

TO:  
Department of the Senate□  
PO Box 6100□Parliament House□  
Canberra ACT 2600□Australia

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7 February 2011

Dear Sir/ Madam,

**Senate Inquiry into the Social and Economic Impact of Rural Wind Farms**

Please accept this submission from the Mount Alexander Sustainability Group into the Senate inquiry into wind farms.

This submission is proudly coming from a group based in rural Australia with a large membership which actively supports renewable energy generation such as wind farms.

We support the development of wind resources in our Shire via wind farms as a means of providing clean, safe, healthy and reliable electricity in a manner that generates local economic activity and creates local well paid and skilled jobs in our area. We have surveyed our local community and know that over 90% of them want to see more government action to support renewable energy.

The Mount Alexander Sustainability Group has now been working in the Mount Alexander Shire in rural Victoria for over 6 years. During that time we have worked with our 1000 members and supporters to increase the energy efficiency of the businesses and residents in the shire and to increase the uptake of renewable energy.

In doing this work we have, amongst many projects:

- Worked in partnership with our four largest businesses, the CSIRO and the Mount Alexander Shire Council to identify ways to reduce the energy and water usage of those businesses. As a result of this project major energy efficiencies have been found and the businesses are

continuing to implement energy reduction plans. This project, known as Maine's Power, has achieved international recognition and was mentioned in Ross Garnaut's report.

- Offered two rounds of bulk purchasing of Solar PV on the grid systems to our residents, with an uptake of 250 households
- Worked with the six largest businesses and our trades people and businesses to help householders and businesses increase the energy efficiency of their homes.

In addition, we have had an active working group looking at developing a small community owned wind farm in the shire. Apart from the very good environmental reasons for developing local renewable energy, there are also very good business reasons:

- There is an 18% loss of energy in the network in delivering power from Latrobe valley to the Mount Alexander Shire residents and businesses. Locally generated electricity from a wind farm or farms would not suffer these transmission losses and the attendant transmission costs which are paid for by all electricity users within the shire.
- The Wind group has identified a site capable of providing 8MW (3 – 4 turbines) to the grid locally. Assuming an accepted capacity factor of 35%, daily generation would be  $8 \times 24 \times 0.35$  or 67MWh. Annual generation would therefore be  $67 \times 365$ , or 24.5 GWh. As the total electricity use for the shire is 106,GWh (383,000 GJ) (based on data published by the CSIRO as part of the Maines Power Project), we would be generating approximately 23% of the shire power needs and half the residential needs. The money spent by local people on energy would therefore remain within the local economy providing for greater local economic activity and job creation.
- Therefore our wind farm will make a significant reduction in the need to remotely generate power in the Latrobe valley and would reduce the need to upgrade transmission infrastructure to the Shire.
- Electricity price rises- The electricity companies have made it clear that the investment in infrastructural upgrades that is the major cause of recent household increases in electricity charges in NSW, Victoria and Queensland. We note that in NSW and Queensland the increase in power bills is largely due to increased network charges, accounting for more than 80% of the price increase in NSW and 61% in Queensland. It is estimated that more than \$42 billion will be spent on network infrastructure over the next five years in Australia. This money will be spent by transmission and distribution companies, which then pass it through to consumers as a charge in their electricity bill. Almost none of this investment will be on demand management, energy efficiency or

distributed generation options like wind power and hence little or none of this huge national investment will result in greater economic and employment opportunities in regional communities like the Mount Alexander Shire.

We submit that during the months of May to August 2010 the Mount Alexander Sustainability Group doorknocked and surveyed over 250 local residents (total shire population 17,000) asking them their opinion on renewable energy. Over 95% responded that the Government is not doing enough to support renewable energy and 83% said Australia should develop a plan to move to 100% renewable energy. We know from these figures that renewable energy, like wind farms, have widespread community support in our shire.

