

The Brewing Tempest Over Wind Power

People living near turbines increasingly report sleep deprivation, headaches and vertigo. The wind lobby says there's no proof. By **ROBERT BRYCE**

Imagine this scenario: The oil and gas industry launches an aggressive global drilling program with a new type of well. Thousands of these new wells, once operational, emit a noxious odor so offensive that many of the people living within a mile of them are kept awake at night. Some are even forced to move out of their homes. It's easy to predict the reaction: denunciations of the industry, countless lawsuits, and congressional investigations.

Now substitute wind for oil and gas and consider the noise complaints being lodged against wind projects around the world.

The Obama administration has made the increased use of wind power to generate electricity a top priority. In 2009 alone, U.S. wind generation capacity increased by 39%. But more wind power means more giant turbines closer to more people. And if current trends continue, that spells trouble.

In 2007, a phalanx of wind turbines were built around Charlie Porter's property in rural northern Missouri. Soon, Mr. Porter began to have trouble sleeping. So did his wife and daughter. The noise, he told me, made sleeping almost impossible. "We tried everything—earplugs, leaving the TV station on all night." Nothing worked. Late last year he moved his family off their 20-acre farm.

Mr. Porter's story is no isolated event. Rural residents in Texas, Maine, Pennsylvania, Oregon, New York, Minnesota, Wisconsin, Canada, New

Zealand, Australia, France and England have been complaining about the noise from wind turbines, particularly about sleep deprivation. Dozens of news stories—most of them published in rural newspapers—have documented the problem.

I've spoken to nine other people in New York, Wisconsin, Ontario, New Zealand, Nova Scotia and England who live, or lived, near wind turbines. All complained of the noise, with sleep deprivation being the most common complaint. For example, Janet Warren, who raises sheep near Makara, New Zealand, told me via email that the turbines near her home emit "continuous noise and vibration," which disturb her sleep and are causing "loss of concentration, irritability, and short-term memory effects."

Complaints about sleep disruption—as well as the deleterious health effects caused by the pulsing, low-frequency noise emitted by the giant turbines—are a central element of an emerging citizen backlash against the booming global wind industry.

Lawsuits that focus on noise pollution are now pending in Maine, Pennsylvania and New Zealand. In New Zealand, more than 750 complaints have been lodged against a large wind project near Makara since it began operating last April. The European Platform Against Windfarms lists 388 groups in 20 European countries. Canada has more than two dozen antiwind groups. In the U.S. there are about 100 such groups, and state legislators in Vermont recently introduced a bill that will require wind turbines be located no closer than 1.25 miles from any residence.

In theory, big wind projects should only be built in desolate areas. But the reality is that many turbines are being installed close to homes. Wind developers put a turbine within 550 meters of Mr. Porter's house. Hal Graham, a retired office manager in Cohocton, N.Y., complains about the noise pollution caused by a turbine 300 meters from his home. Tony Moyer, a plumbing superintendent in Eden, Wis., grumbles

about the noise generated by three turbines built within 425 meters of his house.

Doctors and acoustics experts from the U.S. to Australia report a raft of symptoms that they blame on wind turbine noise, including sleep disturbance, headaches and vertigo. Dr. Nina Pierpont, a pediatrician in Malone, N.Y., has studied 36 people affected by wind turbine noise since 2004 at her own expense. The people she interviewed were widely dispersed; they lived in the U.S., Canada, England, Ireland and Italy. She found that the collection of symptoms she calls "wind turbine syndrome" disappeared as soon as people moved out of their noise-affected homes and into new locations at least five miles from any turbines.

Across the border, Ontario-based orthopedic surgeon Dr. Robert McMurtry has been researching wind turbine noise for the past 18 months. Dr. McMurtry, a fellow of the Royal College of Physicians and Surgeons of Canada, counts more than 100 people in Ontario he believes are experiencing adverse effects from turbine noise. "It has compromised their health," he says.

The wind lobby has publicly rejected these claims. In December, the American Wind Energy Association in conjunction with the Canadian Wind Energy Association, issued a report titled "Wind Turbine Sound and Health Effects: An Expert Review Panel." It declared: "There is no evidence that the audible or sub-audible sounds emitted by wind turbines have any direct adverse physiological effects." It also suggested that some of the symptoms being attributed to wind turbine noise were likely psychosomatic and asserted that the vibrations from the turbines are "too weak to be detected by, or to affect, humans."

Yet the report also noted that in "the area of wind turbine health effects, no case-control or cohort studies have been conducted as of this date." True enough—but it means there are no studies to prove or disprove the case. It also says that "a small number of sensitive people" may be

"stressed" by wind turbine noise and suffer sleep deprivation. But who gets to define "sensitive" and "small number"? And if turbine noise and sleep disturbance aren't problems, then why are people in so many different locations complaining in almost identical ways? Such questions are only going to be pressed with more urgency in the future.

By 2030, environmental and lobby groups are pushing for the U.S. to produce 20% of its electricity from wind. According to the Department of Energy, meeting that goal will require the U.S. to have about 300,000 megawatts of wind capacity, an eightfold increase over current levels. Installing tens of thousands of new turbines inevitably means they'll be located closer to populated areas.

The health effects of low-frequency noise on humans are not well understood. The noise in question often occurs at, or below, decibel levels that are commonly considered a public nuisance. And detecting low-frequency noise requires sophisticated acoustic gear. For all of these reasons, this issue should be investigated. If policy makers are serious about considering all of the impacts of "green" energy, then an impartial, international study of the effects of wind turbine noise should be undertaken without delay.

Mr. Bryce is the managing editor of Energy Tribune. His fourth book, "Power Hungry: The Myths of 'Green' Energy and the Real Fuels of the Future," will be published in April by PublicAffairs.