



Waiinu Energy Park

June 2025 Update | EDITION #2

Kia ora koutou,

Many thanks to those who came to the community open day for Meridian's proposed Waiinu Energy Park on Monday 9 June. We had over 100 people through, all very interested in the project and what it might mean for them.

We had a lot of questions about things like sound levels and what benefits the community can expect from the project, such as employment opportunities and our Power Up Community Fund. In this edition of the newsletter, we'll summarise and provide responses to the most common comments and questions.

Project update

As mentioned in the [last newsletter](#), we're advancing the project design and finalising independent expert assessments that will inform the final design and consent application. These assessments will ensure the design conforms to the relevant standards and guidance, for example around noise. We'll also be considering the feedback we received at the community open day and a recent hui with local iwi and hapū.

We intend to apply for referral to the fast-track approvals process in the next couple of months.

Why are we building new renewable energy assets?

New Zealand needs more renewable energy to meet projected growth in electricity consumption. While electricity demand has been relatively flat for the past decade, mainly because of improvements in energy efficiency, we're now seeing national demand grow.

Homes and businesses are looking to electricity for things that currently use petrol, gas or coal – whether that's buying an EV, moving to electric heating, cooking or hot water, or replacing industrial coal boilers with electric boilers. There are also new uses for electricity coming online, like the data centres required to help New Zealand take advantage of AI.

Increasing our overall electricity supply will also help reduce power prices over time.

Meridian is committed to creating as much new renewable energy generation and storage as we can. We expect to commit \$1 billion in new projects this year and up to \$3 billion through to 2030.

Some assurances about Meridian's approach

New developments like the Waiinu Energy Park can be worrying for communities. While there are many benefits, there can also be effects on some members of the community. We're very happy to answer questions and talk to people about their concerns.

We'd also like to provide an assurance that Meridian works hard to adhere to the relevant standards and best practice guidelines around the potential effects of our developments. We take these, along with the health and safety of neighbouring communities, very seriously.

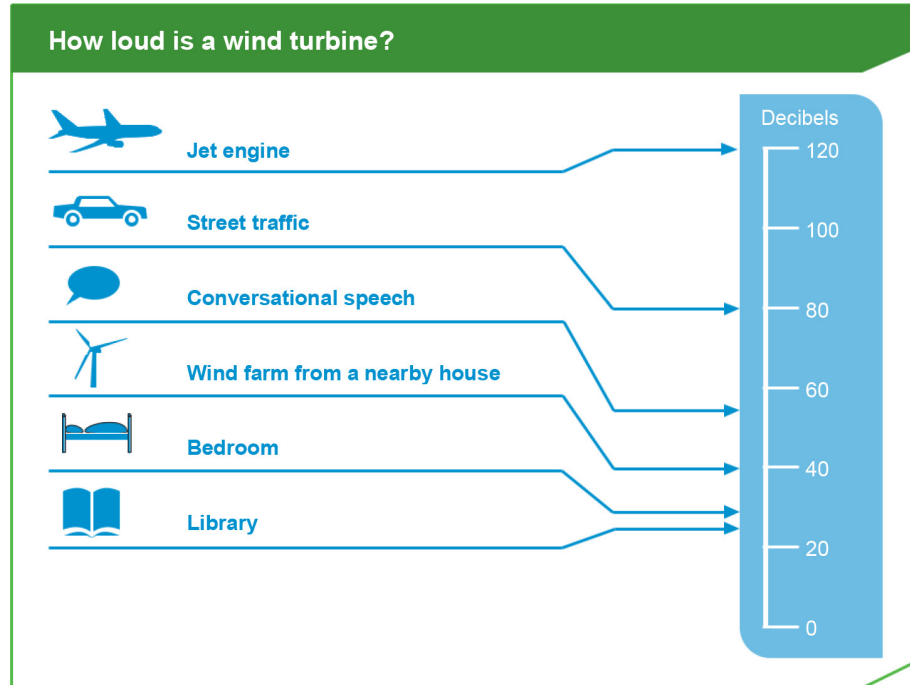
Wind farms and sound

Many people who attended the open day were concerned about the sound the wind turbines would make.

This [New Zealand Wind Energy Association fact sheet](#) explains:

Modern wind turbines are quiet when they operate. Even so, New Zealand's wind farms must comply with strict noise-related resource consent conditions. These conditions ensure that while wind turbines may be audible at times, the level of sound heard at a nearby house will not be out of place with other sounds in the environment.

In New Zealand, wind farms are designed to comply with New Zealand Standard for wind farm noise (NZS6808) ... NZS6808 specifies that sound from a wind turbine outside a nearby dwelling is to be no more than the greater of 40 decibels (dBA) or 5dBA above background sound levels. 40 decibels is about the same level of sound in a quiet room.



