

CLIMATE CHANGE: THE BASICS

This briefing note is intended to help inform your reporting by providing a quick guide to the science, editorial policy considerations and the BBC's Greener Broadcasting strategy as well as outlining some common misconceptions.

THE SCIENCE: Climate change **IS** happening

"It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century." - [IPCC's Fifth Assessment Report](#)

This statement comes from a 2014 report by the UN's [Intergovernmental Panel on Climate Change](#) (IPCC) which drew on the expertise of a huge number of the world's top scientists. It assessed the scientific evidence of climate change and concluded that the most recent warming is man-made. It remains the most recent comprehensive survey of both science and policy and is due to be updated later this year.

What is climate and climate change?

- **Climate** is the average of weather over time and across large regions, even the entire planet. Weather is what is happening in one place at one time.
- **Climate change**, on the other hand, occurs because the amount of energy in the entire climate system is changed, leading to some form of impact on that system.
- There are always natural changes in the climate (with ocean cycles like El Nino or changes in the Sun) but there are also impacts from human activities.
- In News, we tend to use the phrase 'climate change' to mean human-driven warming.

The IPCC forecasts a range of possible scenarios based on computer modelling. Most simulations indicate a global surface temperature change by the end of the 21st century and that this is very likely to exceed 1.5C, relative to 1850. Some models suggested we are on course to exceed 2C compared to the pre-industrial average. Most climate scientists regard a rise of 2C as the point when global warming could become irreversible and the effects dangerous. At current rates, we are on track for a rise of more than 3-4C by the end of the century.

See: [What is climate change? BBC News online](#) and Common Misconceptions (at end of this briefing)

IMPLICATIONS

The impact of climate change in the long-term is difficult to predict but there is a general consensus that it could be devastating in many different ways. Some predict impacts on everything from [food](#) supplies to [financial](#) and [security](#) infrastructure.

As we wait for the sixth IPCC assessment, a leading specialist website [CarbonBrief](#) has provided a summary of the first study to compare the impact of reaching [1.5C vs 2C](#). The study, published in Earth System Dynamics in April 2016, predicts:

- At 1.5C: Sea-levels will have risen by 40cm in 2100 compared to 2000, 90% of the coral reef is at risk of bleaching from 2050 and wheat production could be down 9% relative to 1986-2005
- At 2C: Sea-level will rise by 50cm, the risk of coral bleaching increases to 98% and wheat production could be down 16%.

In some areas, rising levels of carbon dioxide and a slight rise in temperatures may benefit some forms of agriculture. Yields in a few crops may increase, but above certain temperatures, and with water becoming scarcer, those yields are then predicted to fall later this century.

EDITORIAL POLICY

Climate Change has been a difficult subject for the BBC, and we get coverage of it wrong too often. The climate science community is clear that humans have changed the climate, but specifically how is more difficult to evidence. For instance, there is very high confidence that there will be more extreme events – floods, droughts, heatwaves etc. – but attributing an individual event, such as the UK's winter floods in 2013/2014, to climate change is much less certain.

We must also be careful to distinguish between the statements. For example: "Climate change makes this kind of event both more frequent and more severe," and "Climate change caused this event". The former uses previous scientific evidence to say 'it is likely' the event is the result of climate change, whereas the latter may be making an assertion without the proof to back it up.

What's the BBC's position?

- **Man-made climate change exists:** If the science proves it we should report it. The BBC accepts that the best science on the issue is the IPCC's position, set out above.
- **Be aware of 'false balance':** As climate change is accepted as happening, you do not need a 'denier' to balance the debate. Although there are those who disagree with the IPCC's position, very few of them now go so far as to deny that climate change is happening. To achieve impartiality, you do not need to include outright deniers of climate change in BBC coverage, in the same way you would not have someone denying that Manchester United won 2-0 last Saturday. The referee has spoken. However, the BBC does not exclude any shade of opinion from its output, and with appropriate challenge from a knowledgeable interviewer, there may be occasions to hear from a denier.
- There are occasions where contrarians and sceptics should be included within climate change and sustainability debates. These may include, for instance, debating the speed and intensity of what will happen in the future, or what policies government should adopt. Again, journalists need to be aware of the guest's viewpoint and how to challenge it effectively. As with all topics, we must make clear to the audience which organisation the speaker represents, potentially how that group is funded and whether they are speaking with authority from a scientific perspective – in short, making their affiliations and previously expressed opinions clear.

