield Services welcomes input from the community regarding opportunities to support local tourism.

What impact is the wind farm development likely to have on property prices in the area?

While there is limited available data on the impact of wind farms on property values in Australia, a recent study commissioned by the NSW Valuer General concluded that "...wind farms do not appear to have negatively affected property values...". Overseas studies have arrived at similar conclusions.

Over what period was the noise assessment undertaken?

Background noise monitoring was conducted in February/March 2010. The noise assessment is currently being finalised, with the final assessment report publicly available once the Planning Permit Application is submitted to Government.

How does the noise assessment demonstrate whether the noise level at neighbouring properties is at a safe level prior to installing any turbines?

The noise assessment is being conducted in accordance with the 2010 New Zealand Standard, which is current best practice and is a more stringent methodology than that currently required by the Victorian Government. The wind farm must comply with a 40 dBA noise limit at nearby residences, which is generally achievable at a distance of 1 km from the nearest turbine.

What does the heritage investigation involve?

A desktop Aboriginal and European heritage study has been prepared for Ben More. This study will guide the detailed site investigations, which will include preparation of a Cultural Heritage Management Plan in accordance with the Victorian Aboriginal Heritage Regulations 2007. The Dja Dja Warrung community will be consulted and involved in these investigations.

Is there likely to be interruption to TV reception due to the Ben More wind farm?

Transfield Services has conducted an assessment of the telecommunications paths in the vicinity of the wind farm, including television and radio services. The turbine layout would be designed to avoid these communications paths, hence it is considered unlikely that TV reception would be impacted.

