

Energy Resources

Non-renewable

These will **run out** one day. They are **fossil fuels** (coal, oil and gas) or **nuclear** fuel (uranium and plutonium). Fossil fuels are burned to provide energy to produce electricity.

Renewable energy

These will **never run out**. They are being replaced at the same rate, or faster, than they are being used up.

Bio-fuels

A **renewable** energy resource made from **plants** or animal dung. Are burned to produce electricity.

Dependency on Fossil Fuels

Currently we depend of fossil fuels to meet energy demands:

- large increase in population size
- more appliances require electricity

Our electricity usage in the 21st century has decreased as appliance have become more efficient.

Oil is used to produce petrol and diesel as fuels for vehicles. Gas is burned to cook with and to produce heat in our homes.

We are trying to reduce our dependency on fossil fuels. By 2020 the UK aims to produce 15% of energy from renewable resources.

Uses for Heating

Non-renewables: **Natural gas** is the most common fuel burned to heat water in our heating systems. **Coal** can be burned in fireplaces. Electric heaters usually use electricity produced from a non-renewable source.

Renewables: **Geothermal** heat pumps can be used to heat homes. **Solar** water heaters use thermal energy from the sun to heat water. **Bio-fuels** can also be used to produce heat for a heating system.

People want more Renewable Energy

More people want to use energy produced by renewable sources because they know:

- burning fossil fuels is damaging the environment
- it is better to learn to get by without renewables before they run out

Governments have set targets for using renewables due to pressure from other countries and the public. This puts pressure on energy companies to make changes.

Electric and hybrid cars are becoming more popular.

Uses for Transport

Non-renewables: Petrol and diesel are made from **oil** and used to power vehicles such as cars. **Coal** is used in steam trains to boil water to produce steam to power the train.

Renewables: Some vehicles run on **biofuels**. Electric powered vehicles can be powered by renewables, such as **solar** cells.

Limits of Using Renewables

- **Costs** lots of money to build new power plants. Fossil fuels are very cost effective. People would have to pay for new power plants through energy bills or taxes from the government.

- **Difficulty placing new power plants** (they may spoil the landscape)

- Many are **not reliable**, such as wind power
- Improving reliability takes a lot of expensive research and takes a long time.

- **Personal changes can be expensive**. It is very costly to buy solar cells for your house or a hybrid car

These reasons are why we are dependent on non-renewable energy resources.