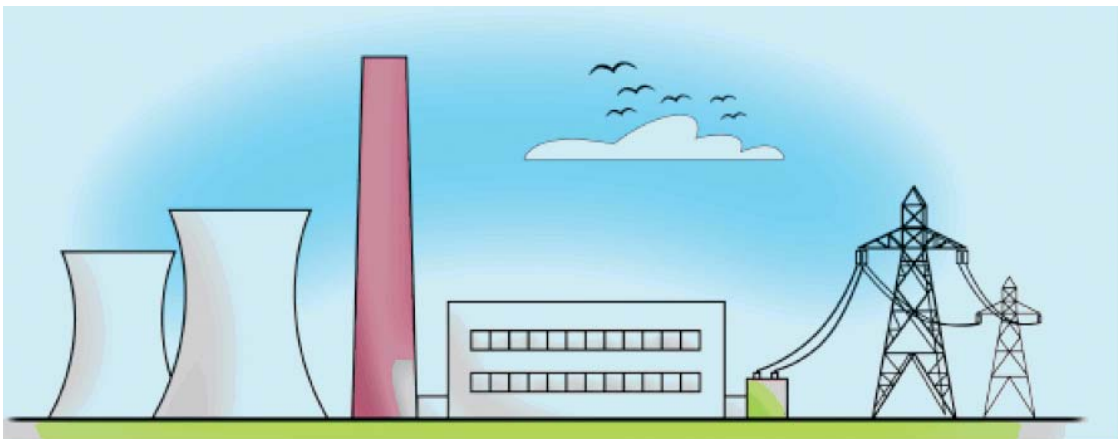




# What is non-renewable energy?

Renewable Robbie loves playing the playstation, watching DVD's (his favourite is Spiderman!) and listening to CD's. He wants to know where his electricity comes from. He visits a Power Station to find out a lot of information!

Have you ever seen a Power Station?



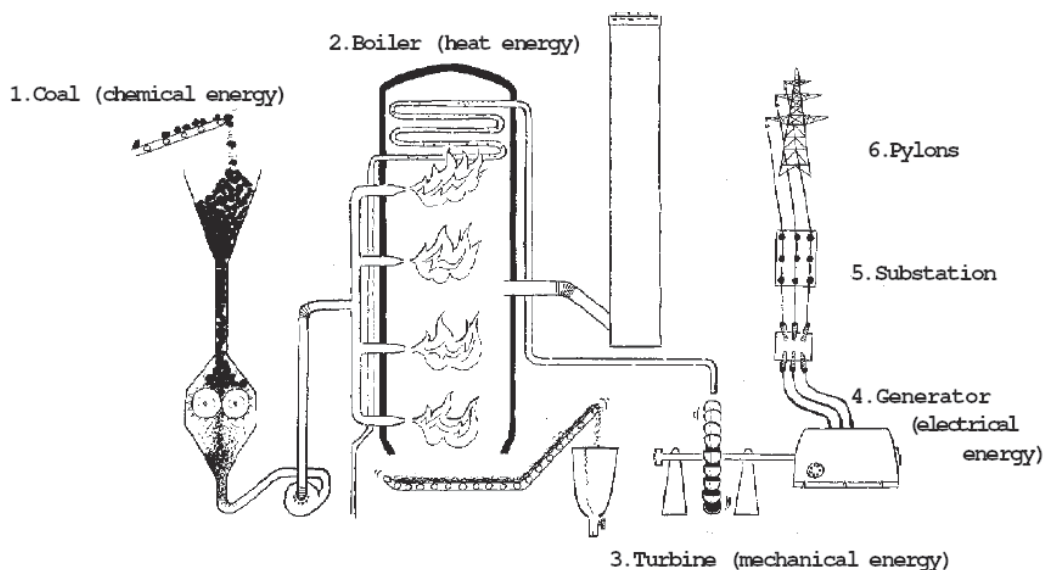
Sourced DTI

Coal, oil and gas are used to make electricity in power stations. This is the process:

1. Firstly, fuel such as coal, oil or gas is burned in a boiler. The boiler is like a huge kettle and produces steam.
2. The steam is superheated to over  $500^{\circ}\text{C}$  and sent through pipes to the turbine.



3. The steam passes through the blades at the turbine and makes them spin 3000 times in a minute!
4. The turbine is connected to a generator, a large magnet with lots of wire. When the magnet spins 3000 times in a minute, it produces electricity.
5. The electricity is passed to the substation where transformers make it stronger so it can pass through wires held up by pylons.
6. The electricity passes through the wires to our homes, schools, hospitals, Churches ... and so on and so on!



Renewable Robbie discovers that coal, oil and gas are called fossil fuels because they were formed hundreds of millions of years ago even before dinosaurs! They come from the remains of dead plants and animals!





Coal is found under the ground. It is made from trees and plants which were alive millions of years ago. It is taken out of the ground from coal mines.



**Oil and gas** are formed under the sea. They are made of tiny sea creatures and plants which have sunk to the bottom of the sea and begun to rot away. The rotting material turns into a dark liquid, forming a layer of gas on top of the oil.

Coal, oil and gas are **non-renewable**. Renewable Robbie finds out that **non-renewable** energy is energy that will eventually run out. Once non-renewable energy is used up, there won't be any more! Renewable Robbie feels sad about this because he knows he uses a lot of electricity and he thinks people in the future might not be able to enjoy play stations, CD's or TV's.

**Now, join Renewable Robbie for some activities on non-renewable energy!**

