

Energy Factsheet - Coal

Introduction - Energy is used for everything we do, and from the sun growing the food we eat, which then gives us energy to work, run and play, to powering our homes with electricity, using it to cook and clean. When energy is from a renewable source, like sun, wind and water, it is called "sustainable energy".

- **Energy** - Scientists describe energy as the ability of a body or system to do work. Energy is all around us and is constantly changing. When you feel the warmth of the sun on your back you're enjoying the heat energy from the sun. When you cook over a campfire you're using heat energy converted from the stored energy in the wood you're burning. There is energy in the food that we eat. This energy comes from plants who used the energy from the sun. And there is the energy we use for making electricity.
- **Electricity** - Electricity is a form of energy. We use this energy in almost every aspect of our lives: heating and cooling, cooking, lighting, charging phones and computers, watching TV and listening to music, and even for charging (some of) our cars.

About coal - Coal is a fossil fuel; it is formed from the fossilised remains of ancient forests. Many of these forests built up deep layers of peat (wet, rotten plant matter) at their base over time. As millions of years pass, this peat and the fallen trees are squashed by sediment that builds up on top of them. This squashing slowly turns into carbon-filled coal. The prime coal-forming time on Earth was during the perfectly named Carboniferous period (300-360 million years ago). We now find coal underground in "coal beds." Coal is considered a sedimentary rock and can be black or brownish-black in colour.

Coal burning is the main source of electricity in Australia; coal and gas (another fossil fuel) make up about 85% of the electricity generated in Australia. All around Australia there are large coal mines created to extract (remove) coal. The coal is then transported to a power station where it is burned and the heat created is used to generate electricity.

The problem with coal as an energy source is that in the process of burning coal, the carbon dioxide that is stored in the coal get released into our atmosphere and stays there. Heat from the earth gets trapped beneath this layer of carbon dioxide creating the

greenhouse effect. As the earth gets warmer (global warming) it causes changes in our climate systems (called climate change).

