

THE CLIMATE EMERGENCY

“If we don’t take climate action, the collapse of our civilisations and the extinction of much of the world is on the horizon.”

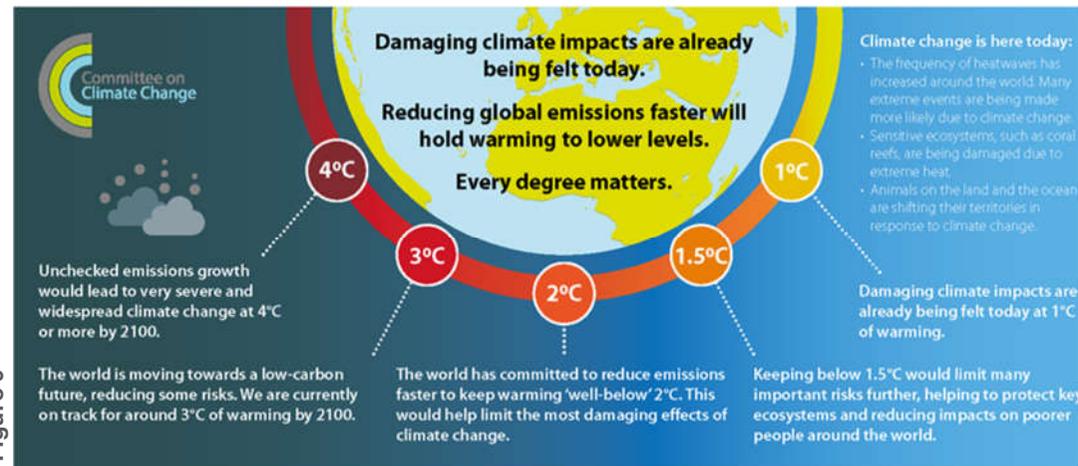
Sir David Attenborough

Climate change is a large-scale, long-term shift in the planet's weather patterns and average temperatures. It can happen naturally due to a variety of factors, such as changes in the Earth's orbit around the sun, the output of solar radiation, and geological activity. However, it is now acknowledged that human sources of emissions are partly responsible for the levels of greenhouse gases currently in the atmosphere. These concentrations are “extremely likely” to have been the dominant cause of the observed warming since the mid-20th century.

We are already experiencing a 1°C rise in average global temperatures since pre-industrial levels. In 2015, countries around the world signed the Paris Agreement with the aim of rapidly cutting greenhouse gas emissions in order to keep global warming below 2°C, while pursuing efforts to keep it below 1.5°C.

Every degree matters – Small changes in average global temperature will have a very large effect. The Intergovernmental Panel on Climate Change (IPCC) has since advised that, whilst a global warming of 1.5°C would lead to catastrophic impacts to health, livelihoods, food security, water supply, human security, and economic growth, these would be even worse at 2°C.

Within the UK, the government advisory panel on climate change, the Committee on Climate Change (CCC), has highlighted that the world's current emissions trajectory is likely to lead to a 4°C rise of global temperatures and that deep and rapid action is required. A 4°C rise would see significantly worse impacts and scientists are concerned that rising temperatures could lead to further releases of greenhouse gas emissions from natural sources. This, in addition to a reduction in polar ice caps may lead to ‘run away’ climate change.



Time is short – We (the world) are emitting 55 billion tonnes of carbon dioxide equivalent per year. Scientists estimate that if we emitted no more than 580 billion tonnes, this would give us just a 50% chance of keeping within 1.5°C (420 billion tonnes would give us a 66% chance). Therefore, we have only 8-10 years at the current rate, within which serious action is required to avert this crisis and avoid the worst impacts.

The impacts of climate change

Anthropogenic climate change is already happening. We are already seeing impacts, such as warmer temperatures with more heatwaves and less frost days, increased rainfall and flooding, and increased wind and storm intensities. This is as well as rising sea levels and temperatures, changes in biodiversity, increased range of pests and diseases, and changing seasons.

The Met Office has modelled the possible future climate in the UK, based on different patterns of emissions, between a scenario where we achieve rapid emission reduction to a business-as-usual scenario where we see continued increase in emissions. The scale of climate change impacts will depend on how successful the world is at curbing greenhouse gas emissions, but overall, the models predict -

- **AVERAGE TEMPERATURES WILL RISE** by between 1-7 degrees – with increased intensity and frequency of heat waves and hotter summers.
- **RAIN FALL PATTERNS WILL CHANGE** with warmer wetter winters and hotter drier summers. When it rains in summer, there will be more intense storms.
- **AVERAGE SEA LEVEL WILL RISE** by between 27-115cm in the Southwest by 2100 (with more later), significantly increasing risk to coastal communities and greater danger from storm surge or high tides.

The Committee on Climate Change identified the following six key areas of inter-related climate change risks for the UK as the most

important, due to their magnitude now and in the future.

- 1 FLOODING & COASTAL CHANGE RISKS TO COMMUNITIES, BUSINESSES, & INFRASTRUCTURE** - affecting property values, business revenues, and, in extreme cases, the viability of communities.
- 2 RISKS TO HEALTH, WELLBEING, AND PRODUCTIVITY FROM HIGH TEMPERATURES** – tripling premature heat-related deaths by the 2050s within an aging population
- 3 RISK OF SHORTAGES IN THE PUBLIC WATER SUPPLY, AND FOR AGRICULTURE, ENERGY GENERATION, AND INDUSTRY** – putting increasing pressure and competition on industry, farming, and the public water supply, and the ecological status of rivers, lakes, estuaries, and groundwater.
- 4 RISKS TO NATURAL CAPITAL, INCLUDING TERRESTRIAL, COASTAL, MARINE, AND FRESHWATER ECOSYSTEMS, SOILS AND BIODIVERSITY** – Impacting the UK's native wildlife and availability of the vital goods and services provided by natural capital, including food, timber and fibre, clean water, carbon storage, and the cultural benefits derived from landscapes.
- 5 RISKS TO DOMESTIC AND INTERNATIONAL FOOD PRODUCTION AND TRADE** – supply chains, leading to volatile food prices, and increasing the need for effective stewardship of natural resources here and overseas to maintain the resilience of the UK food system in the long-term.
- 6 NEW AND EMERGING PESTS AND DISEASES, AND INVASIVE NON-NATIVE SPECIES, AFFECTING PEOPLE, PLANTS, AND ANIMALS** - having widespread impacts on communities and economies, and are very expensive to manage once established.