Anthony Brown
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Submission to the Senate Community Affairs Committee inquiry: The Social and Economic Impact of Rural Wind Farms

I thank you for the opportunity to make a submission to the Senate Community Affairs Committee inquiry into the social and economic impact of rural wind farms.

I have no personal interest to declare with respect to any aspect of power generation and this submission is made as an educated member of the community. This submission does not represent the position of any other organisation or individual.

I should explicitly state that I do hold formal (postgraduate) qualifications in both medical sciences (pathology and immunology) and environmental science. As such, I believe that I am in a position to not only critically review and comment on the available literature but also provide educated opinion that is supported by a rigorous understanding of the human and environmental health implications of wind farms.

In addition to this, I have an extensive association with the farming community and can offer personal opinion regarding the on-farm business implications of wind farms including the impacts on the economic viability of wind farm associated agriculture and job creation.

In summary, this submission outlines the following key points:

- There are no currently known adverse health effects that can be attributed to living in close proximity to wind farms
- The noise generated by wind turbines is not a significant issue
- Wind turbines are economically beneficial to farms and rural communities
- The communal health risks associated with wind farms are far lower than that for other power sources such as coal (especially in relation to anthropocentric climate change)
- The environmental health risks associated with wind farms are far lower than that for other power sources such as coal
- Unlike coal fired power in Victoria, wind power does not compete against human populations for access to scarce water resources

If you have any questions regarding this submission or would like further information, please do not hesitate to contact me.

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Adverse health effects
The available scientific evidence clearly suggests that there are no currently known adverse health effects that can be attributed to living in close proximity to wind farms. The same cannot be said for all other forms of power generation.

Excessive noise
It has been well documented that the noise generated by wind turbines is not significantly greater than background.

Anecdotally, I can also validate that my perception of wind turbine noise is that they do not significantly exceed ambient background noise. This is based on my experience with five wind generation facilities located near Ararat (Victoria), Barwon Heads (Victoria), Welshpool (Victoria), Portland (Victoria) and Cape Jervis (South Australia).

Additionally, any noise generated by wind turbines that is greater than background is far inferior to that of many other activities and significantly lower than the ambient noise experienced in urban communities.

Employment and farm income
Anecdotally I have discussed this issue with the owners of land on which two wind farms are located. Both of these farms are involved in the traditional grazing industry. The owners of these properties have both expressed that having wind turbines located on their properties is economically beneficial for them. As prices for traditional grazing products fluctuate, they receive an ongoing stable income from the wind generation. This has allowed them to continue to receive income despite long running drought and pressure on prices for agricultural products.

Having this additional income has meant that employment has been retained during difficult times and that they have not had to ‘over stock’ their land during drought in order to remain financially viable. This has subsequent benefits for their properties and the environment in the longer term.

The net result of this additional income is that rural communal wealth is increased as these farmers are able to continue economic activities within their community.

Other relevant matters

<u>Health risks of other forms of generation on the entire community</u>

Although this enquiry has specific terms of reference regarding the health implications for people living in close proximity to wind farms, I believe it is important to also consider the health implications for the wider community.

It is well documented that the by-products of both coal (one of Australia’s most significant current sources of energy) and nuclear energy production (as an alternative power source) can have very significant adverse effects on human health. In many cases, the pollutants that result cannot be adequately contained within the generation facility and as a result, communal health risks eventuate (that is, the potential for an adverse health outcome to eventuate). Unfortunately, in some cases, these health risks

are realised through actual exposure to toxicants and resultant illness.

Energy production through wind generation does not have the same associated degree of risk and as such, represents a far lesser public health risk than the alternatives.

I would urge the committee to reflect the communal health risks associated with all forms of power generation in their findings.

Potential health effects of climate change and reliance on fossil fuel sourced power

Climate change is now very well supported by robust scientific evidence. It is also now well accepted within the reputable, peer reviewed, scientific community that climate change is strongly linked with the use of fossil fuels as a form of cheap energy.

Anthropogenic climate change is well understood to have very serious associated human health risks. These risks are many and varied but include the increased risk from natural disaster (fire flood etc) related injury and death, the risk of the spread of disease, health risks associated with 'at risk' communities exposed to significant weather fluctuations and risks associated with ocean level rises and the displacement of low-lying communities.

The human health risks posed by anthropocentric climate change far outweigh any putative risk associated with living in close proximity to wind turbines. As such, I urge the committee to reflect in its findings that the continued reliance on fossil fuels for power generation pose a significantly greater risk to human health than does wind based power generation.

Environmental impacts and subsequent human impacts of alternative power sources

Although the committees terms of reference specifically relate to issues of human health, I believe it is important for the committee to reflect on the greater environmental risks associated with various forms of power generation. As for human health, wind generated power has a far lesser environmental risk associated with it than either fossil fuel or nuclear based power generation.

Although the link is not often considered, environmental degradation does lead to a reduction in the human condition. This may be directly anthropocentric in nature (e.g. loss of amenity due to mining activities supplying the fuel source or the associated opportunity cost associated with arable land being mined for coal) or indirect (through the degradation of ecosystem function on which we all rely for survival). Additionally, there is an intrinsic value in the environment and its assets (e.g. species, individuals and their relationships) that does not rely on the human condition but may be adversely impact upon by human activities.

I urge the committee to reflect upon and consider that the negative environmental impacts of fossil fuel based power sources will remain within the environment for a period of time that is likely to exceed several human generations. Wind power does not carry the same degree of intrinsic risk. In this context, I urge the committee to

consider that wind based power generation is a relatively low risk option for power generation.

Pressure on water resources from coal fired power cooling towers

Currently a significant proportion of electricity generation in Victoria is derived from coal fired generators. A significant proportion of these generators rely on water for their primary cooling mechanism. Of these, a significant proportion draw water from the same water supply that provides Melbourne with its drinking water (i.e. the Thompson Reservoir).

Within Victoria, coal fired power generation competes directly against the bulk of the population (more than 4 million people) for scarce water resources. With recent drought, this competition has contributed to the need for water restrictions across metropolitan Melbourne and a decrease in communal wellbeing.

Wind based power generation does not compete for scarce water resources to the same extent as coal fired power and therefore represents an energy source that has less of a negative impact on human wellbeing than the alternative.

References:

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