Wind turbine size calculator



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Simply provide the information requested below. All links will open in a new browser tab or window.

To determine the average wind speeds for your area, first perform a quick View of Nationwide Wind Speeds to determine if your geographic region has any wind energy potential.

Note: If your state is not listed, it is because there is insufficient wind data available at this time.

Click below to see an estimated analysis of the wind turbine yearly output, tax incentives, installed costs and payback period.

Example: an offshore wind turbine with a radius of 80 meters at a wind speed of 15 meters per second has a power of 16.3 megawatts, if air density and efficiency factor have the given values.

The most important factor for a high power is the wind speed, which goes into the calculation at the power of three. Radius, respectively rotor blade length, goes into calculation squared, because the area through which the wind blows counts. The density of air is the higher, the higher the air pressure is (the lower the position above sea level), the colder and dryer the air is. Shape, number and orientation of the rotor blades contribute to the efficiency factor.

A three-bladed wind turbine with a radius of 58 meters. With a wind speed of 10 meters per second, this has an output of around 2.5 megawatts. This wind turbine was built in 2015 and has a nominal power of 4.2 megawatts.

Using these energy calculators provides rough figures. You should use the results to get a rough estimate of the size and cost of your required system. To get more accurate information it is advised that you consult an accredited renewable energy supplier.

For information about how wind turbines work, see the Wind Power article this web site.

Wind Turbine Calculators

The objective of using a wind turbine system calculator is to determine the size, cost and eventual cost savings of the wind turbine you will need based on your electricity requirements and access to wind. To best understand how these calculations are made it is advised to have a look at the "Terms" section below.

In order to understand the value of a wind turbine you need to know what the wind (and air) conditions are at the intended site. This includes:

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