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Introducing Hurunui Wind



Project Hurunui Wind is a proposed wind farm spread across six privately owned properties situated between Omihi and Greta Valley, in North Canterbury.

The wind farm is completely compatible with existing land use, and these properties would continue to be farmed by land owners.

Located approximately 66 kilometres north of Christchurch, the proposed site lies within the territorial boundaries of Hurunui District Council. Thirty-three wind turbines with a combined generating capacity of 75.9 MW form the proposed wind farm.

The development area is located around Centre Hill, approximately 13 kilometres from the coast, on a site consisting primarily of pastoral farmland.

Community benefits

Meridian has a strong reputation for supporting the communities from within our generation areas through the establishment of community funds. There are currently five community funds operating and it's proposed that a new fund be available once Project Hurunui Wind has been constructed.

Meridian's experience of working with communities has shown there is potential for additional opportunities and benefits that are outside the Community Fund that can be realised when engaging with the local community.

White Hill wind farm in Southland is a great example of where the local community has identified an opportunity and embraced the development of a wind farm. By working in partnership with Meridian, it has secured additional funding that has benefited the community. While the community fund has \$75,000 available over three years to support suitable initiatives, the community has also planned and held open days at the wind farm, raising a further \$60,000 for other community-based initiatives.

Local benefits

Project Hurunui Wind would provide the region with opportunities for employment and purchasing of local services during the construction period.

It's estimated that construction of the wind farm would take approximately 18 months and require between 60 and 150 construction workers.

During that time, materials and construction equipment would be sourced locally where possible.



West Wind, Wellington

The positive benefits of the project on the local economy includes wages, transport, site servicing, local supplies and accommodation. After construction it is expected the site will be managed by locally based staff.

Security of supply of electricity is an ongoing issue for the upper South Island, with only 137 MW of installed capacity, a peak demand of 1,000 MW and limited transmission capacity from the south.



Explaining how a turbine works to
Mossburn Primary students

Electricity is essential to New Zealand's economy and society. It not only powers our primary industries and businesses, but also ensures the lifestyle we enjoy today.

Meridian is undertaking a full assessment of the effects that may arise as part of the construction and operation of the wind farm.

Project Hurunui Wind would provide the upper South Island with much-needed generation, 75.9MW of renewable energy.

This is enough electricity to supply up to 31,000 average households.

National benefits

Electricity is essential to New Zealand's economy and society. It not only powers our primary industries and businesses, but also ensures that the lifestyle we enjoy today is possible for the future. A reliable electricity supply is critical to our future as we come to rely more on information and communications technology.

Population and economic growth, and energy-intensive industries such as irrigation mean that New Zealand's demand for electricity is increasing quickly. Unfortunately new generation has not kept up with this increase in demand.

In combination with energy efficiency initiatives and upgrading of existing generation infrastructure, Project Hurunui Wind would help meet

New Zealand's current and future energy requirements.

Environmental benefits

After construction, the Hurunui wind farm would generate electricity from a naturally occurring resource. Its operation would help to displace emissions that can result from gas, diesel or coal power generation, and thereby reduce the environmental and health impacts these emissions can cause.

Wind farm assessment

Meridian has undertaken a full assessment of the effects that may arise as part of the construction and operation of the wind farm. Open days and information sharing along with the resource consent application will assist local stakeholders to reach an informed decision about the proposed project.

Following is a summary of the common issues that people raise about wind farms in general, some of which may be relevant to the project.

Visual and landscape effects

Despite the District Plan not identifying the site as an Outstanding Natural Feature or falling within an area of Outstanding Landscape, Meridian has undertaken an extensive assessment of the site.

