

To the Editor:

This is an article from a series of monthly columns by Environmental Law Specialist Dianne Saxe, one of the top 25 environmental lawyers in the world, and Ms. Jackie Campbell. These articles are available for publishing at no charge, provided Dr. Saxe and Ms. Campbell are cited as the authors. Dr. Saxe can be contacted at (416) 962-5882 or admin@envirolaw.com. For more information, visit <http://envirolaw.com>.

News Article

Wind turbines and health—is there a problem?

The Ontario Environmental Review Tribunal has finally released its long awaited decision on the wind turbine controversy that has generated so much concern in Ontario. Last year, Suncor obtained approval from the Ministry of the Environment to build a large wind farm known as Kent Breeze Wind Farms in the Township of Camden. The project will include eight wind turbines, each rated at 2.5 MW. Chatham–Kent Wind Action Inc. and Katie Brenda Erickson, who opposed the project, appealed to the Environmental Review Tribunal. In essence, they argued that Ministry standards for wind turbines are not sufficiently strict, and that allowing the project to be built would have a serious adverse effect on human health.

The ERT decided that the project can go ahead. There is strong evidence, they found, that wind turbines have no direct effect on human health, other than the very small risk of a catastrophic accident, like a turbine falling on someone. The real issue is “indirect” effects, especially, the stress and annoyance that some people feel about these turbines.

Under the *Environmental Protection Act*, renewable energy projects can go ahead unless they will cause serious harm to human health. Those opposed to the turbines could not prove that they will. As the Environment Review Tribunal put it:

The heart of the Appellants’ case is that there will be serious harm to human health at the nonparticipating receptor sites [the homes of the objecting neighbours]. The main ingredient of their case (ignoring for the moment issues such as turbine failure, shadow flicker, etc.) is that sound emissions (including audible sound, low frequency sound and infrasound) cause serious harm at certain levels and that the Project will emit sound at high enough levels that non-participating receptors will experience serious harm. However, the Appellants’ position has not been proven...

In this case, the Tribunal has heard evidence of several different kinds of risks to human health. Based on the evidence, they can be put into several general categories. First, there are those, such as direct hearing loss, that the evidence in this Hearing shows will not be caused at all because the sound levels are too low to cause physical damage to the human ear. Second, there are those, such as physical injury or death from tower collapse, turbine failure or other accidents, which are caused at a very low rate across all turbine facilities. The chances of them occurring here at this site are extremely low. Third, there are those, such as

chronic stress, sleep deprivation, etc., that are worthy of further study. However, the evidence at this Hearing has not shown, at this stage of research, that they will be caused here....

This is consistent with the May 2010 report of Ontario's Chief Medical Officer:¹ there is no scientific evidence that wind turbine noise causes direct health effects, although it may be annoying. Dr. David Colby, the Chatham-Kent Medical Officer of Health, has been vilified for saying the same thing.

The Tribunal noted that we will know more about the indirect, annoyance issue as research progresses:

the research in this area is at quite an early stage and that our collective understanding of the impacts of wind turbines on human health will likely progress as further research and analysis is undertaken....This case has successfully shown that the debate should not be simplified to one about whether wind turbines can cause harm to humans. The evidence presented to the Tribunal demonstrates that they can, if facilities are placed too close to residents. The debate has now evolved to one of degree. The question that should be asked is: What protections, such as permissible noise levels or setback distances, are appropriate to protect human health?

Much of this research will likely come from other countries, like Denmark, that already generate 20% of their electricity from wind, and plan to increase that rapidly to 40%.

I find it odd that we, in Ontario, focus so much public buzz on fear of wind turbines. Most of our energy sources are far more dangerous to human health and the environment. Coal emits soot, smog, and the powerful neurotoxin, mercury, as well as vast amounts of greenhouse gases, which are already causing climate change. Thousands already die early from the air pollution coal creates. Oil also spills and entangles us in foreign wars. Nuclear power exposes us to radiation, and to nuclear waste that will be hazardous for hundreds of thousands of years (Fukushima. Three Mile Island. Chernobyl...). Fracking shale to get natural gas can contaminate groundwater and cause earthquakes. Dams mobilize mercury and can wipe out fisheries and other wildlife. There is no such thing as electricity that causes no harm:

This case has served as a reminder that all types of energy projects (including renewable or "green" projects) can generate significant concerns and conflict. The precautionary principle's focus on "preventing" the causes of environmental degradation calls upon all of us to take significant steps to reduce energy demands and encourage conservation. In this way, the precautionary principle serves as a modern reminder of the old adage that "an ounce of prevention is worth a pound of cure"

A wind turbine will produce 80-120 times more energy than it consumes over its approximately 20 year life span.² Wind turbines, roads and support structures take up only 5% of land in a wind farm; the remaining land area can be used for agricultural

activities. Regulators impose mandatory setback distances to attenuate noise; larger turbines must be set back at least 550 metres from homes, schools, and places of worship, to keep noise below 40 decibels (about the noise in a quiet office).³ Applicants must provide notice in writing to all land owners within 120 metres of the project location.⁴ For larger projects, there is extensive public consultation with the community, first nations and local municipalities.

Why, then, are so many people so worried about electricity from this clean, naturally occurring, relatively quiet, local source? Is it just because it's new, and visible? Some people are more sensitive than average to sound and vibration, just as some others find odours particularly annoying, and asthmatics are particularly sensitive to smog. But another big part of the answer may be: who owns the turbines? Community wind power is much better accepted than megacorp wind farms. In Germany, for example, wind provides nearly 8% of electricity. Local landowners or residents groups built almost a third of the turbines, and around 200,000 people own shares in local wind turbines. Local ownership of wind projects has led to increased economic benefits to the region, and much better public acceptance of such projects. (see the Pembina Institute *Harvesting Clean Energy on Ontario Farms* report, which highlights initiatives taken by German farmers in wind and other climate-friendly power sources.⁵)

Why, then, is Ontario doing so little to support community owned power?

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¹ Chief Medical Officer of Health report – The potential health impact of wind turbines. May 2010. At

http://www.health.gov.on.ca/en/public/publications/ministry_reports/wind_turbine/wind_turbine.pdf

² Ontario Ministry of Energy. Wind power: an overview. 2010. At

http://www.mei.gov.on.ca/en/energy/index.php?page=wind_about

³ Ontario Regulation 359/09 Renewable Energy Approvals Under Part V.0.1 Of The Act at s. 54 (under the *Environmental Protection Act*)

<http://www.search.e-laws.gov.on.ca/en/isysquery/eb834a47-bda6-4a57-aa54-1d2048006728/1/doc/?search=browseStatutes&context=#BK76>

⁴ Ontario Regulation 359/09 Renewable Energy Approvals Under Part V.0.1 Of The Act at s. 15 (under the *Environmental Protection Act*)

<http://www.search.e-laws.gov.on.ca/en/isysquery/eb834a47-bda6-4a57-aa54-1d2048006728/1/doc/?search=browseStatutes&context=#BK76>

⁵ Anderson K et al. *Harvesting Clean Energy on Ontario Farms*
A Transatlantic Comparison. 2011 June (58 pp)

<http://pubs.pembina.org/reports/harvesting-energy-ontario-final-june-24.pdf>