

Author: Pierpont, Nina

I have been asked by a member of your community to direct your attention to the manifold health risks of siting industrial wind turbines near people's homes. I urge you and your town council to give the matter careful consideration. ...

The individual who contacted me included the following information with her request:

“An informal survey shows this area has more than 129 adults and 43 children who will be living within 2 km of the turbines. This does not include all of the residents south of County Road 50 and along County Road 41 or Dunn Road who have been delineated outside of the project area but remain within 2 km of the turbines. ... Of the 129 adults mentioned, approximately 20 are over age 70. Of these older adults, there are 3 known cases of tinnitus. In addition, 42 adults range in ages of 50 years old and less and include 2 known cases of epilepsy. Within the group of 43 children mentioned, approximately 6 are under the age of 10. There are at least 2 cases of autism within 2 km of the proposed wind farm.”

I am therefore concerned that there will be numerous people living within 2 km of the turbines, many of whom are elderly (one must assume the usual age-related deterioration of balance function) and many of whom are children (where there is a good likelihood of ADD/ADHD among some, and at least 2 confirmed cases of autism).

Contrary to assertions by the wind industry, there are indeed significant health effects from the noise and vibration from current, upwind, three-bladed industrial wind turbines. I am in the final stages of preparing for publication a [4-year clinical study of health problems caused by turbines](#) sited too near to people's homes.

My study subjects were families in several countries who have been driven from their homes by problems with sleep disturbance, headache, tinnitus, ear pressure, dizziness, vertigo, nausea, racing heart, irritability, and problems with concentration and memory, in both adults and children. Panic episodes associated with sensations of internal pulsation, or quivering, arise in the daytime or during sleep. The problems start when the turbines go into operation and resolve when the family is away from the turbines. Symptom intensity varies in concert with the type and loudness of noise, the direction turbine blades are turned, the rate of spin, and (for some people) the presence of shadow flicker. These problems all occur in proximity to recently built turbines, put into operation in 2004-2007. One of the families I studied lived 4,900 ft and three others 3,000-3,300 ft from the closest turbines. Other families lived closer.

People disturbed by noise and vibration from industrial wind turbines generally can hear the noise when it bothers them, but many note that it may not seem especially loud. Several people I have interviewed speak favorably of living next to an elevated urban train line, compared to living in their rural home next to wind turbines. They can sleep

with traffic or train noise, but not with the wind turbine noise/vibration. They consistently describe a penetrating and intrusive quality to the wind turbine noise, many describing a sensation of vibration, quivering, or pulsation inside their bodies, especially the chest. These sensations are accompanied by very aversive feelings, including chest tightness, racing heart, jitteriness, anxiety, and compulsions to flee or check the environment for safety, including at night when awakened by such sensations. Young children have night terrors. People with these panic episodes did not have panic or anxiety before, but most of them were motion sensitive or had other difficulties with their balance systems before the turbines were built near their homes.

Published research from Sweden ([doctoral thesis by Eja Pedersen, 2007](#), and published papers incorporated within the thesis) reports people to be “highly annoyed” by wind turbine noise at sound pressure levels much lower than for other types of community noise. The A-weighted decibel level (in a measure averaged and weighted over time, L_{eq}) which corresponds to 15% of the people being “highly annoyed” by the noise, is 38 dB(A) for wind turbines, 57 dB(A) for aircraft, 63 dB(A) for road traffic, and 70 dB(A) for railways. This is probably because the A-weighted noise representations are not capturing the parts of the wind turbine noise and vibration spectrum which are disturbing. The curve for annoyance due to wind turbine noise has a steep slope, so that by 41 dB(A), 35% of people are “highly annoyed”. Sixteen percent of respondents report that their sleep is disturbed by wind turbine noise over 35 dB(A).

... Even if we do not know exactly what parts of the noise and vibration spectrum are bothersome, and to what extent these are represented in a dB(A) measurement, we have in the Pedersen research clear evidence that when noise is modeled prior to wind turbine construction, **the allowed levels of noise should not exceed 35 to 37 dB(A) outside of dwellings.**

... [I]t is my strong clinical recommendation (in line with the [French National Academy of Medicine](#)) that industrial wind turbines be sited a minimum of 1-1/4 miles (2 km) away from homes, schools, hospitals, and other places where people sleep or learn.

... I can tell you, definitively and unequivocally, that wind turbines of the size you are contemplating do, in fact cause harm to human health when placed within 2 km of people's homes.

I don't know what you're being told by the wind developers, but if it differs from what I've said here, they are misleading you. ... I have yet to see a report — a peer-reviewed report like mine — written by a board-certified clinician that disputes what I've told you here. What I have written in this letter is supported by [Dr. Amanda Harry](#) (Cornwall, U.K.), Dr. Chris Hanning (sleep specialist, Leicestershire, U.K.), and the French National Academy of Medicine, all of whom have studied wind turbine syndrome.