

Wind power



Wind power is a form of sustainable energy derived from the conversion of wind into energy, usually electricity, by use of wind turbines. Turbines are usually built in large clusters, called wind farms, to provide a large net output. As of 2006, the total output of all wind turbines is around 74 gigawatts. However, wind power still only accounts for about 1% of the electricity used worldwide.

The first use of the wind as an energy source was windmills, which were used for pumping water, grinding wheat and other physical tasks. Chinese and Babylonian windmills are on record 400 years ago, and in the Middle Ages the structures arose that we are familiar with and can still

see today. The discovery of electricity negated the need for such devices, but recently we have turned back to using wind to provide us with sustainable power.

Modern wind turbines often comprise a large propeller, usually three-bladed, on top of a rotating shaft. They rotate to face the wind, which turns the blades. These are linked to a generator, which converts the movement into electricity and sends it to a transformer to be converted into the correct voltage. Turbines can be of any size and purpose, from industrial-scale to smaller, domestic types.



Smaller wind turbines are increasing in popularity for households, as they provide free and accessible energy whenever there is sufficient wind. The power gained from such turbines can range from roughly 100 watts to 50 kilowatts, making a significant reduction to electricity bills. Excess energy can also be sold back to the National Grid, thus making a profit.



One of the downsides to wind power is that harnessing it requires noisy, problematic equipment that many people consider to be an eyesore. In order to maximise power output most turbines have to rotate, which is often a loud operation. One alternative is vertical wind turbines, which do not need to rotate and so make no noise. They also have less mechanical workings to go wrong. However, they are still an invasion on the landscape.

In Britain, wind power is mainly governed by the British Wind Energy Association (BWEA). They also deal with wave and tidal power, and are the UK's leading sustainable

energy association. One of their recent projects, started in late 2003, is the development of offshore wind farms. These are less obtrusive than those inland, and sea winds have a large potential energy output. Such projects are already well established in Europe, and some early offshore wind farms are now producing power in Britain.

