

Types of Energy

Fossil fuels	Natural gas, coal and oil that is found in the earth and can be used to make electricity.
Fracking	A way of extracting oil and gas from deep inside the earth to provide more fossil fuels for energy.
Biofuels	A type of fuel or energy that is produced from living matter.
Hydro-electric power	Electricity that is produced from flowing water. The water drives a turbine that powers a generator.
Geothermal energy	Using the internal heat of the earth to produce power.
Solar Energy	This is the energy which harnesses the power of the sun through solar panels
Wind Power	Wind energy is harnessed by wind turbines which sit atop of the moors which surround us.
Nuclear energy	Using nuclear power (energy from the centre of an atom) to create energy.

Fossil Fuel Debates

Advantages	Fossil fuels can be burned at all times , unlike wind energy and sun energy which relies on weather conditions. The burning of fossil fuels will remain the most cost efficient and easy way to produce energy
Disadvantages	Burning fossil fuels produces high levels of pollution , which renewable energy doesn't. The sulphur dioxide released by burning fossil fuels causes acid rain , which harms trees and damages buildings.

Key Terms

Sustainable	Meeting the needs to today without sacrificing the future of human life on Earth.
Renewable	Types of resources that can be used repeatedly and will not run out (e.g. water).
Non-Renewable	Types of resources that can only be used once and will run out (e.g. coal).
Energy Mix	Range of energy sources of a country, both renewable and non-renewable
Electricity	Energy that is produced from charged particles.
Carbon emissions	Carbon dioxide is released into the atmosphere when fossil fuels are burnt. It causes damage to the ozone layer.
Greenhouse effect	The trapping of the sun's warmth in the atmosphere due to the increased carbon dioxide which stops it from escaping.
Air pollution	The presence of a substance in the air which causes damage or poisoning.
Acid rain	Rainfall that is made acidic due to pollution caused by burning fossil fuels.
Energy efficiency	using as little energy as possible and reducing energy waste.

Key Topics

Global Energy Use

- As fossil fuels are **running out**, the cost of them is increasing. This means that richer countries are able to afford more and are able to produce more energy. LIC's are the hardest hit.
- Iceland relies on 100% renewable energy.** Much of this comes from geothermal plants. In addition, **Costa Rica** has become 100% renewable by hydro-electric power.

Key Topics

UK Energy Sources

- UK's Energy Mix: **30% Coal, 30% Gas, 19% Nuclear Power and 21% Renewable energy.**
- The UK has **9 nuclear power stations** but by 2023 only one of these will still be running. **10,000** people died in Chernobyl (Ukraine) when a nuclear reactor exploded at a plant.
- The UK energy sources are rapidly changing towards renewables. The most significant increase has been from wind farms which are built in the sea.

Wind Energy debate

- All electricity is produced by turning a turbine**, but this can be done in many ways. On a wind farm, the wind spins the turbines.
- There is a debate in rural areas about if wind farms should be built. local people link they look ugly or they spoil the view. However, wind energy doesn't create greenhouse gases and employs local people.

Solar Energy

- Solar power is a good solution for developing countries. Around **1.6 billion people in the world have no electricity** and photovoltaic (PV) cells (turn sunlight to energy) are cost efficient.
- One major flaw with solar power is that it only produces energy during day light and clear days. This means that solar energy might not be effective on a rainy day in Yorkshire.

Reducing Energy Use

- There are many ways to reduce energy use. **70% of the heat from a house disappears through poor insulation.** Better designed homes could prevent this.
- A house can be made more energy efficient by installing double glazing windows, insulating walls and replacing old boilers.