



# The wind doll blows the wind turbine

How does a wind turbine work?

It involves using wind turbines to convert the turning motion of blades, pushed by moving air (kinetic energy) into electrical energy (electricity). This requires certain technologies, such as a generator that sits at the top of a tower, behind the blades, in the head (nacelle) of a wind turbine. Graphic from Wind Energy Technologies Office

Does a wind turbine lose energy?

The wind loses some of its kinetic energy (energy of movement) and the turbine gains just as much. As you might expect, the amount of energy that a turbine makes is proportional to the area that its rotor blades sweep out; in other words, the longer the rotor blades, the more energy a turbine will generate.

Does a wind turbine work when it makes it spin?

Basically, the wind does work on the turbine when it makes it spin. Work is an application of energy, which makes something move. The energy from the wind's work is taken by the turbine and converted into electricity for use in homes and cities. What is it about the shape of a rotor on a wind turbine that makes it spin easily in the wind?

How do wind turbine blades work?

The shape of the blades is designed to create lift, similar to an airplane wing, allowing them to harness more energy from the wind. 2. Spinning the Rotor As the wind pushes the blades, they start to rotate the rotor. This rotational motion is transferred to the gearbox, where it is amplified. 3. Increasing Rotational Speed

Why do wind turbine blades feather?

The pitch system can also "feather" the blades, adjusting their angle so they do not produce force that would cause the rotor to spin. Feathering the blades slows the turbine's rotor to prevent damage to the machine when wind speeds are too high for safe operation.

How do wind turbine rotors work?

The two primary aerodynamic forces at work in wind-turbine rotors are lift, which acts perpendicular to the direction of wind flow; and drag, which acts parallel to the direction of wind flow. Turbine blades are shaped a lot like airplane wings -- they use an airfoil design.

When the wind blows, the turbines rotate, turning the wind into energy for communities to use. But in order for the wind turbine to produce the greatest amount of energy efficiently, a wind turbine service technician must inspect, ...

Nowadays, the need for reliable sources of energy has a lot of people talking about wind power. Wind power is collected using wind turbines--tall pole structures with a machine at the top that looks like a very large fan.

Instead of ...

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