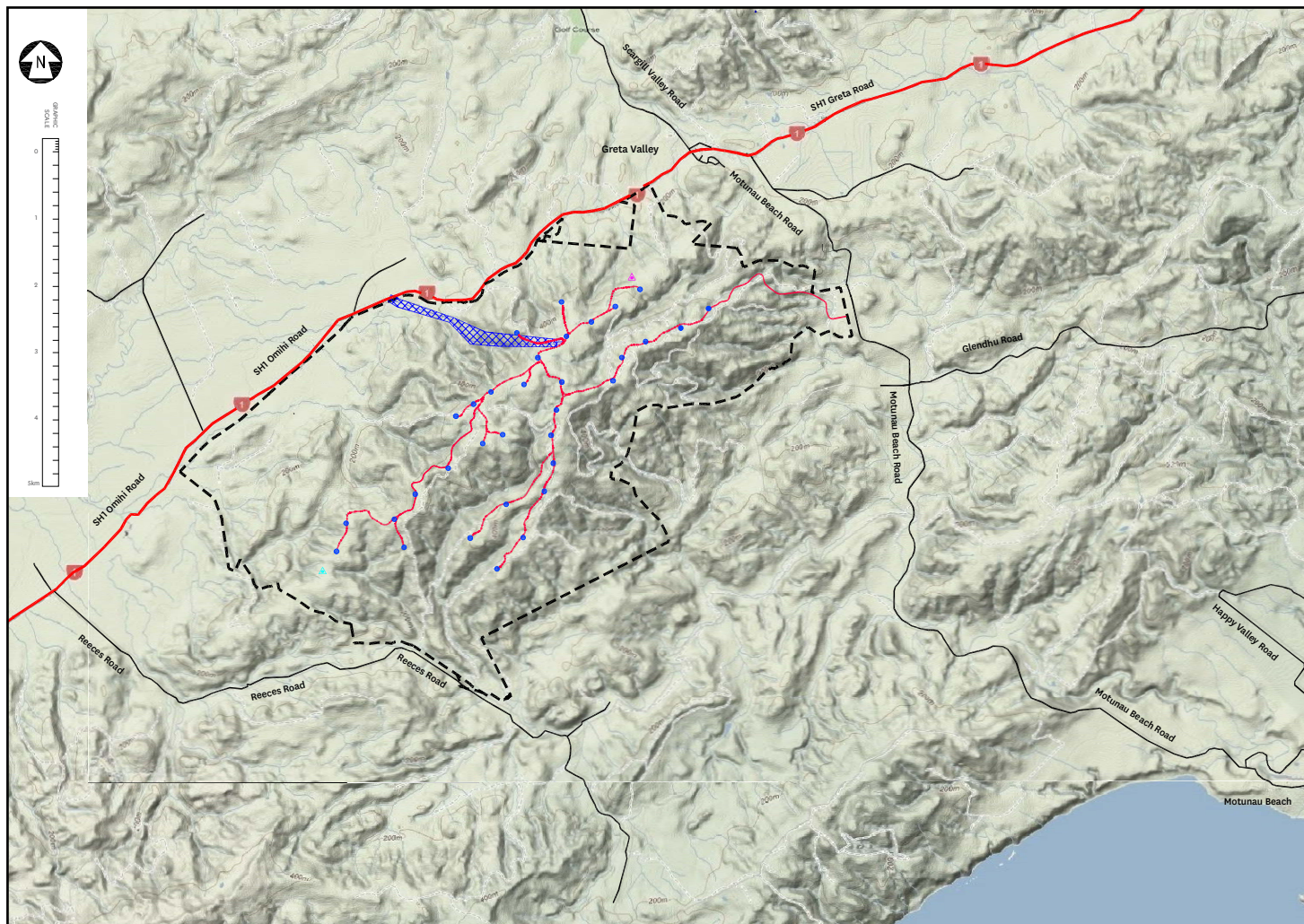
The visual effects of the proposal depend on proximity to the site, viewing aspect and the personal view points of individuals.

While visual effects are difficult to mitigate, all turbines would be identical and would be light grey in colour, with a low reflectivity finish on the blades to reduce possible blade glint (sunlight reflecting from the turbine blades as they rotate).

The wind energy industry has established that light grey is the most neutral colour in a landscape given a wide range of backdrops (predominantly silhouetted against the sky and/or clouds, light conditions and seasonable variability).



*Left to right:
Proposed wind farm site and
Centre Hill in the distance*



Noise

Design improvements mean that modern turbines such as those that would be used for Project Hurunui Wind produce very little noise compared with earlier models. In particular, rotor blades have been refined to make them more efficient and reduce their aerodynamic noise, especially in low wind conditions.

Sounds from an operating wind turbine may often be masked by the background noise created by the wind blowing through the vegetation and around nearby buildings and structures.

In March 2010, Standards New Zealand produced an updated standard for the prediction, measurement and assessment of sound from wind farms.

The revised standard reflects the experience gained in the past 12 years as wind farm development has increased significantly throughout New Zealand.