Given the public support for renewable energy like wind farms the narrow terms of reference of this inquiry are publically viewed as being motivated by an ideological anti-renewables sentiment. This will further damage the reputation of the Parliament and the independence of our democratic processes.

We therefore implore the Senate to reconvene this inquiry with revised terms of reference that looks to solutions and opportunities provided by wind power and other renewable energy resources, not just possible problems, real or imagined. This revised inquiry could then use the resources and skills of the parliament into investing HOW we could power Australia using our abundant sun and wind resources.

### **Response to questions**

#### ***(a) Any adverse health effects for people living in close proximity to wind farms”;***

Current research and scientific investigations have found that there are no adverse health effects for people living in close proximity to wind farms.

The following is a summary of some key research in this realm:

- The National Health and Medical Research Council (NHMRC) recently found that “there is currently no published scientific evidence to positively link wind turbines with adverse health effects”.
- In addition the World Health Organisation states that “There is no reliable evidence that sounds below the hearing threshold produce physiological or psychological effect”.

· The Victorian Department of Health (WorkSafe, 2010) after examining both peer reviewed and validated scientific research also concluded that “the weight of evidence indicated that there are no direct health effects from noise (audible or inaudible) at the levels generated by modern wind turbines.”

Further international studies in North America and the United Kingdom also support this finding.

For instance, the American and Canadian Wind Energy Associations established a scientific advisory panel comprising medical doctors, audiologists and acoustic professionals from the US, Canada, Denmark and the UK. This panel concluded that labels such as “wind turbine syndrome” are not a recognised medical diagnosis but rather reflective of symptoms associated with annoyance. Factors culminating in annoyance include the nocebo effect defined as “an adverse outcome, or worsening of mental or physical health based on fear or belief in adverse affects”.

The large volumes of negative media coverage related to the effects of wind turbines we are seeing in Australia only serve to create fear in some people that they will experience adverse effects from wind turbines. Often once the farms are actually operating, the resulting intrusion is far less than had been anticipated by people living around the developments.

Research produced by Sonus for the Clean Energy Council (CEC) highlights this fact – it found that once wind farms are built, the rates of complaints are very low in Australia and New Zealand. It also found that if a noise can be heard, then annoyance can result for some people, regardless of the noise level experienced.

This effect is backed up by the NHMRC review which concludes “It has been suggested that if people are worried about their health they may become anxious, causing stress related illnesses. These are genuine health effects arising from their worry, which arises from the wind turbine, even though the turbine may not objectively be a risk to health” (Chapman, 2010).

***(b) Concerns over the excessive noise and vibrations emitted by wind farms, which are in close proximity to people’s homes;***

Research conducted on modern wind turbines has shown that the levels of low frequency noise and infrasound are within accepted thresholds.

Modern wind turbines can generate noise across the frequency range of human hearing. As with most sounds, some of this energy occurs below the level of human hearing. Human hearing ability

ranges from 20Hz to 20,000Hz, with 1dB being the smallest change in noise that humans can detect. Low frequency noise refers to noise in the range of 10 to 200 Hertz (Hz) and infrasound occurs in the range of 20 Hz down to 0.001 Hz – below what the human ear can pick up. Low frequency noise and infrasound is emitted by many other natural sources, for instance wind passing through trees or waves at a beach or human-made sources such as industrial processes, air-conditioning and vehicles.

There is currently no peer reviewed scientific data to suggest that the levels of low frequency noise or infrasound emitted by wind turbines make humans sick. Research to date has not shown any negative health effects at the sound levels produced by operational wind turbines.

Advances in technology mean that noise from wind turbines is minimal. Research conducted on modern wind turbines has shown that the levels of infrasonic noise and vibration radiated from modern wind turbines are at a very low level; so low that they lie below the threshold of perception, even for those people who are particularly sensitive to such noise and even when very near to turbines (British Wind Energy Association, 2005).

