



Public Health Association
AUSTRALIA

Public Health Association of Australia: Policy-at-a-glance – Health Effects of Wind Turbines Policy

- Key message:**
1. Wind energy is an important part of the renewable energy mix for replacing fossil fuels to improve human health and protect the environment now and in the long term.
 2. Some people report adverse effects from wind turbine noise, despite a paucity of peer-reviewed evidence to support some of these claims.
 3. The evidence suggests noise from wind turbines contribute a minor – most likely psychogenic, health impact which should not be trivialised.
 4. On a population level, the adverse impacts of fossil fuels far outweighs the adverse effects of wind technology.

Summary: Renewable energy is an important part of replacing fossil fuels to improve human health and protect the environment. While some people report adverse effects from wind turbine noise, there is no reliable evidence to indicate an association between distance from wind turbines and adverse health effect.

Audience: Federal, State and Territory Governments, health professionals, energy regulators, policy makers and the general public.

Responsibility: PHAA's Ecology and Environment Special Interest Group (SIG).

Date policy adopted: October 2017

(Note: this 2017 version will not be updated until further notice)

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Health Effects of Wind Turbines Policy Statement

The Public Health Association of Australia notes that:

1. Health impacts of wind turbines, including “Wind Turbine Syndrome” and “Vibroacoustic Disease” have been raised as concerns in the media and some literature,^{1,2} however these collections of symptoms are not recognised medical conditions.³
2. Despite some limitations to the availability of relevant studies, many reviews of the literature have failed to identify evidence that infrasound (that is low frequency sound, in the range less than 200Hz⁴) has adverse effects on health at the levels produced by modern wind turbines.⁵ Symptoms which people have claimed are attributable to their wind turbine exposure, are common in the community, and links have been attributed to psycho-social factors. In general, a relative minority of those exposed to wind turbines report being affected, and annoyance is higher in those who are unhappy about the presence of wind turbines.^{6,7}
3. An Australian review of over 60 scientific articles on wind turbine noise and health states that “based on the findings and scientific merit of the available studies, the weight of evidence suggest that when sited properly, wind turbines are not related to adverse health.”⁸
4. In response to ongoing community concerns, the NHMRC established a Reference Group in 2012 to oversee a detailed systematic review of the human health effects of wind farms which examined the global literature published in English until September 2012. Draft findings were released for public comment in late 2013. Three aspects of wind turbine effects were reviewed: noise, shadow flicker and electro-magnetic radiation (EMR). The report noted that research to date had been of poor quality, and no reliable or consistent evidence of noise directly causing health effects was found. Although indirectly, the annoyance and possible sleep disturbance some people experienced may impact on wellbeing. Impacts from audible, infrasound and low frequency noise from wind turbines were considered, which revealed no association excluding that of annoyance mediated effects. Other effects were reported, however poor study designs could not exclude bias, or confounding factors (such as an antipathy to wind farms). No evidence of effects from shadow flicker were found. The levels of low frequency EMR were less than in the average suburban home.⁹
5. The NHMRC commissioned a subsequent systematic review to analyse research conducted between October 2012 and May 2014. Findings matched the previous study. There was weak evidence in support of an association between noise levels and annoyance, including an exposure-response relationship. This association was not strong and was affected by other factors, including wind turbine visibility, financial benefits and pre-existing beliefs. One small survey in the review raised the possibility that perception of noise (rather than actual noise) predicts adverse health effects. There was no

reliable evidence to indicate an association between distance from wind turbines and adverse health effects.¹⁰

6. There is evidence that audible sound from multiple sources (and so presumably wind turbines) can cause annoyance and sleep disturbance in a small proportion of the population.¹¹ With wind turbines, it is the variable tonal or fluctuating swish audible component that may contribute to the annoyance in susceptible people.⁴
7. There is evidence that pre-loading with negative views towards Wind Farms is associated with higher rates of complaint reporting. These studies have generated support for a view that the reported effects may in some cases be consistent with a pattern of psychogenic, ‘communicated’ disease and may be affected by the impacts which some people perceive.¹⁰ These impacts should not be trivialised or ignored, however they need to be placed in context.
8. The impacts of wind turbines need to be assessed in the bigger context of the health effects of all energy choices. In the broad context, the immediate, direct, local and global long term effects of fossil fuels, nuclear energy and renewable energy need to be considered. Fossil fuel and nuclear energy present a much greater threat to populations and to the environment than the effects of wind turbines.
9. Following repeated report findings of nil evidence supporting a causal relationship between wind farm exposure and health harm, in 2015, the Australian Government established a Senate Inquiry,¹² funded an NHMRC targeted call for proposals for studies investigating health effects of wind farms,¹³ and appointed a Commissioner to oversee the complaints.¹⁴
10. When community engagement is well-managed, wind farms can generate a strong social license to operate.¹⁵

The Public Health Association of Australia affirms the following principles:

11. The balance of evidence currently suggests that while wind turbines are not completely free of all harm to neighbouring populations, in comparison with non-renewable sources of energy such as fossil fuels and nuclear energy, they are likely to be considerably less harmful in both the short and long term at a population level than the alternatives.

The Public Health Association of Australia believes that the following steps should be undertaken:

12. Complaints of people affected by the noise of wind turbines need to be recognised and managed, and fair and reasonable solutions for them developed.

13. Allegations of harm to health from wind turbines need to be placed in the context of minimal evidence supporting some of these claims and considerable evidence supporting harms from fossil fuel and nuclear sources.
14. PHAA would welcome the Australian Government funding investigations to explore the human health burden of disease and direct and indirect health and social costs of coal and gas.
15. Governments should support wind power as one of the renewable energy options to rapidly transition the economy from fossil fuels. This is supported on both health and climate grounds.

The Public Health Association of Australia resolves to undertake the following actions:

16. Advocate for an evidence-based approach to discussion of energy options and their health impacts.
17. Engage with governments to ensure that decisions about regulation of wind turbines (and other energy sources) are based on the evidence of what is best for population health and wellbeing.

ADOPTED INSERT YEAR, REVISED AND RE-ENDORSED IN 2017

First adopted at the 2014 Annual General Meeting of the Public Health Association of Australia. The latest revision has been undertaken as part of the 2017 policy review process.

References

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