

## Small Wind Power Overview

Wind Power technology as with Solar power is a viable renewable energy resource. Renewable energy technologies like microwind turbines are a way for you to save money over the long term and unlike fossil fuels they produce little or no carbon dioxide (CO<sub>2</sub>): a harmful gas and one of the biggest causes of climate change. Wind speed &ndash; which affects the amount of energy produced &ndash; increases with height. The ideal siting for a wind turbine is near a large body of water or on top of a hill or mountain ridge with adequate wind throughout the year, free from obstructions such as large trees. The smallest wind turbines available can be roof mounted, or larger, free-standing wind turbines can be installed on a mast.

How do microwind turbines work? Wind blowing over the turbine blades causes them to rotate, which spin a shaft within the turbine structure. The shaft drives a generator to produce electricity. The electricity is either used directly or stored in batteries. Most household wind turbines generate direct current (DC) electricity; an inverter turns this into alternating current (AC) electricity &ndash; normally used in the home. Remote areas, off the electricity grid, can use a stand-alone microwind turbine system, also known as an &lsquo;off-grid&rsquo; system. Off-grid systems use the electricity produced by the turbine to charge up banks of batteries. Wind turbines vary in both size and the amount of power they can produce. The rated power of a system is the amount of energy it can produce at a given point in time, under ideal wind conditions. The amount of electricity generated by a microwind turbine over a year will depend on a number of things, including wind speeds, location and nearby landscape, as well as the size of the system. As a rule of thumb, a 2.5kW would be able to generate almost the same amount of electricity that a typical household consumes in a year.