The standard takes into account the factors that are specific to wind turbine sound and also recommends limits on the level of sound that can be heard from locations near wind farms.

Meridian will ensure that Project Hurunui Wind fully complies with the new standard, NZS 6808: 2010.

Turbines

The turbine proposed for this project is a three-bladed, variable-speed turbine. The maximum height of the rotor blade in the vertical position will be no more than 130.5 metres high from the base of the tower to the tip of an extended blade.

The final selection of the turbines will be completed at a later stage of the project once ongoing studies and assessments have been

KEY	
●	Wind farm location
—	Internal access roads
	Transmission corridor
	Core boundary

completed. Generally an underground internal cable network would connect the wind turbines and substation on site.

The transmission line that connects the on-site substation to Mainpower's existing 66 kV network is located within the site.

The existing lines will require upgrading by making the poles stronger but no higher.

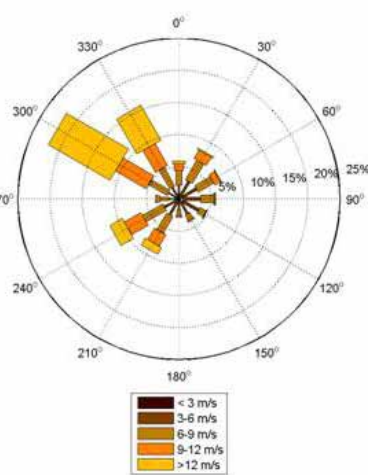


Did you know?

New Zealand has consistently strong wind conditions compared with most other countries. This means the capacity factor (the average power output compared with rated power) of wind farms in New Zealand is more than double the international average.

Monitored Wind Data

The wind rose below illustrates the wind direction, the wind speed and the percentage of time that it blows within these parameters. This information has been taken from the 80m mast that is located on Centre Hill which is part of the Hurunui Wind site. This data enables us to predict that the wind farm will be generating electricity for around 87% of the time.



Assessment of Effects

Meridian has undertaken a number of studies to help determine and understand the effects that would arise as part of the construction and operation of the wind farm. These include construction, traffic, noise, ecological, cultural, recreation, archaeological, landscape and visual effects.

The reports have been completed by independent consultants and the summary information sheets are available to view on the Meridian website.

Consultation

Since the project was announced in May 2010, Meridian has consulted with the local community surrounding the proposed wind farm site.

Open days together with one-on-one meetings have been held over recent months.

We know that the concept of a wind farm – like any proposal for a new or different way of using land – can be a difficult concept for some people to accept and we acknowledge and respect this. To help minimise and remove any worries you may have, we are about to undertake Stage II of our consultation and information gathering programme.

Over the next three months, prior to formal resource consent applications being made, there will be a range of opportunities for you to meet with us and ask any questions you may have. These opportunities include:

- Continue one-on-one discussions with people.
- Opening an information centre at 1 Bank Street, Amberley on 11 November. It will be staffed by Meridian representatives on Tuesdays and Thursdays between 11.30am and 5pm. It will provide details of the proposal including maps showing the wind farm layout, a time-lapse simulation of the project, photos simulations showing what the wind farm would look like from different locations, and information sheets about the wind farm and wind energy.
- Holding additional open days at various locations throughout the district. The details of these will be advertised in local media.

We are committed to working with the community and welcome and thank you for your contribution to this important process which is a key step in identifying issues of concern and identifying means of addressing them.



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WE'RE HERE TO HELP

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About Meridian

Meridian generates electricity from renewable resources and is New Zealand's largest electricity generator, with a number of hydro stations and wind farms producing power for New Zealand homes, agribusinesses and businesses.

With renewable energy at the heart of Meridian's business, it's natural for the company to develop wind power generation resources as it has with hydro power. Wind power is now an increasingly important part of its business and New Zealand's energy supply.

Meridian has extensive experience with wind energy, operating the Te Āpiti wind farm north of the Manawatu Gorge, the White Hill wind farm in Southland, West Wind in Wellington, and the Ross Island wind farm in Antarctica. Project Te Uku is under construction near Raglan in Waikato and is expected to be fully commissioned by early 2011.

Meridian is constantly investigating potential sites throughout the country where new generation is feasible and appropriate.

Where possible Meridian prints with mineral oil free, soy-based vegetable inks on paper from well-managed forests that comply with environmentally sustainable practice and principles. Please recycle.