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Submission to the Senate enquiry into the social and economic impacts of rural wind farms 2011.

Introduction

The increasing effects of global warming, and in particular the *social and economic impacts* of extreme weather events could not be any clearer than they have been in the first few weeks of 2011, not only in Australia but around the world. While we cannot ascribe any particular event – flood, cyclone, heatwave or bushfire – to climate change, all the scientific modelling indicates that these damaging events will become more frequent over the coming years. Statistics are now showing that this is indeed the case[1] .

The costs to people's lives and property and the costs of rebuilding infrastructure after these disastrous events will become an increasing factor in the nation's economy and well-being. The destruction of crops results in shortages of foods in the supermarket. The disruption of mining and manufacturing resources leads to lost export earnings from minerals and agricultural goods. These are all significant social and economic effects of the increasing variability of weather conditions and extreme weather events.

It is against these changes to our daily lives that any *social and economic impacts* of wind farms and other clean, renewable sources of energy must be considered.

While scientists and politicians alike recognise the immense difficulties that we all face in attempting to turn the tide of global warming, it is becoming increasingly accepted that emissions of carbon dioxide – largely produced by burning fossil fuels – must be reduced. It is both vital and urgent that alternative sources of energy are not only found, but installed, so that dependence on coal-fired power can be reduced and eliminated.

This submission briefly addresses the five subheadings proposed in the call for submissions.

Any adverse health effects for people living in close proximity to wind farms.

The NSW DECCW Wind Energy Fact Sheet[2] says that:

> *The World Health Organisation and Australian health authorities, including the National Health Medical Research Centre, have concluded that 'there is no published scientific evidence to positively link wind turbines with adverse health effects' (July 2010)."*

Concerns over the excessive noise and vibrations emitted by wind farms which are in close proximity to people's homes.

Older wind farm installations may have caused some prejudice due to noise levels, but modern wind turbines, (as well as better understanding of noise attenuation patterns) produce significantly less noise and noise disturbance. Apart from environmental concerns, noise represents inefficiency and power loss, so it is natural for manufacturers to seek to minimise noise.

Nevertheless it is true that despite the lack of convincing quantitative evidence for widespread disturbance by wind farm noise, complaints and anecdotal evidence abound. A 2009 report by the

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[1] Insurance company Munich Re reports that "Altogether, a total of 950 natural catastrophes were recorded last year, nine-tenths of which were weather-related events like storms and floods. This total makes 2010 the year with the second-highest number of natural catastrophes since 1980, markedly exceeding the annual average for the last ten years (785 events per year). http://www.munichre.com/en/media_relations/press_releases/2011/2011_01_03_press_release.aspx

[2] Australian Government National Health and Medical Research Council Public Statement (2010) Wind Turbines and Health <http://www.nhmrc.gov.au/_files_nhmrc/file/publications/synopses/public_statement_wind_turbines_and_health.pdf>.

Acoustic Ecology Institute[3] examines the issue in greater detail and notes that many factors influence the obtrusiveness of noise from wind turbines, and that the attenuating effects of distance vary in a complex way from site to site. However, in general, sites beyond 1.5km from habitation attracted few, if any complaints. The report concludes that:

> *While a few wind farms have been found to have a serious effect on a small number of neighbours, a far greater number of installations have attracted no serious complaints.*

The impact of rural wind farms on property values, employment opportunities and farm income.

Studies have shown no convincing evidence that wind farms reduce neighbouring property values. The NSW Valuer General commissioned a report[4] in 2009 which found that 40 out of 45 property sales investigated did not appear to have suffered any loss of value as a result of a nearby wind farm. Of the remaining 5, the report noted that properties alongside them did not appear to suffer any loss, and therefore other factors may also have been involved.

Although wind turbines are highly visible, there is no evidence that the visual impact of a wind farm has any deleterious impact on amenity or property values.

Studies overseas have similarly shown little general evidence of a loss of property value, and one American study reported a significant rise in value.

On the other hand, it is clear that building and operating a wind farm brings immediate employment opportunities to an area, as well as an opportunity for landowners to gain consistent and ongoing revenue. This provides opportunities for landowners to diversify their sources of income, providing economic stability for the local area in times of drought. Wind farms can be installed on otherwise useless land or can co-occupy land used for other agricultural purposes.

The interface between Commonwealth, state and local planning laws as they pertain to wind farms.

Each form of energy generation produces its own mix of positive and negative implications at each level of government or planning, and so all levels of government should have some say in the outcome of planning decisions. The most acceptable technologies are those that produce the most net national benefit. In the case of renewable energy sources such as wind farms, which produce no greenhouse gases, there are no drawbacks at the national or state level. It is a compelling argument that the Commonwealth's say in planning deliberations for wind farms should therefore be at least as great as for fossil fuel-powered stations.

Any other relevant matters.

Wind farms have a low long-term impact on the local environment compared with other energy infrastructure such as coal mines. When a wind farm is decommissioned, the land it stood on can be easily restored to its prior condition.

By comparison, coal mines bring large-scale disturbance and destruction to vegetation, constant vehicle noise from heavy trucks, and long-term pollution of nearby agricultural land with coal dust. The techniques being introduced for natural gas extraction similarly bring uncertain effects on underlying geological formations such as aquifers.

The urgency of the need to switch to renewable energy sources and the scale of the task mean that a variety of technologies must be used. Correctly designed and located, wind farms have a minimal social impact, a negligible carbon footprint, and bring a positive economic benefit to the local community. It is true that wind is variable and cannot be relied on, and wind farms cannot ever be expected to provide all of Australia's energy needs. However, as part of a mix with solar and solar/heat storage systems, all of which are proven technology, wind energy has an important part to play in Australia's energy provisions for the future.

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[3] , http://acousticecology.org/docs/AEI_WindFarmNoise_2009inReview.pdf

[4] http://www.lpma.nsw.gov.au/__data/assets/pdf_file/0018/117621/t0L51WT8.pdf