The effects of the combustion of fossil fuels

Fossil fuels, including coal, oil and natural gas, are non-renewable energy sources, this means they cannot be used again once it has been used already. A renewable energy source is the opposite, it means that something that can be used over and over again, like the sun. Other renewable sources of energy include wind and water. Fossil fuels are hydrocarbons, they're the remains of ancient organisms. Fossil fuels have become vital to the society we live in today. Over 85% of the energy we use for everyday things like televisions, cars and computers are powered by the combustion of fossil fuels. However, fossil fuels will eventually run out since they are non-renewable, and it would take millions of years for them to form again!

Combustion (burning) is the process of breaking up atoms to release energy in the form of light and heat. Combustion of fossil fuels releases all the energy stored in the plant and animal remains.

An advantage of using fossil fuels as an energy is that it is easier to convert into usable energy than hydroelectric and nuclear. Also, nuclear can be potentially dangerous

When coal is burnt it emits a large amount of carbon dioxide into the environment and the carbon dioxide released is not efficiently used by some other processes like photosynthesis to eliminate it from the atmosphere.

Corrosion effects metals and stone. Sulphur dioxide plays a major role in atmospheric corrosion; it has a solubility in water and forms sulphuric acid. When metals are moist in the presence of sulphuric acid, it corrodes (rusts). To prevent this, metals can be painted over to protect it against corrosion.

Another way corrosion can occur is when rain containing sulphuric acid (acid rain) rains.

Coal is mainly consisted of organic matter, but there are, however, inorganic substances present. It is this inorganic material that are responsible for health and environmental problems connected to coal combustion.

Another disadvantage of coal and oil combustion is that they both contribute massively to the greenhouse gases in the atmosphere, and this can lead to global warming.

This reaction is exothermic, meaning heat is given out.

Sulphur is also a constituent of the elements found in coal. During the process of combustion, if it reacts with the oxygen in the air, sulphur dioxide is formed. This chemical compound is toxic and it rises up to the clouds, when the clouds get heavy with water vapour, it starts to rain. With sulphuric acid, it can cause the rain to become acidic, this is known as acid rain.

Nitrogen is also found in fossil fuels. When fossil fuels are burnt, nitrogen reacts with oxygen to form nitrous oxides, which are toxic and they are believed to be a cause of asthmatic conditions. Additionally, nitrous oxides may contribute to acid rain when it reacts with water to produce nitric acid.

The PH of acid rain changes due to the sulphur dioxide and nitric acid, it becomes more acidic. When acid rain rains, the rain travels to oceans and lakes, making their PH slightly more acidic. Acid rain can cause statues and buildings to gradually deteriorate and plants to die out.

Also, the acidic rain could have an effect on statues and buildings, particularly the ones constructed from sedimentary rock (sandstone, limestone etc.), because they weather (chemically) easier than metamorphic and igneous rocks due to their crumbliness and less dense form.

Carbon is a product of coal combustion, it is left over in the form of soot. Soot is a black powder that sticks onto buildings and statues to produce stains.

As well as contributing to acid rain, sulphur (waste product) is also dumped into the lakes, which are inhabited by organisms such as fish, in high quantities. This effects the quality of water in the lakes and other water sources, it may kill organisms living in them and also native fauna that drink the toxic water. So this could that there is a decrease in some species, which could have a dramatic effect on food chains and cause other animal populations to decrease as well.

The products of fossil fuel combustion can cause things like air pollution, land pollution and water pollution.

Acid rain enhances the erosion of rocks, especially sedimentary rocks.

Smog is a pollutant in the atmosphere, it is a mixture of fog and smoke produced when coal is burnt. Smog is dangerous and could potentially cause many respiratory illnesses. It is made up of a mixture of carbon dioxide and toxic sulfur dioxide.