

To Whom This May Concern:

I have been informed that international submissions are being accepted.

I am Associate Professor of Medicine, Physiology/Pharmacology and Microbiology/Immunology at the Schulich School of Medicine and Dentistry in London, Ontario, Canada. I am also the Medical Officer of Health (Public Health) for the Municipality of Chatham-Kent.

I was drawn into the debate on wind turbines by a request from my municipality to weigh in on this issue in order to make sense of the conflicting information that is being presented, especially to the lay public. This led to the release of a report by my Health Unit and to my participation in several venues (first link below), including being an advisor to the Chief Medical Officer of Health for the Province of Ontario, the Ontario Ministry of the Environment and the Province of Nova Scotia. I do not have any conflicts of interest. I was also a member of a panel of seven scientific and medical professionals who reviewed and analyzed the large body of peer-reviewed literature on sound produced by wind turbines and its effects on human health and produced the most thorough report of its kind (second link below). This was sponsored by CANWEA and AWEA, North American wind energy associations, but this was because government granting agencies did not think there was enough evidence of adverse health effects from wind turbines to justify the expense of such a review. The authors had an open mandate and were specifically asked to identify and detail any threats to health posed by wind turbines.

This seven-member expert panel included experts in the fields of medicine, audiology, acoustics, environmental and public health from Canada, the United States, the United Kingdom and Denmark. The panel reviewed the existing scientific literature on sound and health, and specifically with regard to sound produced by wind turbines, with the aim to develop an authoritative reference document for the use of legislators, regulators and citizens simply wanting to make sense of the conflicting information about wind turbine sound.

The expert panel concluded that wind turbines do not emit sounds that are unique in character or in intensity. There is no evidence that the audible or sub-audible sounds from wind turbines have any direct adverse physiological effects. We also agreed that the ground-borne vibrations from wind turbines are too weak to be perceived by or to affect humans.

There are hundreds of people around the world who report health problems that they relate directly to the presence of nearby wind turbines. Our review noted the nonspecific nature of these symptoms, including fatigue, ear pressure, memory and concentration deficits, irritability, anger, loss of motivation, nausea, headaches and insomnia. Some of these are stress related, but the etiology of stress is so subjective and multifactorial that it is practically impossible to assign the totality of stress to a single factor such as wind turbine exposure. I have most of these wind-

turbine symptoms and live nowhere near a turbine. That these adverse health reports were generated from self-reported, mostly uncontrolled, unverified open surveys and represent a tiny fraction of those exposed to wind turbine sound is dismissed by anti-wind turbine activists. There is no scientific proof that the etiology of these complaints has to do with wind turbines, and to rely on the work of Dr Pierpont, which I use as a teaching example of extreme selection bias and unscientific methodology, is to do the world a disservice.

Tolerance for a particular sound can vary greatly from person to person, but it is important to note that although annoyance may be a frustrating experience, it is highly questionable to classify annoyance as an adverse health effect or a disease, as some suggest (third link below for comment on WHO definition of health).

There is an abundance of studies on sound effects on health, but no evidence (or even scientifically plausible reasons to believe) that wind turbine sounds produce physiological adverse health effects. The panel concluded that the number and uncontrolled nature of existing case reports of adverse health effects alleged to be caused by wind turbines are insufficient to advocate for public funding of further studies. Allocating public funds for an extensive study on wind turbine health effects would deprive funding for studying something else. To suggest a moratorium on wind power developments, as some have done, on such flimsy evidence is not justified, and would prolong the use of the less healthy coal fired or nuclear generators, which is simply irresponsible.

All legitimate inquiries looking into this issue have reached the same conclusions (fourth link below to report of Ontario Chief MOH), that there are no direct health effects on humans from wind turbine exposure, and that reasonable setbacks prevent most annoyance complaints. Sounds from wind turbines should be regulated as other sounds, not as a special case. I would plead with Senate investigators to do their best to avoid being unduly influenced by the emotional arguments of those who have more regard for their own convictions than for the scientific evidence.

Respectfully submitted on February 10, 2011

Links to articles mentioned:

[www.windworks.org/LargeTurbines/Health%20and%20Wind%20by%20CK%20Health%20Unit.pdf](http://www.windworks.org/LargeTurbines/Health%20and%20Wind%20by%20CK%20Health%20Unit.pdf).

[www.canwea.ca/pdf/talkwind/Wind Turbine Sound and Health Effects.pdf](http://www.canwea.ca/pdf/talkwind/Wind_Turbine_Sound_and_Health_Effects.pdf).

[www.who.int/bulletin/bulletin\\_board/83/ustun11051/en/](http://www.who.int/bulletin/bulletin_board/83/ustun11051/en/)

[www.health.gov.on.ca/en/public/publications/ministry\\_reports/wind\\_turbine/wind\\_turbine.pdf](http://www.health.gov.on.ca/en/public/publications/ministry_reports/wind_turbine/wind_turbine.pdf)

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