Wind Energy Facts

Did you know?

The U.S. is the world leader in wind power installations.

Wind is caused by the uneven heating of the Earth's surface by the sun.

U.S. winds could generate more electricity in 15 years than all of Saudi Arabia’s oil, without being depleted.

U.S. wind power capacity can currently generate enough energy to power 7 million homes.

3 to 8 months of wind turbine operation offsets the electricity required for its manufacture and construction.

Myth 1: Wind farms can be built just about anywhere.

Fact: The truth is that the many of the best sites for wind energy have already been developed with wind farms. Wind farm locations are carefully chosen based on, among other things, the best wind resources, existing roads and transmission lines, and proximity to the end customer. Hillsdale County is one of the remaining prime locations for a wind energy project because of the outstanding wind resource and proximity to the existing utility grid. The location of the Hillsdale Windpower project wasn’t chosen by accident and can’t “just go somewhere else”.


Myth 2: Wind turbines are noisy.

Fact: Modern wind turbines produce very little noise. The turbine blades produce a whooshing sound as they encounter turbulence in the air, but this noise tends to be masked by the background noise of the blowing wind. An operating modern wind farm at a distance of 750 feet to 1,000 feet is no more noisy than a kitchen refrigerator. We encourage you to take a trip to Stoney Corners Wind Farm in McBain and listen for yourself.

Source: www.awea.org

Myth 3: Building a wind farm takes more energy than it ever makes.

Fact: A wind turbine produces enough clean electricity in 3 to 8 months of operation to offset all of the greenhouse gas emissions emitted in its manufacture and construction – and it will produce clean electricity for another 20-25 years. A modern wind turbine is designed to operate for more than 20 years and at the end of its working life, the area can be restored at low financial and environmental costs.

Source: www.canwea.org
Did you know?

Utility-size wind turbines are fully automated and continually adjust to face the wind on their own.

Achieving 20% wind-powered electricity by 2030 would be the carbon equivalent removing 140 million cars from the road.

Unlike other power generation types, the land used for wind energy can still be used for farming, ranching and recreation.

Wind turbines typically generate electricity when the wind is blowing between 9 and 55 miles per hour.

Myth 4: Wind Energy will negatively affect tourism.

Fact: Large turbines have been found more often to be a positive influence on tourism. The British Wind Energy Association notes that wind farms in the UK are popular tourist attractions, with thousands of people each year flocking to visit them. In Australia, the wind farms are highlighted as one of the attractions for visitors amongst other historical and scenic points of interest. A Scottish study found that nine out of ten tourists visiting some of Scotland’s top beauty spots say the presence of wind farms makes no difference to the enjoyment of their visit, and twice as many people would return to an area because of the presence of a wind farm than would stay away. Yet another survey of more than 300 visitors to Argyll, Scotland found that 91% of visitors said the presence of wind farms in the area made no difference to whether they would return.

Source: www.bwea.org, Appalachian State University Wind Working Group

Myth 5: Wind power will decrease property values in surrounding areas.

Fact: There is currently little evidence showing that wind farms negatively impact home prices. A December 2009 study conducted by the Berkeley National Laboratory concluded that “None of the various models found strong statistical evidence that the view of a nearby wind facility impacts sales prices in a significant and consistent manner.” A 2006 nationwide survey of tax assessors conducted by ECONorthwest “found no evidence supporting the claim that views of wind farms decrease property values.”


Myth 6: Wind farms don’t reduce greenhouse gas emissions.

Fact: Wind power is a clean, renewable source of energy which produces no greenhouse gas emissions or waste products. Power stations are the largest contributor to carbon emissions. Just one modern wind turbine will save over 4,000 tons of CO₂ emissions annually by reducing the need for power from fossil fuels.

Did you know?

In Michigan, 70 cents of every dollar spent on energy goes over state lines.

Windmills were used as early as 200 B.C. in Persia and the Middle East to pump water and grind grain.

A 1MW turbine on land can provide enough electricity to power 225 to 300 households.

1MW of wind energy can offset approximately 2,600 tons of carbon dioxide annually.

85,000 people were employed by the U.S. wind industry in 2008.

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Myth 7: Nearby residences will be affected by shadow flicker

Fact: Shadow flicker is the term used to describe what happens when rotating turbine blades come between the viewer and the sun, causing a moving shadow. Shadow flicker is almost never a problem for residences near new wind farms, and in the few cases where it could be, it is easily avoided. The effect can be precisely calculated to determine whether a flickering shadow will fall on a given location and how many hours in a year it will do so. Potential problems can be easily identified using these methods during project planning and turbines can be sited to avoid or minimize shadow flicker using appropriate setbacks.

Source: www.awea.org

Myth 8: Wind turbines will be left on the landscape at the end of their lives.

Fact: It is very unlikely that a wind farm would be abandoned. The pace of technological progress in the wind industry is rapid, and “repowering”—that is, installing new technology—is likely to be a viable option at many sites once the existing turbines reach the end of their 20-30 year life. After all, the wind is ever-present and the infrastructure (e.g., roads, transmission system, etc.) is already in place. Further, decommissioning responsibilities are covered in legal documents created when a wind farm first goes up.


Myth 9: Wind turbines kill birds.

Fact: Bird kills have caused serious scientific concern at only one location in the United States: Altamont Pass in California, one of the first areas in the country to experience significant wind development. Over the past decade, the wind community has learned that wind farms and wildlife can and do coexist successfully. Wind energy development’s overall impact on birds is extremely low (<1 of 30,000) compared to other human-related causes, such as buildings, communications towers, traffic, and house cats. Birds can fly into wind turbines, as they do with other tall structures. However, conventional fuels contribute to air and water pollution that can have far greater impact on wildlife and their habitat, as well as the environment and human health.


The US Department of the Interior, the Sierra Club, National Audubon Society, and Environmental Defense have all issued statements in support of wind energy.
Myth 10: Wind turbines are ugly and unpopular.

Fact: Beauty is in the eye of the beholder, and whether you think a wind turbine is attractive or not will always be your personal opinion. However, studies regularly show that most people find turbines an interesting feature of the landscape. In North Carolina, a recent study to determine public attitudes towards wind energy found that 77.1% of participants who had seen firsthand a utility scale turbine said that they liked its appearance. Studies from numerous US states and other countries report that a majority of people think wind turbines are graceful, elegant structures. Many people find turbines to be interesting features in the landscape, enhancing the vista overall. In the UK, the British Wind Energy Association notes that wind farms are popular tourist attractions, with thousands of people each year flocking to visit attractions.

Source: www.bwea.org, Appalachian State University Wind Working Group

Myth 11: Wind farms are dangerous to humans.

Fact: Wind energy is a benign technology with no associated emissions, harmful pollutants or waste products. In over 25 years and with more than 68,000 turbines installed around the world, no member of the public has ever been harmed by wind turbines. In response to recent unscientific accusations that wind turbines emit infrasound and cause associated health problems, Dr. Geoff Leventhall, Consultant in Noise Vibration and Acoustics and author of the Defra Report on Low Frequency Noise and its Effects, says: "I can state quite categorically that there is no significant infrasound from current designs of wind turbines. To say that there is an infrasound problem is one of the hares which objectors to wind farms like to run. There will not be any effects from infrasound from the turbines."

Source: www.canwea.org