



Hundreds of thousands of people around the world live near and work in proximity to operating wind turbines with no ill health effects.

As discussed more in this paper, credible, peer-reviewed scientific data and various government reports in the United States, Canada, Australia, and the United Kingdom – and other university and government scientists and researchers now totaling more than 100 – soundly discredit the claim that wind farms cause negative health impacts.

Over the past several years, in fact, university researchers, government scientists, and medical and public health authorities have published over 100 peer-reviewed scientific studies on health and living in proximity to wind turbines. These studies have investigated the wide range of purported negative health claims with respect to wind turbines including sound, low frequency noise and infrasound, shadow flicker, and electromagnetic field emissions (EMF). Furthermore, independent health experts have conducted comprehensive reviews of the existing research and repeatedly conclude that wind turbines do not pose a threat to public health.

Nonetheless, some community members are concerned that wind turbines may cause adverse health effects to those who live in proximity. Despite the overwhelming amount of data contradicting negative health impacts, opponents of wind energy continue to falsely claim that wind turbine sound, shadow flicker, and EMF harm human health. In fact, misinformation about wind energy is so prevalent that it routinely appears in official correspondence and state and local siting regulations. And the misinformation itself can contribute to harmful impacts through the “nocebo effect”, which is the opposite of the placebo effect. It describes a situation where a negative outcome occurs due to a belief that the action will cause harm.

## Sound and Health Facts

The early spread of misinformation based on anecdotal health concerns and risks of living near wind turbines caused public apprehension and spurred the Massachusetts Department of Public Health in 2012 to convene a committee of expert scientists, engineers, physicians, and public health experts to evaluate the merits of the reported human health effects related to the exposure to sounds from operating wind turbines. The findings of the study were particularly conclusive, stating that there is no evidence for a set of health effects from exposure to wind turbines that can be characterized as “Wind Turbine Syndrome” (WTN).<sup>1</sup>

To date, the most comprehensive multi-disciplinary, multi-million-dollar field study (including surveys and objective health measurements as opposed to relying solely on self-reported symptoms) was conducted by Health Canada (the Canadian equivalent of the U.S. Department of Health and Human Services). Health Canada found that self-reported sleep issues,

When in operation, wind turbines emit sound from the rotating blades passing through the air. The dominant sound emitted from wind turbines is often described as a “swishing” or “whooshing” sound. Wind turbines emit sound over a wide frequency range, including low frequency noise and infrasound. While low frequency sound levels may be heard, infrasound near wind turbines does not exceed hearing thresholds, which at these levels, studies show does not cause health issues. In some instances, the mechanical sounds (e.g., cooling fans, generators, and gears that rotate the turbine into the wind) may also be audible, but typically less so than the



Furthermore, the Ohio Department of Health upon reviewing the peer-reviewed scientific literature published between 2004 and 2019 came to the same conclusion that “information to date does not indicate a public health burden from electromagnetic fields generated by any part of a wind turbine or wind farm.”<sup>18</sup>

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Wind energy reduces the reliance on traditional, combustion-based electricity generation which in turn provides air-quality, pollution reduction, and greenhouse gas emission benefits. Reducing harmful air pollutants has a beneficial impact on pollution related respiratory illnesses such as asthma, lung cancer, and chronic obstructive pulmonary disease (COPD). Between 2007 and 2015, wind-generated electricity avoided as many as 3,000 to 12,000 premature deaths according to researchers from the Lawrence Berkley National Laboratory,<sup>19</sup> and in 2021, wind energy avoided over 318 million metric tons of carbon (CO<sub>2</sub>) emissions, approximately 228 thousand metric tons of nitrogen oxide (NOx) emissions, and approximately 221 thousand metric tons of sulfur oxide (Sox) emissions that leads to air pollution and climate change.

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