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April 4th, 2011

Senate Community Affairs References Committee,
Department of the Senate,
PO Box 6100,
Parliament House,
CANBERRA ACT 2600

Dear Sir,

Re: THE SOCIAL AND ECONOMIC IMPACT OF RURAL WIND FARMS

I apologise for the lateness of this submission and trust that you will still be able to take into account the information contained here. I have only just become aware of the Senate Community Affairs References Committee Enquiry into the social and economic impact of rural wind farms and its terms of reference.

There are an escalating number of rural landholders and residents in Australia facing the development of wind turbine projects and these turbines are becoming ever larger in size and number. For instance, in my local area, a development in the Blayney Shire at Flyer's Creek is currently before the NSW Department of Planning for final approval, although the new Premier, Mr. Barry O'Farrell has made the promise to review Part 3A of the Environmental Planning & Assessment Act. It is proposed that forty four wind turbines each in excess of 150 metres are planned for the area. With each generation of wind turbines their size increases becoming taller with significantly larger blade spans and it is these very large wind turbines that are envisaged for our shire by Infigen Energy.

There are many aspects of energy generation by wind turbines that are of concern. Subjectively they are ugly, intrusive and a visual blight on the landscape. Functionally they are solely dependent on favourable and variable winds and are often seen stationary and, as such, can never deliver base load power. Wind turbines require a minimum of 16 km/h of wind and the large turbines require 48 km/h to function.

Wind turbines represent the most expensive form of renewable energy costing $120 to $130 per MW to produce, three times more expensive than coal and twice as expensive as natural gas. The turbine industry is heavily subsidised by tax payers and without these subsidises would be totally uneconomic. All this with a short functional life span of 120,000 hours or 15-30 total years.

Great doubt exists that the energy produced by wind turbines will ever exceed the energy which has to be used to build, transport, install, and maintain them.

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Minimal research and provision has been made for the dismantling and recycling of wind farms at their expiry. There appears to be little work done on a detailed Life Cycle Assessment to properly assess the full impact of turbines: what materials are used and how much energy, what kinds of pollution are generated and toxins exuded, and in what amounts, what carbon dioxide is emitted during all the phases of its manufacture and disposal.

Also worrying are the contractual arrangements with land owners which are shrouded in secrecy and legally enforceable gag orders.

But most significantly there is increasing evidence that they may represent a significant health hazard to people residing in proximity to them.

For some years now wind turbines have been hailed as the panacea for clean, renewable energy production and their construction has been enthusiastically embraced by many countries including Australia. It is only now that health implications are being recognised. Experience around the world, including Canada, USA and Europe, is raising serious questions that have yet to be fully answered and some countries are now sufficiently concerned they are ceasing wind turbine construction in closely populated areas.

Claims are being made that infrasound frequencies created by turbines are producing a suite of symptoms in people living in close proximity to wind turbines. These include but are not limited to headaches, insomnia, feelings of confusion, middle ear problems, nausea, tinnitus, dizziness, tachycardia and panic attacks. This cluster of symptoms, termed the Wind Turbine Syndrome, is thought to be due to sensitivity to low frequency vibration (infrasound) causing a perturbation of the vestibular apparatus of the ear. New techniques for measuring vestibular activation are making research into this area of human physiology more accessible.

Small increases in the diameter of a wind turbine's rotor swept area can lead to substantial increases in the effects of wind speed (because the area of a circle is πr^2) which thus results in an exponential increase in the production of sound waves (specifically infrasound or low frequency vibration). This is a problem with the modern wind turbines where the increasing size will potentially cause intensifying infrasound related health problems.

The results of several small but alarming indicative studies and surveys are sufficient to raise serious doubt about the present continuation of turbine construction. Although it may be argued that these symptoms can be found in populations not subject to the effects of wind turbines, there is enough evidence to mandate immediate and formal research.

This can only be done by properly designed trials involving significant cohorts of people – both effected and unaffected. Considering the ramifications of getting it wrong and the number of people that can be potentially affected, this seems to be a small request. Urgent funding must logically be made available from the wind generating industry to pay for this research. For the industry and Government to ignore this potential hazard would not only represent a callous disregard for its citizens' health and safety but a reprehensible disregard for the potential for compensational litigation as in the Tobacco Industry.

Questions that need to be addressed include:

1. What are the provable health effects of wind turbines?

2. What sections of the population are likely to be most affected (for example, children or the aged)?

3. What is a safe distance for people to live from turbines before they suffer adverse health effects? Victoria has recently legislated a 2 km buffer zone but there are indications that this buffer zone may need to be greater, of the order of 10 km.

4. What Social Health problems are there associated with the unwelcome and enforced social dislocation of people, the resultant disintegration of communities and community infrastructures, the worry generated by loss of income and employment from ever present potential illness, the concern parents will bear for the health of their children, the anger generated within communities by attitudes of pro and anti wind turbine advocates.

We need answers to these questions before any development applications are approved. Construction of wind turbines (particularly in more populated regions) should have a moratorium placed on them immediately until we know more about public health effects. This is called the "precautionary principle" and one well known to scientists and civic planners. After all, should construction of wind turbines go ahead, in the full knowledge of possible adverse health implications and without resolving any of these questions, then the energy companies that build and operate them and the governments that permit them will only have themselves to blame if in later years compensational action is brought by those people whose lives and health have been significantly and adversely effected.

I understand that for many farmers the wind turbines represent an opportunity for an immediate cash injection but farmers also know they are only the temporary custodians of the land they occupy. Therefore, tempting though a quick cash return may be, the possible deleterious impact on the health of their families and neighbours as well as a permanent scar on the landscape may prove to be a very short-sighted and foolish decision. I also hope that those who have signed contracts with energy companies have ensured an exit clause when the turbine life span is complete. They must ask who is going to remove and dispose of the now obsolete wind turbines. The American experience is far from reassuring where many abandoned wind turbines have been left to become derelict eyesores lacking ownership.

Farmers also need to ask what rights they may be relinquishing including rights of access of third parties to their land who may introduce stock diseases, weeds and parasites, the loss of sub divisional rights, decreased land values, potential health concerns to their stock and wild life, reduced farming and land management practices as well as resultant reduced farm income, reduced capacity to sell land tainted by wind turbines and the loss of

that indefinable quality of exclusive land ownership and control that all fiercely independent Farmers have and cherish.

Surely concern and decency mandates a delay in the wind turbine construction industry till research is completed. Surely the health of Australian citizens should be of greater concern to all of us than the temporary delay of the profits to an energy company and its shareholders?

Yours faithfully,

Dr. Alan C. Watts OAM