

Energy & the Environment

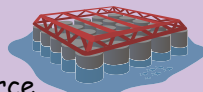


Renewable & Non-renewable Energy

Renewable

Wave

Waves are created by the wind blowing across the sea and by the gravitational force of the moon. Wave power uses the energy of the waves to turn turbines that make electricity.



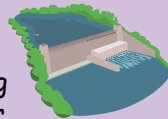
Geothermal

Geothermal power uses the heat that comes from deep rocks under the surface of the Earth. The temperature of the Earth increases towards its centre. The hot water or steam that comes from deep within our planet can be used to make electricity.



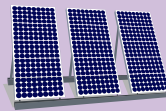
Hydro-electric

Hydro-electricity is generated from running water. Dams are built across a lake or river in a valley to trap water. The water flows through tunnels and turns the turbines which make electricity.



Solar

The Sun releases an amazing amount of energy due to the nuclear fusion of hydrogen taking place within its core. Solar panels, called photovoltaic cells are used to convert the Sun's energy into electricity. The Sun can also be used to heat water passing through special solar collectors.



Wind

Wind is made when the Sun heats the Earth and the area above land gets hotter than the area above water. The hot air above land rises upwards leaving an area of low pressure. Cooler air moves into this area of low pressure making wind which we use to turn wind turbines and make electricity. Wind used to be used to turn windmills to grind wheat into flour.



Biomass

Biomass uses the energy from plants and waste materials to make electricity. For example, wood or animal droppings can be burnt to make steam that turns turbines to make electricity.



Tidal

Tidal energy comes from the movement of water in the sea by the tides. These tides happen twice a day. The flow of water that is created by the tides is used to turn generators that make electricity.



Non-renewable

Oil & Gas

Oil and gas are fossil fuels which were formed in the Carboniferous period millions of years ago when tiny sea creatures called diatoms died and sank to the bottom of the oceans. As more and more layers of sediment covered the sea creatures, they were crushed by the massive pressures and the carbon in their bodies eventually turned to oil and gas. We burn this oil and gas in power stations today.



Nuclear

Nuclear fuel is made from radioactive Uranium Ore which occurs naturally in the ground, particularly in Australia, Canada and America. It is also known as yellowcake for its distinctive bright yellow colour. The yellow Uranium Ore is purified to provide the shiny Uranium metal used in nuclear power plants.



Coal

Coal is a fossil fuel which was formed in the Carboniferous period millions of years ago, (before the dinosaurs!), when the earth was covered with oceans, swamps, trees and plants! When the trees and plants died they formed a layer of peat, which over time became buried by more and more layers of clay, sand and rock. Over millions of years, the pressure of these extra layers turned the peat into the coal we put on our fires and fuel our power stations with today.

