



By Tim Pullen

## Renewable Energy - A Definition

Renewable energy is the term used to describe energy flows that occur naturally and continuously in the environment, such as energy from the sun, wind, water, waves or tides. The origin of the majority of these sources can be traced back to either the sun (energy from the sun helps to drive the earth's weather patterns) or the gravitational effects of the sun and the moon. This means that these sources are essentially inexhaustible. In addition there is biomass - essentially anything that once grew and can be used as fuel, so wood, straw, elephant grass and rape seed are all examples. If these are grown in a sustainable way, they too provide renewable energy.



Renewable energy is an integral part of the Government's aim of reducing CO<sub>2</sub> emissions by 90% by 2050. The Government has set a target of 20% of electricity supply from renewable energy by 2020. In 2004, 3.6% of the UK's electricity supply came from all sources of renewable energy, with hydro power being by far the largest contributor.

The key issue is how to extract this energy as effectively as possible and convert it into more useful forms of energy. This can range from directly using the energy from the sun to heat water to using mechanical devices, such as wind turbines or biomass boilers.

The renewable energy available will tend to vary with the location of the project. The sun shines everywhere, but not every site can collect it. The key is selecting the technology that is appropriate and viable for your project.