

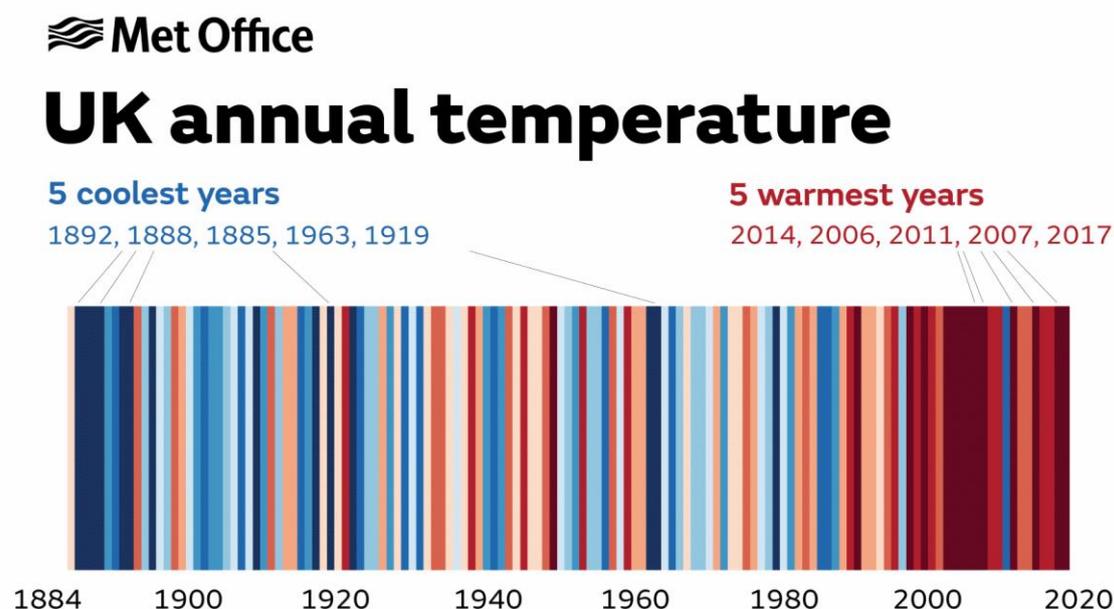
Climate change 101

Stuart Bird 24 July 2021

How did we get here?

In the 11,000 years before the Industrial Revolution, the average temperature across the world was stable at around 14°C. The Industrial Revolution began in the mid-1800s when humans started to burn fossil fuels such as coal and oil. Burning fossil fuels produces energy, but also releases greenhouse gases such as carbon dioxide and methane into the air. Over time, large quantities of these gases have built up in the atmosphere. Once in the atmosphere, greenhouse gases form a 'blanket' around the planet. This blanket traps the heat from the sun and the earth heats up. This causes global temperatures to rise, resulting in long-term changes to the climate. Source: [UK Met Office](#).

The image below shows the pictorially how the average temperatures in the UK have increased markedly in the last 150 years. This image shows that the five warmest years have all occurred since 2006. Cooler years are blue, while warmer years are red.



United Nations Framework Convention on Climate Change

The United Nations Framework Convention on Climate Change ([UNFCCC](#)) established an international environmental treaty to combat "dangerous human interference with the climate system", in part by stabilizing greenhouse gas concentrations in the atmosphere. It was signed by 154 states at the United Nations Conference on Environment and Development (UNCED), informally known as the Earth Summit, held in Rio de Janeiro from 3 to 14 June 1992. The treaty called for ongoing scientific research and regular meetings, negotiations, and future policy agreements designed to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

The yearly conferences held are called the Conference of the Parties or COP and there have been 25 such meetings since COP1 in 1995. [COP26](#) is being held in November 2021 in Glasgow and will be chaired by the UK government.

The Kyoto Protocol, which was signed in 1997 (COP3) and ran from 2005 to 2020, was the first implementation of measures under the UNFCCC. The Kyoto Protocol was superseded by the Paris Agreement (signed at COP21), which entered into force in 2016. As of 2020, the UNFCCC has 197 signatory parties. Its supreme decision-making body, the Conference of the Parties (COP), meets annually to assess progress in dealing with climate change.

IPCC

The Intergovernmental Panel on Climate Change (IPCC) is an intergovernmental body of the United Nations that is dedicated to providing the world with objective, scientific information relevant to understanding the scientific basis of the risk of human-induced climate change, its natural, political, and economic impacts and risks, and possible response options. Source: [Wikipedia](#).

In 2018, the [IPCC](#) set out the impact of global temperature rise of 1.5°C from pre-industrial levels.

The report warns of increasingly extreme weather events with rising sea levels and melting glaciers; wildlife becoming threatened and at risk of extinction and our own health deteriorating; food becoming scarce and clean water running dry; tensions rising between people and increasing migration and environmental refugees as people flee inhospitable parts of the Earth.

The Paris Agreement

The 2015 Paris Agreement – an international treaty signed by 194 countries – commits the world to act to hold global temperature rises to below 1.5°C. However, Patricia Espinosa, Head of the United Nations Framework Convention on Climate Change has noted that governments are nowhere close to the level of ambition needed to limit climate change to 1.5°C and meet the goals of the Paris Agreement.

UK Parliament declares climate change emergency

On 1 May 2019 a bipartisan UK Parliament passed an extraordinary measure: a national declaration of an Environment and Climate Emergency. The UK was the first national government to declare such an emergency.

In April 2021 the government enshrined CO₂ reduction targets in law; namely to achieve net zero carbon emissions by 2050 and achieve a [cut in emissions of 78%](#) by 2035 (compared to 1990 levels).

Essex Climate Action Committee

The [Essex Climate Action Commission](#) is an independent body set up by Essex County Council to advise the Council on how best to tackle the climate challenge and become a net zero emissions county.

The commission has recently published a wide ranging set of [recommendations](#) on how to tackle the climate emergency, covering topics such as power generation, new homes design, existing homes upgrades and transportation. A key part of the recommendation focus on community engagement and on community energy.

Community Energy

[Community energy](#) refers to the delivery of community-led renewable energy, energy demand reduction and energy supply projects, whether wholly owned and/or controlled by communities or through partnership with commercial or public sector partners.

Two community energy groups have recently been launched in Essex, making them the first ones of this kind in the county – Saffron Walden Community Energy group and Colchester Community Energy. Following on from the success of Solar Panel installations on Danbury Park and St Johns schools.

Following on from the success of Solar Panel installations on Danbury Park (shown on the right) and St Johns schools a group has formed in Danbury also.

Called [Sustainable Danbury](#) the group is currently putting together business plans around the installation of further solar panels on local building such as schools, and local businesses.

At Sustainable Danbury we are promoting the use of smaller scale locally owned solar PV through a Community Benefit Society where profits are used for the benefit of local people and causes. We are encouraging householders and business and organisations to deploy Solar PV for their own benefit but are also providing a mechanism for community investment in Solar PV.

Solar projects through a local community owned society will give the opportunity for local people to have a greater influence over decisions such as the size and location of solar projects as well as influence over how the benefits are shared.

