Benefits of wind farms

Wind farms create a range of economic, social and environmental benefits at global, national and local levels. This fact sheet highlights some of those benefits.

Global benefit - Modern societies rely on access to electricity generated from renewable sources. Wind energy is recognised globally as one of the most sustainable forms of electricity generation. This is largely because the use of wind energy, a renewable natural resource, slows the consumption of finite and exclusive fuels, which preserves the natural environment and thus provides for future generations.

National benefits - Increasing New Zealand's electricity supply from wind energy will put New Zealand on a better path towards sustainable development:

- Wind farms generate electricity using an infinite and abundant renewable energy resource and therefore wind farms help reduce reliance on finite fossil fuels.
- Electricity generated from the wind creates no more greenhouse gas emissions than hydroelectricity, and much less than all other forms of electricity generation available in New Zealand, including geothermal and solar.
- As a clean, safe and green form of electricity generation, wind energy helps promote New Zealand's 100% Pure brand.
- Wind energy is New Zealand's preferred form of new electricity generation. Studies commissioned by the New Zealand Energy Efficiency and Conversation Authority (EECA) consistently demonstrate that New Zealanders prefer wind energy over other types of new electricity generation.
- Wind farm development throughout New Zealand provides national economic development benefits through industry and business growth opportunities.
- Wind farms are long-term infrastructure that utilise a free and reliable fuel supply. This helps make wind energy a low risk form of electricity generation that can readily contribute to New Zealand's wider electricity generation system.
- Wind farms can be small or large. This means they can be located and designed to suit a wide variety of needs, from a small amount of generation feeding into a rural network to a large wind farm powering a city.
- Wind energy is a competitive price taker in the electricity market. It helps reduce the spot price of electricity.
- The environmental effects of wind farms are the most reversible of any form of utility-scale electricity generation in New Zealand. Wind farm infrastructure can be decommissioned and taken off site leaving only the physical footprint of land modification resulting from internal roads and foundations.
- Wind farms can secure the value of the existing land, which in turn can protect natural values for future generations by preventing intensive land development. In some cases,

wind farms can help improve New Zealand's overall biodiversity values through supporting ecological restoration.

- Wind farms contribute to New Zealand's national and international obligations for reducing greenhouse gas emissions and addressing climate change.

Local benefits

- Most wind farms are built on rural land. Wind farms provide landowners with a new income stream that can improve the return from their land and allow valued agricultural business to continue.
- Wind farm construction creates significant local economic benefits through local spend, opportunities for business development including tourism, community projects and research. Wind farm construction is often the largest capital works project in rural areas.
- Wind farms can be scaled to fit demand, resource availability and site constraints. Therefore, wind farms can potentially operate in each region of New Zealand.
- Wind farms can increase the stability of the local electricity network and increase security of supply at a local level thus contributing to a region's self-sufficiency.
- Wind farms can enhance recreation values. In some cases wind farm development can provide opportunities for improving public access to previously inaccessible areas of high recreational value.
- Wind farms can enhance heritage values. In some cases wind farm development can provide opportunities for improving a range of heritage engagement enhancement opportunities, for example, improving public access to selected historic sites and areas.
- Wind farms can enhance the local road network. Developers will often upgrade local roads to enable large wind turbine components to be transported to site.
- Wind farms can enhance local biodiversity values. In some cases wind farm developers can contribute to the restoration or improvement of local biodiversity values, including protecting indigenous biodiversity on farm land.
- Wind farms can enhance amenity values. Many people like the look of wind farms, although in every case there is a degree of subjective judgement involved. In New Zealand, communities have used wind turbines to promote their wellbeing and 'sense of place'.

New Zealand's National Policy Statement for Renewable Electricity Generation identifies that renewable electricity generation activities have national, regional and local benefits including but not limited to:

a) maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions;
b) maintaining or increasing security of electricity supply at local, regional and national levels by diversifying the type and/or location of electricity generation;
c) using renewable natural resources rather than finite resources;
d) the reversibility of the adverse effects on the environment of some renewable

electricity generation technologies;

e) avoiding reliance on imported fuels for the purposes of generating electricity.

More Information:

Find out more about wind energy and wind farms in New Zealand at www.windenergy.org.nz.

The New Zealand Wind Energy Association (NZWEA) is an industry association that works towards the development of wind as a reliable, sustainable, clean and commercially viable energy source. We aim to fairly represent wind energy to the public, government and the energy sector.

Our members include over 75 companies involved in New Zealand's wind energy sector, including electricity generators, wind farm developers, lines companies, turbine manufacturers, consulting firms, researchers and law firms.