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Wind Energy

Pennsylvania is a leader on the east coast of the United States in wind energy production. Explore this site to learn how it's produced, who's buying it and how you can [purchase it for yourself](#). A list of [other useful links](#) can be found at the bottom of this page.

What's New with Wind Power?

- [Model Wind Ordinance for Local Governments](#) (Word doc)
- Find out if your community is a candidate for its own wind energy project, by visiting the [Community Wind Project](#) website of Saint Francis University Renewable Energy Center.



Wind Power

- [How is wind power generated?](#)
- [How much electricity is produced in Pennsylvania from wind power?](#)
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How is wind power generated?

Wind power, in its most basic form, is taking the breezes and winds that you feel on your face or that cause a flag to flap and converting it into energy that can be used in other processes. The sail on a boat is among the most common examples. When wind hits the sail, it's converted into motion that carries the craft over the water.

On this Web site, wind power is specifically harnessing the wind for electricity generation. This is done using wind turbines mounted on towers, similar to those in the picture at the top of this page. The large blades, or rotor, of the turbine capture the wind's energy and begin turning. The rotor drives a shaft in the nacelle of the turbine (located directly behind the blades). The nacelle contains the drive train (including the generator). The rotor and nacelle rest on top of a tower that can range from 30 feet to over 200 feet tall. The remainder of the turbine consists of equipment to control the turbine and connect it to the electricity grid so that the power can be used.

Wind speed is an important variable in determining how much electricity a turbine produces. The energy in wind is a cube of its speed. A wind speed of 11 miles-per-hour will produce 30 percent more energy than a wind speed of 10 miles-per-hour. Areas of the commonwealth have received different classifications based on wind speed. To see the wind speed for your area, check out the [Pennsylvania Wind Map](#).

How much electricity is produced in Pennsylvania from wind power?

There are currently over 300 megawatts of wind power generation installed in Pennsylvania with several more wind farms planned.

What can I do to support wind power?

- [Purchase](#) wind power for your home or office
- If you own a large piece of land, consider whether an industrial sized wind farm may be an option. DEP's [Wind Map](#) can help.
- In many cases, if a resident, farm, small business, etc., has a sufficient wind resource, they may be interested in purchasing a small wind turbine to help offset energy costs. See the following links for more information.
- [A Pennsylvania Consumer's Guide to Small Wind Electric Systems](#)
Consumer guide to small wind electric systems (.pdf file).
- [Small Wind Energy Systems Fact Sheet](#)
Fact sheet from DEP on small wind energy systems (.pdf file).

Other Links

Pennsylvania

- [PA Wind Map](#) - An online guide to wind resources in Pennsylvania.
- [CleanYourAir.org](#) - For information on purchasing clean energy in Pennsylvania.
- [PA Wind Working Group](#) - A cooperative organization encompassing wind

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Purchasing Wind Energy

Pennsylvania Wind Map

Solar

developers, wind advocates, environmental groups and other stakeholders.

- [PA Public Utility Commission](#) - Pennsylvania requires 18 percent of electricity generated to come from alternative energy sources, including wind energy, within 15 years. The PA Public Utility Commission is currently devising regulations to implement this requirement. Visit their Alternative Energy site for information on this process.
- [Wind Powering America Pennsylvania Info](#) - Information from the U.S. Department of Energy (DOE) on wind energy activities in PA.
- [PA Wind Farms and Wildlife Collaborative](#) - A collaborative effort between government agencies, environmental groups and the wind industry to study and reduce the impact of wind energy development on wildlife and the environment.

National

- [Wind Powering America](#) - A U.S. DOE Web site providing information on the Wind Powering America initiative, which is seeking to increase the use of wind energy in the United States.
- [American Wind Energy Association](#) - An advocacy group which promotes wind energy.
- [National Wind Coordinating Committee](#) - Consisting of representatives from government, industry, environmental and advocacy groups, the committee works to promote the sustainable development of wind energy.

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