



Teacher Resource - How have we contributed?

How have we contributed?

As mentioned earlier, there are three main areas of human activity which scientists believe have caused global warming.

Burning fossil fuels

Coal, wood, natural gas and oil are known as fossil fuels as they are formed from the remains of plants and animals which lived millions of years ago. These fuels are essential to modern life as we burn coal to produce electricity and oil is used for petrol.

However, burning these fuels adds to the greenhouse gases in the atmosphere. When you set fire to a fossil fuel, a by-product of this is carbon dioxide. Another group of greenhouse gasses released when a fossil fuel is burned (e.g. petrol (oil) in a vehicle's engine) is nitrogen oxides.

Deforestation

Trees naturally absorb carbon dioxide from the atmosphere. They use it to make energy for them to live, by combining it with the energy from the sun's rays and water taken up by their roots in a process known as photosynthesis. Trees are therefore very important in helping to control the amount of carbon dioxide in the atmosphere.

People thousands of years ago lived by hunting and collecting food from the wild. They therefore had to continually move location in order to find enough to eat. Then, about 10,000 years ago, people began to grow crops and keep animals for food. To allow room for farming, humans began to clear forests and replace them with fields for crops and animals. Since farming began, over half of the world's forests have been cleared. This means that we have far fewer trees to take up the carbon dioxide in the atmosphere. Worse still, one of the main methods of clearing forests is setting fire to trees. Half of every tree is made up of carbon dioxide and this is only released when it is burned. Therefore, this combined with the burning of other fossil fuels has led to more and more carbon dioxide being put into the atmosphere than ever.

Landfill sites and animal waste

When our rubbish is taken away, it usually gets taken to a landfill site where it is compacted together. Any organic waste (i.e. materials which are natural or derived from naturally occurring materials) in this rubbish is rammed down by big machines along with everything else and most of the air is squeezed out. This means that any aerobic bacteria (bacteria which requires oxygen) dies and only bacteria which can survive without oxygen – anaerobic bacteria – remains.

The decay process which anaerobic bacteria undertakes is slow and produces methane – a powerful greenhouse gas (even more damaging than carbon dioxide). Since we have been producing and dumping rubbish for hundreds of years, the amount of methane gas which this waste material produces is huge. Added to the effects of all this waste produced by humans is the waste of our livestock which similarly as it decays, produces methane.