

# **First International Symposium Picton, Ontario**

## **Delivers Facts on Wind Energy October 29-31, 2010**

The First International Symposium on the Global Wind Industry and Adverse Health Effects, held this past weekend in Picton, brought together American, British and Canadian acousticians, physicists, physicians, and medical researchers. The audience came from across Ontario and the United States and from as far as Australia.

Our understanding of how wind turbines can affect human health is steadily increasing. Since the facts often contradict the Ontario government's and wind industry's claims, it may be useful to clarify the current state of knowledge.

### **1. Claim: Ontario's regulations are the best in the world.**

**FACTS:** Orville Walsh, CCSAGE chair and APPEC vice president, studied government regulations in every country hosting wind turbines. The standards differ widely and most are based on noise, not setback distances. Ontario's noise level is 40 dbA, measured outside a home. Countries, like Germany, with lower levels cite either 35 dbA or +3 dbA above ambient sound. Night time ambient sound in a rural area is typically 30 dbA or less. (On the dbA scale, the ear can detect a difference of +/- 2-3 decibels and perceives 10 decibels as a doubling of sound.)

### **2. Claim: The sounds heard from wind turbines are no louder than whispers or a fridge.**

**FACTS:** Dr. John Harrison, a physicist, explained that wind turbine sounds, especially the "swoosh," are different because of their amplitude and can exceed the 40 dbA regulatory limit because turbine sitings are based on computer models, not live measurements. Moreover, turbine noise is not masked by natural sounds and can sometimes be perceived over great distances. Depending on weather conditions and cloud cover, a large installation of wind turbines, such as those planned for Lake Ontario, could emit over 40 dbA of noise as far as 9-15 km away.

### **3. Claim: Wind Turbines do not produce low-frequency sound.**

**FACTS:** Acoustician Rick James exhibited spectrograms of the sound coming from land-based wind turbines in which the low-frequency component was substantial and could be measured more than 5 km away. He also compared the symptoms of people suffering from "Wind Turbine Syndrome" to the identical symptoms reported in the 1970's and 80s by those working in so-called "sick buildings." The latter problem was eventually identified as due to infra low-frequency sound (ILFN) transmitted through ducting.

### **4. Claim: People cannot detect infrasound.**

**FACTS:** Dr. Alex Salt, a physiologist, described his recent research findings in which parts of the inner ear reacted visibly to infrasound. His research shows that the ear does respond to low-frequency sound even though we do not perceive it as sound. Further research will be required to understand how these impulses are transmitted to the brain, with possible disturbance and detrimental effects.

### **5. Claim: Complaints about wind turbine noise indicate annoyance, which is harmless.**

**FACTS:** Dr. Arline Bronzaft, a noise researcher, explained how daytime transit noise near a New York City public school went well beyond annoyance and affected students' academic achievement. The effects of noise disturbance are not restricted to nighttime, and the effects of noise on children can be profound, impacting development

**6 Claim: Wind turbine noise is harmless.**

**FACTS:** Dr. Christopher Hanning, a specialist in Sleep Medicine, explained how noise can disrupt the sleep patterns necessary for health and how loss of sleep affects memory and thinking, and can lead in the long term to risks of diabetes and heart disease. Dr. Nina Pierpont, a physician and researcher and author of *Wind Turbine Syndrome*, explained how auditory systems react to sound and the negative effects of wind turbine sound on the patients she has studied.

**7. Claim: Wind turbine noise affects few people seriously.**

**FACTS:** Dr. Michael Nissenbaum reported on his studies of people living near wind projects in Mars Hill and Vinalhaven, Maine. Both studies indicate that residents within 2 km and beyond, compared to a control group outside the project areas, suffered serious sleep disturbance and stress.

**8. Claim: Wind turbines are safe because no peer-reviewed studies prove otherwise.**

**FACTS:** Dr. Carl Phillips, an epidemiologist, explained that clinical reports around the world are sufficient evidence of adverse health effects and that wind industry denials reflect misunderstanding of the stages of scientific inquiry and the value of peer review.

**9. Claim: Wind development serves the public good.**

**FACTS:** Carmen Krogh, board member of the Society for Wind Vigilance, applied the concept of social justice to public health and presented testimonies from Ontario, Germany, and Japan of people suffering from wind projects. Ontario rural residents are dismayed, to put it mildly, that every government agency has ignored their plight.

**10. Claim: Ontario's Green Energy Act is unchallengeable.**

**FACTS:** Lawyer Eric Gillespie outlined the legal actions Ontario residents can take against wind development, including the appeal process for the Ministry of Environment's Renewable Energy Approval of projects. Appeals, however, must meet a high standard by **proving** that harm to health is serious or harm to the environment is both serious and irreversible. By contrast, the Ian Hanna case has only to prove scientific uncertainty about the harm to human health.

**11. Claim: Wind development saves lives by closing coal-burning electricity plants.**

**FACTS:** Economist Dr. Ross McKittrick reported that Ontario's air pollution has declined steadily since the 1960s and that, according to data from government measuring stations, coal-related emissions are no more than one part per billion. Statistics of 250 to 9,000 Ontario deaths annually related to coal burning are based on dubious computer models from elsewhere; they are not founded on actual certificates of death. There is simply no problem on which wind energy development could have a positive effect.

**12. Claim: Wind Energy Development is a solution to the Need for Electricity.**

**FACTS:** Journalist Robert Bryce, author of *Power Hungry: The Myths of Green Energy and the Real Fuels of the Future*, described society's need for reliable electric power, not intermittent, variable wind energy. Since there is no technology for mass storage of electricity, the power produced from wind cannot contribute substantially to electricity supply, let alone replace base load. Considering the adverse health effects and practical limitations of wind energy, **how is it that wind development remains so popular?** The answer lies in twenty years of social marketing, environmental fears, and the false economic hope of green jobs. The Symposium should make everyone question what the Ontario government and wind industry would like us to believe.