

Wind Turbines

Wind turbines convert the power in the wind into electricity, using rotating blades to drive a generator. The electricity produced can be used directly, used to charge batteries or linked directly into the national grid.

The power of a wind turbine increases exponentially in relation to the speed of the wind, and the diameter of the blades. This makes larger turbines with higher wind speeds more cost effective e.g. the energy payback for larger turbines in windy places is multiplied.

There are two types of domestic-sized micro wind turbine:

- mast mounted: these are free standing and are erected in a suitably exposed position
- roof mounted: these are smaller than mast mounted systems and can be installed on the roof of a home

If a micro wind turbine eligible for feed in tariffs (FiTs) is connected to the grid in a location with high wind speeds, consumers can sell excess or surplus generated electricity to an electricity supply company, and earn an added export tariff. If a wind turbine is not connected to the grid, surplus electricity can be stored in a battery. Wind turbines need to be appropriately sited on or off the electricity grid. The issue of intermittency has to be taken into consideration, as well as amenity issues in terms of noise and visual amenity.

NB - Field trials have demonstrated that small wind turbines need to be sited in appropriately windy and usually exposed locations to operate optimally. Approved installers can advise on the best locations and should be able to provide fairly accurate predictions on energy outputs. Energy outputs for wind are very site-specific, so at least a three month period of advance wind speed testing is recommended, as well as certified products and installation.



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end fuel
poverty and
achieve
warm, dry
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