

Climate change

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BLOGS

EDUCATION

PUBLICATIONS

RESOURCES



The challenges of climate change

By Kristen Rowley on 8th May 2019



Climate change has short and long-term effects on our lives. It could even affect the future of our planet. So, what is climate change and what can we do about it?

What is climate change?

The climate is the usual weather conditions that occur in a place over a long period.

The world's climate naturally changes over a long period of time, however the current rate of change is unprecedented and has been linked to human actions. This large-scale and human-caused change to climate is called 'climate change'.

The main cause of climate change is global warming. Global warming is the increasing temperature on Earth over time. Since 1880, Earth's average temperature has increased by about 1°C.



What causes global warming?

Burning fossil fuels

Many organisations, such as NASA, say global warming is caused by burning fossil fuels, like coal and oil, to produce energy. There is a layer of gases around Earth called the atmosphere. When fossil fuels are burnt, gases including carbon dioxide are released into the atmosphere, which trap heat and cause the planet to get warmer. This is called the greenhouse effect. Burning fossil fuels produces about 65% of human greenhouse gas emissions (gases and particles put into the air).



Climate change

Deforestation

Deforestation also contributes to global warming. When trees are cut down or burnt for fuel, they release carbon into the atmosphere. Deforestation produces about 12% of human greenhouse gas emissions. Trees also take in carbon dioxide, one of the gases that cause global warming. When trees are cut down, they can't reduce carbon dioxide in the atmosphere. Over a million square kilometres of forests were destroyed between 1990 and 2016.



Eating meat

A surprising cause of global warming is animals that are raised for meat. It takes a lot of energy to keep animals well-fed, warm and healthy. In addition, animals produce a lot of waste, including methane gas, which contributes to the greenhouse effect. Because of these factors, around 15% of human greenhouse gas emissions are produced by raising animals for meat.

Population increases

As the population increases, so does the demand for oil, gas, coal, and other fuels, for travel, building and food production. The need for more space, means increased deforestation and loss of habitats.

What is the impact of climate change?

The impact of climate change is wide-reaching and affects many aspects of life on Earth:

- Sea levels are rising because of the temperature increase. Water expands when it warms so it takes up more space in the sea. Glaciers and ice sheets are also melting with the meltwater running into seas and oceans. Sea levels have risen about 20cm in the last century and the rate is increasing every year.
- There is a greater risk of floods due to rising sea levels, especially in coastal areas and small islands.
- Extreme weather events, such as hurricanes and cyclones, are becoming more common. Droughts make crops harder to grow and means there is less drinking water.
- Plant and animal species are becoming extinct because of the heat, lack of water and loss of habitat. Over a million species of plants and animals are at risk.



Climate change

What actions have been taken?

Many world leaders and countries are worried about the effect of climate change on the world.

The United Nations, an organisation that maintains peace and security, has set targets for countries to reduce harmful gas emissions. Almost 200 countries have agreed to do this. The aim is to make sure temperatures do not rise more than 1.5°C above the levels they were at before humans started burning fossil fuels.

Many countries are exploring alternatives to burning fossil fuels, including solar, wind, tidal and hydroelectric power.

Some big cities, such as London, have schemes to reduce cars on the roads. There are bikes people can hire to cycle into work and people that drive into central London must pay a sum of money called a congestion charge.



What can everyone do?

Carbon dioxide is released into the air as a result of human activities and the amount of carbon dioxide produced by each person is called their 'carbon footprint'.

These are the four main ways to significantly reduce each person's carbon footprint:

- Having one fewer child means that each family would produce less carbon emissions.
- Living car-free also has a big impact because cars produce a lot of greenhouse gases.
- Because aeroplanes produce greenhouse gases, taking one less long-haul flight per year significantly reduces carbon emissions.
- Eating less meat, especially beef, also reduces a person's carbon footprint because of the energy needed to raise animals for food.



What can you do?

There are other ways that a person can reduce their carbon footprint:

- Reducing waste and reusing items, such as plastic bags and envelopes, helps to reduce carbon emissions. Every new object is manufactured and transported to shops. These processes produce greenhouse gases.
- Recycling reduces carbon emissions because it uses less energy than manufacturing new items.
- Giving unwanted possessions to charity shops means people can buy second-hand goods rather than new items.
- Turning electrical items off at the wall socket when they're not in use means less fossil fuels are burnt to produce electricity.

There are many things we can do to stop climate change from getting any worse and it is the responsibility of everyone on Earth to do what they can to reduce their carbon footprint.

