

## SENATE COMMUNITY AFFAIRS

### COMMITTEE

Submission to the Inquiry into The Social and Economic Impact of Rural Wind Farms from Wilma Western 8 Park Drive Leongatha 3953

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The Inquiry is to examine the impact under various headings. Sections (a) and (b) relate to people living "in close proximity" to wind farms.

Relevant questions are :

1. How is "close proximity" to be defined ?

Earlier wind farms such as that at Toora , South Gippsland , sited turbines quite close to dwellings. Even so, the large majority of residents in really close proximity did not experience adverse impacts on their well-being. This early farm was built with the strong support of the local shire council and the residents of Toora.

More recent proposals have much greater distances between turbines and the nearest dwellings. Moreover, wind energy associations and planning authorities have established guidelines specifying much greater minimum distances between turbines and dwellings.

2. What kinds of wind farms?

Are the turbines first and second generation or contemporary upwind taller turbines? This is relevant because there is a difference between the amount of infrasound emitted by older turbines and the modern ones, though even the infrasound emitted by older models has been measured at below the audibility standard of 85dB(G) - see Sonus Report for Pacific Hydro.

- (a) Any adverse health effects

A few individuals have claimed health effects from wind farms in their area , ranging from depression and anxiety, to sleeplessness and tinnitus. These few cases have been given maximum prominence in the anti-windfarm propaganda of Landscape Guardians groups. However, while the individuals concerned blamed the wind farm for their problems, there is no evidence that their anxiety or other conditions did not exist before the construction of the wind farm. Studies for example those by Pederson et al ( Netherlands) publicised in the Journal of Acoustics concluded that people who objected to the visual impact or had opposed the farm for other reasons were more inclined to report subsequent health problems that they attributed to the wind farm .

A large number of studies conducted by public health and environment agencies from various countries , acoustics experts, engineers and others have concluded that there are no direct pathological effects from

wind farms and that any potential effects can be minimised by following existing planning guidelines.

An American pediatrician , Dr Pierpont , published a book claiming that a so-called Wind Turbine Syndrome exists, but her work has not been published in any peer-reviewed journal and has been comprehensively debunked by acoustics specialists.

The World Health Organisation stated that adverse health effects are known to be caused by traditional power generation , while wind power has not caused adverse health effects , in fact by replacing fossil-fuel generation it will bring general health benefits.

#### (b) Concern over excessive noise and vibrations

Standing at the foot of an older-style turbine at Toora you can hear a low-level swish, swish. This is less noise than an old style windmill-operated water pump, many air conditioners, our nearby country highway , the milk factory across the valley at night-time, or a tractor working on the neighbouring property will produce.

Extensive expert studies in other countries as well as in Australia have established the following facts.

1. Low frequency sound carries over longer distances than higher frequencies.
2. Most windfarm noise is in middle to higher frequencies .
3. Wind and trees mask higher frequencies, with lower frequencies being less affected.
4. Low frequency noise from other sources at levels well above those measured in the vicinity of a wind farm can be measured in a range of suburban and rural locations.

The careful measurements taken in the Sonus study done for Pacific Hydro show :

1. Wind turbines generate infrasound
2. The levels of infrasound are well below the regulated audibility threshold of 85dB ( G)
3. These wind farm measurements were taken at distances significantly less than the minimum expected and recommended in modern wind farm designs between a turbine and a dwelling

Specifically at Cape Bridgewater , the measured infrasound from the turbine at 100 m.distance was 66 dB ( G); at 200 m. it was 63 d B (G) and when the farm was not operating infrasound was measured at 62 d B (G). All these measurements are well below ambient sound in many ordinary locations that don't seem to cause people too much upset.

Infrasound measured in a forest area on a still night in the vicinity was 57 dB (G) ,at the beach 25 m. from the high water mark it was measured at 75 dB(G) and at 70 m and 200 m distant from major roads in

Adelaide it was 76 d B (G)

Using a "sound pressure level" written as dB (A) , the National Health and Medical Research Centre quotes the following examples :

- a busy office - 60 dB(A) ; -a 10 turbine windfarm at 350 metres 35-45 dB(A) ; -a quiet bedroom 35 dB(A) ; a rural area at night 20-40 dB(A).

As for vibrations , these are only experienced at sound levels audible to humans usually with big amplified bass.

(c) Property values , employment opportunities and farm incomes.

Property values and fear of a fall in these provide the anti-wind farm campaigners with their major recruitment tool. The evidence does not support the anti- wind campaigners' claims.

The Shire of South Gippsland was the focus of a storm of anti wind farm agitation between 2004 and 2006-7 , as 2 proposals were mooted at community meetings and were submitted to Independent Planning Panels , with Bald Hills, near Tarwin Lower being approved and the second eventually shelved . A smaller wind farm near Wonthaggi ( Bass Coast Shire) , with 6 turbines on the outskirts of the town , attracted little attention and was supported by the large majority of Wonthaggi residents.

In 2002 , a well set-up dairy farm on top quality land , in a prime location , sold for \$4000 per acre. In 2006-7 the asking price for a similar farm was \$8000 - 10,000 per acre. In 2002 , flat broad acre grazing land in the Tarwin Lower area was priced at \$ 2,700 per acre ; in 2006-7 similar land was being sold for \$6000 - \$7000 per acre - in the very same district as the Bald Hills wind farm project. This is despite incessant highly publicised campaigning against the 2 major wind farm proposals.

Local employment in the construction phase , while not huge, can be significant - in the construction of access tracks, concrete pads etc, with some ongoing opportunities for maintenance work . Many farmers appreciate the opportunity to receive extra regular income from lease payments for an easement and turbine site or sites. Contracts specify that the removal of structures and concrete foundations at the end of the wind farm's life will be at the cost of the power generation company.

(d) Interface between various planning laws .

While the Australian Wind Energy Association in consultation with community groups and relevant authorities have contributed to the drafting of national planning guidelines regarding site selection , location , design and minimum buffer area between turbines and dwellings these remain in draft form, as far as I'm aware. These guidelines should be adopted by the national parliament.

Unfortunately some political groups have devised planning guidelines aimed at minimising the construction of wind farms , particularly in Victoria . The 2 kilometre buffer adopted by the Victorian Coalition is unreasonable , requiring far greater buffer distance than any stipulated for any new industrial areas or " offensive industries" such as abattoirs.

Other comments.

Wind generation is the most cost and energy-efficient developed renewable electricity generation technology . Several wind farms , large and smaller , have been established in Australia and are feeding green power successfully into the grid. Renewable technologies represent the new economy of cleaner, less fossil- fuel reliant manufacturing, transport, power generation and domestic living . Manipulation of community groups by vested interests peddling misinformation should not be allowed to prevent the expansion of these newer cleaner technologies.

Submitted by Wilma Western