



## Renewable Energy

### Wind power

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- Wind power is nothing new. It has been used for centuries to power ships and for milling and grinding in windmills. Today, modern wind turbines are used to generate electricity. These are particularly useful in the UK, where we have lots of wind.
- Wind turbines can be located on land or on offshore sites out at sea. The turbines consist of rotor blades made of fibreglass and wood rotating round a central hub containing a gearbox and generator.
- Sensors monitor wind direction and turn the tower head to face the wind, but power output varies depending on the wind speed and strength.
- One 600 watt (W) wind turbine can produce enough electricity to provide power for almost 400 houses.
- A collection of turbines together make a wind farm. A typical wind farm could extend to over a square kilometre area. However, only 1% of that land area would be taken out of use – the remainder could be used for farming.
- According to the UK Wind Energy Database, the UK currently has over 2,000 operational turbines, generating enough electricity to power nearly half a million homes.
- Wind turbines produce energy without giving off any pollution such as greenhouse gases. However, some people think they spoil the landscape, are dangerous for birds (especially if located near migratory routes) and cause noise pollution.
- They are also safe. No member of the public has ever been hurt by a turbine.
- Many consider a combination of wind and solar energy to be the best renewable energy option for the UK, considering our climate.



Turbines harness the power of the wind.

Country	Total capacity end 2007 (MW)
Germany	22,247
USA	16,818
Spain	15,145
India	8,000
China	6,050
Denmark	3,125
Italy	2,726
France	2,454
UK	2,389
Portugal	2,150
Rest of World	13,019
<b>TOTAL</b>	<b>94,124</b>

Top 10 wind power markets 2007  
Source: GWEC

#### Research Links

[www.ewea.org](http://www.ewea.org)  
[www.bp.com](http://www.bp.com)  
[www.bwea.com](http://www.bwea.com)