Source: New Zealand Wind Energy Association

Infrasound, vibration and health

Several people asked whether infrasound or vibration are an issue with wind turbines.

There are no infrasound, vibration or health effects arising from this proposal.

The UK's Institute of Acoustics states that levels of infrasound at wind farms are so low that there is no need to assess them as the absolute levels are well below those reported to trigger health effects based on independent peer-reviewed research. They also advise that vibration levels are well below what humans can perceive, even when standing at the site of a wind turbine.

The New Zealand Wind Energy Association [fact sheet](#) looks at this as well:

Infrasound is sound energy in the frequency range below 20 Hertz (Hz). Almost all sound in the environment has components in this region although they are of such a low level that they are not significant and cannot be heard.

Over the past decade it has been repeatedly shown, by research undertaken in the UK, Denmark, Germany, Australia and the USA, and accepted by experienced noise professionals in New Zealand and overseas, that the levels of infrasonic noise and vibration radiated from modern wind turbines are at a very low level; so low that they usually lie below the threshold of perception. It is generally accepted that when infrasound is below the level of perception it does not pose a concern for human health.

The fact sheet also summarises a report prepared by an international panel of experts, who looked at large body of scientific research on sound – and specifically the sound produced by wind turbines – and health effects. The panel concluded:

The sounds emitted by wind turbines are not unique. There is no reason to believe, based on the levels and frequencies of the sounds and the panel's experience with sound exposures in occupational settings, that the sounds from wind turbines could plausibly have direct adverse health consequences.



Part of the proposed
Waiinu Energy Park site

Shadow flicker

Shadow flicker occurs when rotating turbine blades come between you and the sun, causing a moving (flickering) shadow.

Shadow flicker is also something we look at carefully as part of the project design process. If it's going to impact a property at certain times of day/year there are mitigations we can put in place, like stopping the turbine during those times.

Distance from wind turbines

We received a number of questions on what factors determine the distance wind turbines are from community. In particular, several members of the Waiinu Beach community were concerned that the current design has turbines about 1.5km from the village

There is no magic number – distances are determined based on the effects the turbines cause, i.e. we need to keep turbines at a practicable distance to ensure effects such as noise and shadow flicker meet the relevant standards and guidelines.

For context, the Makara Beach community in Wellington is within 1.5km of both our West Wind Farm and Mill Creek Wind Farm, though the geography is hilly compared to the relatively flat or undulating terrain of the proposed Waiinu Energy Park site.

Property values

Some open day attendees were worried that a wind farm would bring the value of their property down. Given the current property market and economic climate, we understand that this will be playing on people's minds.

Property value is influenced by a wide range of factors and can fluctuate over time. It's also inherently subjective, and can be shaped by an individual buyer's preferences, values and expectations. We're not aware of any studies indicating that a wind farm in New Zealand has led to a general decline in surrounding property values.

Given this, the approach in New Zealand is to instead consider whether a project could impact amenity at someone's home, such as through wind turbine noise or shadow flicker. Meridian carefully designs and operates its wind farms to manage these effects and ensure they remain within acceptable limits.

Community benefits

Many people at the open day were keen to understand what benefits the project could provide the community.

As a company we're committed to employing as many locals and using as many local businesses as possible during the construction of our developments – to the point that we normally have targets for our contractors to meet on these. At our most recent wind farm build, Harapaki, these local employment and spend targets were exceeded – across the construction period we ended up filling about half of our jobs locally and spending \$100 million locally.

We have also established [Power Up Community Funds](#) in all the communities surrounding our operating assets across the country. Run by panels of local community members and Meridian staff, these funds support projects that contribute directly to and generate benefits for the community. Annual funding amounts depend on the size of the asset, but over the past 17 years we've invested more than \$11 million into over 1,500 projects.

The Makara community, near West Wind Farm in Wellington is a great example of somewhere Meridian's presence is well-established. [Here's a video](#) about how the Power Up Fund helped the local school with a building restoration, and over the years with other projects too.



Principle from Mākara Model School

Use of oil or diesel in wind turbines

Some people asked about whether wind turbines are run using oil or diesel.

The blades of a turbine turn in the wind and this is not supplemented in any way by other energy sources, such as diesel or petrol. Oil is used in turbines for lubrication purposes in the gearbox and other moving parts, not as a fuel source.

Electromagnetic radiation

While not a common concern, we did get a couple of questions about electromagnetic radiation.

There's a very small amount of electromagnetic radiation from the lines that carry the electricity from wind turbines and solar farms. However, electromagnetic field levels near wind turbines are lower than those produced by many household appliances, as evidenced by this [research from Canada](#).

Any questions?

We welcome your questions - please contact us via one of the channels below, or we can meet you in person if you prefer.

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Please pass on this newsletter to anyone you know who might like to receive it. They can [sign up for updates here](#).

Ngā mihi,

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