

13 April 2015

Rebuttal: Another perspective for the Health Canada Study

UNDERSTANDING THE EVIDENCE: WIND TURBINE NOISE

The Expert Panel on Wind Turbine Noise and Human Health

By: Council of Canadian Academics - *Science Advice in the Public Interest*

Respect for academic credentials are earned through years of education, independent research, publications, and peer recognition. Expertise is achieved through apprenticeship, independent study, experience and peer recognition. Yet, why are neighbors' life experiences, our first-person witnesses to harm considered to have less value, thereby less respect. The mission for scientific research is to reveal truths.

The Council of Canadian Academies (CCA) followed a predefined charge with this primary question:

- ***Is there evidence to support a causal association between exposure to wind turbine noise and the development of adverse health effects?***

CCA Answer: Wind turbine noise and adverse health effects (Executive Summary, page xiv to xv)

The relevant empirical evidence was reviewed and weighted in order to determine the strength of evidence for a causal link between wind turbine noise and each potential adverse health effect.

The evidence is sufficient to establish a causal relationship between exposure to wind turbine noise and annoyance.

The evidence consistently shows a positive relationship between outdoor wind-turbine noise levels and the proportion of people who report high levels of annoyance. However, many factors can modify the strength of this relationship, such as a person's attitudes toward wind turbines and any economic benefits the person derives from them. As well, visual and noise effects of wind turbines are difficult to isolate from each other. The current state of the evidence does not allow for a definite conclusion about whether annoyance is caused by exposure to wind turbine noise alone, or whether factors such as visual impacts and personal attitudes modify the noise-annoyance relation — and to what extent, since the studies completed to date do not measure these factors independently of each other. It is also unclear which sound characteristics contribute to long-term chronic annoyance, although low-frequency components and periodic amplitude modulation have been investigated as likely candidates.

The majority of adverse health impacts occur indoors during times for relaxation and sleep.

There were four sub-questions:

Scope diverted from health to wind turbine development.

- *Are there knowledge gaps in the scientific and technological areas that need to be addressed in order to fully assess possible health impacts from wind turbine noise?*
- *Is the potential risk to human health sufficiently plausible to justify further research into the association between wind turbine noise exposure and the development of adverse health effects?*
- *How does Canada compare internationally with respect to prevalence and nature of reported adverse health effects among populations living in the vicinity of commercial wind turbine establishments?*
- *Are there engineering technologies and/or other best practices in other jurisdictions that might be contemplated in Canada as measures that may minimize adverse community response towards wind turbine noise?*

The CCA supports the status quo for wind turbines. The CCA did not recognize that wind turbines operating in quiet rural communities produce the most significant adverse health effects. This study should not have been hobbled by competing government responsibilities; wind-turbine development incentives, site permitting, and protecting public health. Academic participation does not foster credibility when commissioned to perform consensus building.

Wind turbine health research is critical, which requires health professionals to make contributions to original research as witnesses. There are many adversely affected communities where they could live as wind turbine neighbors. Two acousticians concerned about why there were so many neighbors' complaints, went to Falmouth, Massachusetts to investigate wind turbine noise levels during strong winds. They were invited by strangers already adversely impacted to use their home, a custom, well-built insulated house, about 1700-ft from an operating 1.65 MW turbine. (*Wind turbine acoustic investigation: Infrasound and low frequency noise—A case study*). These owners experienced significant health problems forcing abandonment of their "dream" house.

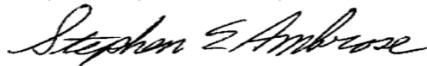
CCA chose not review "*A Cooperative Measurement Survey and Analysis of Low Frequency and Infrasound at the Shirley Wind Farm in Brown County, Wisconsin*". This study was performed by five professional noise control engineers in an abandoned residence near wind turbines. An acoustic expert recently published a study with extensive infrasound measurements at three adversely impacted homes near the Cape Bridgewater (Victoria, Australia) wind turbines.

The CCA study could only identify annoyance to be true. CCA dismissed all adverse health impacts by asserting that conflicting reports were limited or inadequate. CCA did not present evidence that they interviewed adversely impacted neighbors. CCA did not recognize significance differences between non-wind turbine urban communities and rural environments where most of the wind turbines are located. This report presents another lost opportunity for public health professionals to receive funding to do first-person research and gather evidence by living with wind turbines.

The CCA continues to rehash selected studies to benefit wind turbine development, and appears to set aside wind turbine complaints as only a nuisance for public health officials. Dismissing white papers as 'grey' and neighbors documentation for harm, just adds to the number of wind turbine victims. Expert panels lose credibility by citing earlier flawed governmental studies. CCA did not review the decision by the Brown County Board of Health (Wisconsin, USA), which found the Shirley Wind Turbine Project to be a public health nuisance. Public health studies should not appear to be performed with blind eyes and deaf ears.

Thank you for your time and consideration.

Respectfully submitted,



Stephen E. Ambrose, ASA, INCE, Board Certified
Principal Consultant, and wind turbine victim