

## **PIENAAR ENERGY (PTY) LTD**

# **The sound of wind power generation disturbs people**



## Overview

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Sleep disturbance is the most commonly recorded wind turbine noise health effect. While some studies indicate a correlation between wind turbine noise and sleep disturbance, others suggest that the impact is minimal or limited to individuals who are particularly sensitive. While noise levels are moderate, wind turbine noise pollution can cause annoyance in rural settings where ambient sound is low. The most noticeable noise is due to amplitude modulation, or inconsistent volume levels. A new peer reviewed article took that question into the lab and measured what changed in the brain and in performance when people listened to recorded turbine sound. The sound generated by turbines does not merely represent a nuisance; it intertwines with the lives of those residing in close proximity, affecting both their quality of life and health. One such project involves 26 wind turbines in the Netherlands, grouped into three. Almost without hesitation, most people can identify a sound that is annoying to them, whether it might be fingernails on a chalkboard, a barking dog late at night, a mosquito buzzing in their ear, or their own particular example. Classic acoustics texts identify key points related to annoyance. The result is a significant challenge to wind-energy development for the achievement of large-scale alternative energy. Our purpose is to examine noise from wind turbines and its potential to disrupt sleep, to examine the human health literature addressing these concerns, and to provide insight.

## The sound of wind power generation disturbs people

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### Wind Turbine Sound: Its Effects on Biology and Health



Explore how wind turbine sound interacts with human biology, influencing auditory and non-auditory systems with varying individual sensitivity.

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### Wind Energy's Dark Side: Noise Pollution Explained

Wind turbines create noise pollution through a combination of mechanical hums produced by the generator and a "whooshing" noise produced by the blades moving through the air. This noise can be ...



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### Study learns why some people object so strongly to wind turbines

Visibility and prior beliefs change how people judge the same sound. Surveys show that annoyance from wind turbine sound arises at lower sound levels than many other everyday sources, and that ...

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## Wind Turbines and Health Fact Sheet , Clean Energy Council

Discover the facts surrounding the local impacts of wind turbines on noise and health.

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## Health Effects Related to Wind Turbine Noise Exposure: A Systematic

Wind turbine noise exposure and suspected health-related effects thereof have attracted substantial attention. Various symptoms such as sleep-related problems, headache, tinnitus and vertigo have been described by ...

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## Understanding Wind Turbine Noise: Sources and ...

Explore the multifaceted issue of wind turbine noise ?. Understand its sources, effect on communities, health concerns, and effective mitigation strategies.

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## Why Wind Turbine Sounds are Annoying, and Why it Matters

A new source of environmental sound



arises from wind turbines, a rapidly growing method of generating electricity. Studies such as the "Health Canada Wind Turbine Noise and Health Study" [1] have ...

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## Can wind turbine noise affect your health? , Business ...

Learn what causes noise from wind turbine blades, its health effects, regulations, and how low-noise models help to reduce noise pollution.

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## How Do Residents Experience Wind Turbine Noise? The Results of a Two

Noise from wind turbines is often a significant concern for nearby residents. To better understand the actual impact of wind turbine noise, an interactive app was utilized across several wind projects, allowing ...

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## Noise-induced sleep disruption from wind turbines: scientific updates



If constructed with reasonable restrictions, modern wind turbines are able to function without disrupting the sleep of nearby people. This is demonstrated by contemporary research, and understood ...

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