

Renewable energy



What is renewable energy?

- Renewable energy comes from sources that won't run out, including:
 - the wind
 - the sun
 - the waves and tides
 - natural underground heat
 - energy crops, wood and waste.
- We can use renewable energy to provide electricity and heat for homes and businesses.

Why do we need renewable energy?

- Most of the electricity we use in the UK comes from non-renewable sources, such as coal and gas.
- These 'fossil fuels' are running out.
- Burning them to provide energy also releases gases that contribute to climate change.
- Renewable sources of energy don't run out or pollute the environment.

Why don't we get all our electricity from renewable energy?

- It is important to have a mix of energy sources so, if one fails, another can be used. Also, many renewable technologies are still being developed.

Wind energy

Giant machines, called wind turbines, can be used to make electricity in windy places.

Groups of wind turbines – or wind farms – are being built on land and out at sea.

Hydroelectric energy

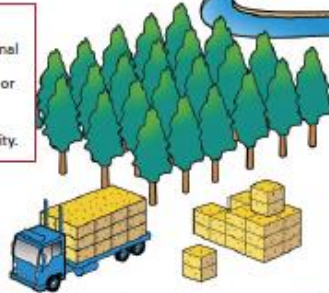
Hydroelectric energy means energy from moving water.

Water flowing from a reservoir to a river through a hydroelectric dam can be used to make power.

Biomass energy

Biomass is plant and animal matter (e.g. wood, straw, sewage and waste food), or trees grown for fuel.

We can burn biomass to produce heat and electricity.



Solar energy

Solar energy means energy from the sun.

The sun's light and heat can be captured by solar panels and turned into electricity or used to heat water.



Hydrogen fuel cells

Hydrogen fuel cells make 'clean' electricity from hydrogen gas.

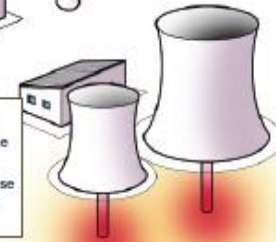
They work like batteries, and can power cars or buses.



Geothermal energy

Geothermal energy means the natural heat of the Earth.

Geothermal power stations use heat from deep underground to generate electricity.



Wave energy

Waves are made when wind blows across the sea.

The energy in waves can be used to make electricity by new technology such as the Pelamis wave machine.



Tidal energy

Every day, the tide at the seaside goes in and out, as the sea rises and falls.

Marine turbines can use this movement to generate electric power.



It's Only Natural

See www.dti.gov.uk/renewables/schools