



Traditional coal

How was it formed?

Coal was formed around 300 million years ago when the world was covered with tropical forest.

In swampy places, plants died and fell into the water and mud.

There was not much oxygen. Bacteria that would normally rot the plants could not do so.

The plants and wood physically and chemically changed into coal over millions of years.

How is it used to generate electricity?

Coal is burned to heat water. This produces steam which pushes against the blades of turbines, causing them to spin. The turbines are connected to generators, which create electricity.

FACT

Coal

Status

Non-renewable

Where can you find it?

Wales, Scotland, northern England, China, USA, India, South Africa, Australia, Russia, Poland, Columbia and the Ukraine are the major producers

How many power stations in the UK?

17 (100MW and above)

The future?

Coal reserves should last until the end of the 22nd century. The existing coal-fired power stations are all quite old and most will need to close or fit new emission control equipment in the next 8-10 years

Advantages and disadvantages of using coal to generate electricity

Advantages

- Burning coal is one of the cheapest ways to generate power at the moment
- Coal power stations can be built anywhere where there are good transport links and where there is a plentiful supply of cooling water
- The world has many coal reserves

Disadvantages

- Burning coal produces carbon dioxide, which contributes to the greenhouse effect. It also produces sulphur dioxide, a gas found in acid rain
- Coal is not renewable. There are limited supplies which will run out one day
- Coal-fired power stations need huge amounts of fuel