The first wind turbines for large scale generation of electricity began operating over 100 years ago. There are now more than 150,000 turbines installed globally, and some of these have been in place for more than 20 years. With decades of successful wind turbine operation, there has been ample opportunity for any negative effects to be identified. The fact that no credible scientific research has identified any negative effects supports the prevailing view that wind power is one of the safest ways of generating electricity.

***(c) The impact of rural wind farms on property values, employment opportunities and farm income;***

Studies have found no statistical evidence that wind farms reduce property values.

An assessment of 45 property sales located within a 10 kilometre radius of 8 wind farms sites was made by the NSW Valuer General. It considered the impact of wind farms on surrounding land values and found that wind farms do not appear to have negatively affected property values. No reductions in sale price were evident for rural properties located in nearby townships with views of the wind farm.

The findings of the NSW Valuer General are consistent with studies in the United States and United Kingdom which also found no statistical evidence of reduction in property values associated with the development of wind farms.

The employment benefits are substantial.

The benefits of wind farms to local regions are not confined to the initial investment in the project. They also provide a reliable and on-going income for landowners, direct employment opportunities for locals, and flow-on employment for local businesses through provision of products and services to the project and its employees.

This is demonstrated in a study titled "The Economic Impact Assessment of the Hallett Wind Farms" prepared by SKM which investigated the economic impacts that AGL's Hallett wind farm project had on the mid-north region of South Australia. The report found that \$800 million had been spent on the projects, including \$88 million spent directly in the region, and the creation of 98 construction jobs and 15 ongoing jobs directly created by the wind farm, which will increase to 42 upon completion. The study also found that for every job created directly by the wind farms, at least three further jobs are created indirectly.

***(d) The interface between Commonwealth, state and local planning laws as they pertain to wind farms; and***

People are very connected to their place, and changes of any sort need to be approached with that connection appreciated. All big projects, whether they are freeways, coal powered generators, port works, or wind farms, attract community concern and anxiety. Where the apparent economic benefits out-weigh community concern, projects are often pushed ahead by governments, albeit under the cover of addressing community concerns through community consultation. As the construction of most of our freeways demonstrates, governments show leadership, consult and build.

There has been little leadership shown by the government in relation to wind farms. The questions asked by this inquiry have already been answered in many studies, both here and overseas. The need for very good community consultation, and the excellent results where there has been good community consultation, has been shown here and overseas. The need for Australians to diversify their energy generation and to begin a rapid journey to a low carbon future has been shown and pathways to achieving this have been developed.

What has also been shown is that where there is adverse impact on people in physical and mental health, these are often caused by anxiety generated by intense criticism and scare mongering from small groups, such as the Landscape Guardians. It may be a fruitful source of enquiry for the government to trail the money that supports these groups to see if there is any connection to the fossil

fuel industry and other powerful vested interests who oppose renewable energy.

There is a clear role for the government to show leadership and reduce peoples' anxieties, as well as to ensure that any large project undergoes a good community consultation process.

***(e) Any other relevant matters.***

The Mount Alexander Sustainability Group is very concerned about the direction taken by your enquiry. The questions appear to be aimed at identifying problems with wind farms, rather than with identifying solutions, opportunities and benefits. All energy generation leads to impacts on people. Coal powered generation, for example, releases huge amounts of toxins into the air such as mercury and dioxins, and the mining of coal is impacting on rural land-holders and water quality as the mines spread further into prime agricultural land.

If this enquiry is to have any credibility it should be part of a wider study looking at the best ways that Australia can power its future in the most secure way. Given that internationally climate change is being acted on, albeit far too slowly, it is imperative that part of Australia's energy security is a quickly reducing reliance on coal.

This inquiry should be identifying what policies are needed to encourage wind generation as well as other renewable energy generation. The Government currently appears to be in a race to dismantle any incentives for the development of renewable energy, mistakenly believing that its proposed carbon tax will lead to renewable energy. This policy belief is not backed up by any overseas experience. Instead, this inquiry should be helping the government to develop, for example, policies such as the feed-in-tariff that promote renewable energy in an efficient, considered and rational manner.