CLIMATE CHANGE POLICIES

The World Stage

In December 2015, the [Paris Agreement](#) was signed by almost 200 countries. It was the first time in history that almost all the world's nations agreed to tackle climate change together.

The key elements of the agreement are:

- To keep global temperatures "well below" 2C above pre-industrial times and "endeavour to limit" them even more to 1.5C. We're on course to break both targets.
- To limit the amount of greenhouse gases emitted by human activity to the same levels that can be absorbed back, either naturally through trees, soil and oceans or through Negative Emissions Technologies, beginning at some point between 2050 and 2100. The technology to do the latter, however, is not yet proven.
- To review each country's contribution to cutting emissions every five years so they scale up to the challenge. There are major disputes over how this will work.

- For rich countries to help poorer nations by providing "climate finance" to adapt to climate change and reduce their greenhouse gas emissions. President Obama had promised much of this, but President Trump has cancelled it.

However, the pledges by governments in 2015 would still see global temperatures rise by at least 2.7C above pre-industrial times by 2100. A further obstacle is America and President Trump's plan to withdraw from the Paris deal. The United States cannot pull out until November 2020 (after the next US presidential election) but because the deal is voluntary, the US can simply do nothing.

While these issues are not seen as a reason for the Paris agreement to unravel, other countries like China may now choose to act more slowly as a result. The Paris Agreement lays out a roadmap for accelerating progress, which is being discussed at COP24 in Katowice in December 2018.

See: [What is the Paris Climate Agreement? BBC News online](#)

The Domestic Stage

As well as [ratifying the Paris Agreement two years ago](#), Britain has the [Climate Change Act 2008](#). It commits the UK to reducing CO2 emissions by 80% by 2050 from 1990 levels, with a five-yearly carbon budget to track progress.

The 2008 Act also established an independent statutory body, the [Committee on Climate Change \(CCC\)](#). The CCC advises the government on its progress regarding emissions targets, and its obligations in relation to the Act.

In April 2018, the government sought advice from the CCC to explore the impact of setting a target of zero net carbon emissions by 2050.

The BBC's Greener Broadcasting strategy

In 2018, the Corporation launched a Pan-BBC strategy, Greener Broadcasting, to create a business that is environmentally sustainable and doing its part to tackle environmental factors that could impact our futures. The strategy is in three-parts: Ourselves, Our Industry and Our Audiences. Its goal, over the course of the current Charter period, is to create a positive environmental impact.

'Ourselves' looks at creating a sustainable workplace, including our ways of working as BBC employees and our ways of running our buildings and operations.

'Our Industry' is about working with other organisations in the production and transmission sectors as well as in our wider supply chain to see how, together, we can reduce carbon emissions and learn best practice from each other.

'Our Audiences' ensures that we, as the BBC, are informing and educating the public, allowing them to make informed choices about their own behaviours around sustainable living.

COMMON MISCONCEPTIONS by Science Media Centre

'Not all scientists think man-made climate change is real'

The vast majority of climate scientists agree on the fundamentals of human-induced climate change, but there is healthy debate about the extent of that change and what to do about it. Just as with smoking and lung cancer, the weight of evidence strongly suggests that human factors have caused and will cause climate change. All national academies of science agree on the existence of man-made climate change, while most scientists who disagree work outside climate science.

'The UK has had cold winters and poor summers'

Weather is not climate and we must look at averages over a long period like 30 years. It is risky to jump to conclusions about climate change by looking at small areas like the UK. At the global level, local variations average out and it is easier to make clear statements.

'Climate change has happened before'

Variations in the climate have occurred, such as the Medieval Warm Period and the Little Ice-Age. There could be various causes such as solar activity but that does not change the fact that more CO₂ will cause warming.

'Warming is causing more CO₂, not the other way round'

Ice-core records do show that CO₂ levels rise when the Earth comes out of an ice-age. However, warming and CO₂ levels cause each other, so if either happens the other will follow.

'We're doomed, and there's nothing we can do about it'

Some claims about the severity of climate change have gone beyond hard evidence. For instance, climate change has been speculatively linked to high numbers of deaths, and it has been claimed we are close to catastrophic 'tipping points'. While tipping points are genuine scientific possibilities they are hard to predict with any certainty. Meanwhile, there is much we can do to prepare for and to slow climate change.