

To the Chairperson
Board of Inquiry

This is a submission on the proposed national policy statement for renewable electricity generation that was publicly notified on 6 September 2008.

The changes and additions I seek, with reasons, are set out below.

Holistic view required to achieve sensible development of renewables

The main form of renewable energy proposed to meet the Government's target is wind generation. Many industrial scale wind generation facilities, such as Mighty River Power's speculative and ill-conceived Turitea proposal, are simply not based on sound green policies but commercial opportunism for distorting factors such as carbon credits*. A holistic renewable energy policy is required, balancing costs, benefits and deliverability of a full range of options including demand reduction.

Evidence has emerged that wind generation is an unreliable and intermittent source of energy that cannot provide firm predictable generating capacity, i.e. it cannot be scheduled or the availability predicted sufficiently accurately. It has limited value in reducing greenhouse gas emissions when thermal stations are used for spinning reserve backup. Wind generation developers claim that hydro stations are used for backup. However, this did not happen earlier in the year when hydro lakes were low and the wind stopped blowing in the Manawatu, i.e. Whirinaki had to be fired up. In the UK an approximate rule is that the amount of conventional base load capacity that can be retired is the square root of the wind capacity. Thus, 25MW of wind generation installed would allow 5MW of conventional plant to be retired without compromising National Grid security of supply standards. An equivalent amount of firm generation, or slightly less has to be retained and to operate at lower load factors producing electricity at higher unit costs. These requirements mean that with regard to wind generation alone the requirement for firm plant capacity will never be less than the system peak load. One of Europe's leading energy analysts, Mr Paul-Frederik Bach, until recently the Deputy Director of Eltra, now Energinet, the Danish Grid Operator, claims that from a planning perspective wind should be attributed a capacity credit of zero. Consequently, communities such as the one I live in, directly underneath Mighty River Power's Turitea proposal, will pay a high cost socially, environmentally and economically for poor results. With increasing amounts of intermittent and unpredictable embedded generation on the grid, control becomes increasingly more difficult especially if wind turbines are concentrated in one area such as the Manawatu.

The proposed NPS appears to be favouring developers. The political pressures will always weigh in favour of allowing proposals to proceed at all costs. The present arrangements put too much weight on the proposals from the companies, with too little independent objective scrutiny. In my opinion large and well-resourced wind generation developers such as Mighty River Power are attempting to ride roughshod over local communities. The present situation is unfair and the 'carpet bomb' approach by developers such as Mighty River Power appears to be a deliberate tactic

to intimidate local communities, or bleed them dry of the resources and political will to oppose the application. The issue is socially divisive and the cost to those opposing is prohibitive.

- * It is of interest to note the statement made in Mighty River Power's 2007 Annual Report by its CEO extolling the virtues of geothermal generation: *Unlike wind and hydro, geothermal is not subject to climate variations such as wind speed or the amount of rainfall. It can contribute to the country's energy requirements with more certainty... ..it means much less transmission investment than other renewable options.*

Consent applications must be factual and consent conditions must be enforced

Wind generation developers include deliberately misleading information in their consent applications. For example the photomontages used by developers often downplay the true scale and impact of the development. There is no penalty or offence for providing misleading information within an application. Any non-factual information placed before the public and commissioners should automatically make the application invalid.

Consent conditions on matters such, as noise nuisance are difficult to enforce because who wants to know? A newspaper article on this issue can be viewed on www.palmerston-north.info.

With so many large turbines being proposed so close to so many homes it is essential a more rigorous noise standard than NZS 6808 is applied.

The issue of noise and impact on health from wind turbines will need to be addressed before siting close to residences can be justified. There is growing evidence that NZS 6808 has failed to provide a reasonable level of protection to family homes from unbearable noise nuisance where wind turbines are located too close to homes. Symptoms include sleep disturbances and deprivation. This is a worldwide phenomenon where wind turbines are located too close to homes.

Wind turbine noise is characterised by its loudness, pulsating and persistent/continuous character and its low frequency component, which cannot be heard but can be felt. These characteristics affect:

- Sleep and rest
- The ability to enjoy amenity values
- Health, which includes tiredness
- Loss in value of property

The pulsating low frequency noise from wind turbines is dismissed by noise monitoring people working for developers who claim it is not a health issue. Yet the WHO and other experts warn of serious medical impacts where low frequency noise is present.

In 1999, The World Health Organisation published its 'Guidelines for Community Noise'. These Guidelines incorporated significant changes to the previous WHO Guidelines of 1980, 1993, and 1995, particularly in setting maximum noise limits in a bedroom where noise with a pulsating and low frequency character are present. NZS 6808 urgently requires updating to reflect these changes.

The WHO Guidelines for Community Noise 1999 clearly states in section 3.8:

"The evidence on low frequency noise is sufficiently strong to warrant immediate concern".

"Health effects due to low frequency components in noise are estimated to be more severe than for community noises in general (Berghlund et al 1996)."

And from section 4.4 'WHO Guidelines, 1999, Values':

"It is not enough to characterise the noise environment in terms of noise measures or indices based on energy summation (e.g. LAeq) because different critical health effects require different description. For indoor environments, reverberation time is also an important factor. If the noise includes a large proportion of low frequency components, still lower guideline values should be applied. The 'WHO 1999, Guidelines, Critical health effects' for sleep disturbance, sets a limit of total noise in the bedroom at night at 30dBA, before additional reductions are applied to reflect the presence of low frequency noise and the pulsating character of the noise.

A human rights issue arises when families suffer sleep deprivation and consequent health problems when turbines are placed too close to dwellings

In a British case: *"Dennis & Dennis v M.O.D. (2003) EWHC 793*, Mr Justice Buckley found an interference with the convention rights of the claimants whose enjoyment of their home (and its value) was impaired by the noise: *"I believe it is implicit in the decision S v France, that the public interest is greater than the individual private interests of Mr and Mrs Dennis but it is not proportionate to pursue or give effect to the public interest without compensation for Mr and Mrs Dennis... in my view, common fairness demands that where the interests of a minority, let alone an individual, are seriously interfered with because of an overriding public interest, the minority should be compensated."*

A number of noise experts and health experts have called for a minimum offset distance of 2km between wind turbines and homes. The wind industry does not agree with such a proposal because they consider that such an offset distance will constrain projects. It could be argued that if a small number of homes within the 2km zone would stop the site being developed, then it should be mandatory for developers to buy out those homes at market value to allow the scheme to proceed.

Allowing industrial scale wind generation developers to make profits at the expense of individual families is repugnant.

I do not wish to be heard in support of my submission

Rosemary Adams.

Mrs Rosemary Adams

20 October 2008

Please omit my personal details from the public document