

# Sound pollution from wind turbines

Wind turbines create noise from either the blades moving through the air or from the mechanical hub that produces the electricity. Sounds from wind turbines are a problem for some who live closest to the machines.

## 2 Pulsing sounds

**Outdoors** Turbines may appear to move slowly, but the tips of their blades often reach speeds of more than 100 mph. This, coupled with wind conditions that may include faster-moving air at the top of the arc and slower winds at the bottom, can produce a pulsing or oscillating sound.

**Indoors** Low-frequency sounds can penetrate walls and windows and are sensed as vibrations and pressure changes.



## 5 Shadows

The flickering shadows of rotating turbine blades at certain times of the day can also disturb residents.

## 4 Distance differences

Standing beneath a turbine may not be as noisy as standing further away. Depending on wind conditions, some types of sound increase with distance before becoming quieter.

### 1 Air-foil turbulence

Sound is generated by air moving over the surface of the blade or at the trailing edge of the blade called "vortex shedding."



### 3 High-pitched sounds

Some noise may come from the nacelle, or hub: a high-pitched whining similar to a jet engine, but not as loud.

