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## Facts about the climate emergency



UNEP

### What you need to know about the Climate Emergency

The science of climate change is well established:

- Climate change is real and human activities are the main cause. (IPCC)
- The concentration of greenhouse gases in the earth's atmosphere is directly linked to the average global temperature on Earth. (IPCC)
- The concentration has been rising steadily, and mean global temperatures along with it, since the time of the Industrial Revolution. (IPCC)
- The most abundant greenhouse gas, accounting for about two-thirds of greenhouse gases, carbon dioxide (CO<sub>2</sub>), is largely the product of burning fossil fuels. (IPCC)
- Methane, the primary component of natural gas, is responsible for more than 25 per cent of the warming we are experiencing today. It is a powerful pollutant with a global warming potential over 80 times greater than CO<sub>2</sub> during the 20 years after it is released into the atmosphere. (Methane Emissions fact sheet, UNEP)

The Intergovernmental Panel on Climate Change (IPCC) was set up by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) to provide an objective source of scientific information on climate change. In 2013, the IPCC provided a globally peer-reviewed report about the role of human activities in climate change when it released its Fifth Assessment Report. The report was categorical in its conclusion: *climate change is real and human activities, largely the release of polluting gases from burning fossil fuel (coal, oil, gas), is the main cause.*

[EXPLORE: UNEP CLIMATE ACTION NOTE - Data you need to know.](#)

In Climate Action

### What are the effects and impacts of climate change?

Impacts of a 1.1-degree increase are here today in the increased frequency and magnitude of extreme weather events from heatwaves, droughts, flooding, winter storms, hurricanes and wildfires. (IPCC)

- The global average temperature in 2019 was 1.1 degrees Celsius above the pre-industrial period, according to WMO.
- 2019 concluded a decade of exceptional global heat, retreating ice and record sea levels driven by greenhouse gases produced by human activities. (WMO)
- 30 per cent of the world's population is exposed to deadly heat waves more than 20 days a year. ([Cooling and Climate Change fact sheet, UNEP](#))
- Average temperatures for the five-year (2015-2019) and ten-year (2010-2019) periods are the highest on record. (WMO)
- 2019 was the second hottest year on record. (WMO)
- In 2019, total greenhouse gas emissions, including land-use change, reached a new high of 59.1 gigatonnes of carbon dioxide equivalent (GtCO<sub>2</sub>e). ([EGR, 2020](#))
- Based on today's insufficient global commitments to reduce climate polluting emissions, a rebound in greenhouse gases from a return to high-carbon societies after the pandemic may push 2030 emissions even higher – up to 60 GtCO<sub>2</sub>e. ([EGR, 2020](#))



### What do we need to do to limit global warming and act on the climate emergency?

- To prevent warming beyond 1.5°C, we need to reduce emissions by 7.6% every year from this year to 2030. ([EGR, 2019](#))
- 10 years ago, if countries had acted on this science, governments would have needed to reduce emissions by 3.3% each year. Every year we fail to act, the level of difficulty and cost to reduce emissions goes up. ([EGR, 2019](#))
- Deep reductions in methane will be necessary to help limit global warming to 1.5°C or 2°C, according to IPCC. Over 75 per cent of methane emissions could be mitigated with technology that exists today – and up to 40 per cent at no net cost according to the International Energy Agency. ([Methane Emissions fact sheet, UNEP](#))
- Conserving and restoring natural spaces, both on land and in the water, is essential for limiting carbon emissions providing one-third of the mitigation effort needed in the next decade. ([Nature for Climate Action fact sheet, UNEP](#))
- Since over half of global GDP has a high or moderately high dependency on nature, investing in nature-based solutions will not only limit global warming but also result in about 4 trillion dollars in revenue for businesses and over 100 million new jobs each year by 2030. ([Nature for Climate Action fact sheet, UNEP](#))
- For governments, a green COVID-19 recovery could cut 25 per cent off 2030 emissions, putting the world on track to a 2°C pathway. ([EGR, 2020](#))
- Nations agreed to a legally binding commitment in Paris to limit global temperature rise to no more than 2°C above pre-industrial levels but also offered national pledges to cut or curb their greenhouse gas emissions by 2030. This is known as the [Paris Agreement](#). The initial pledges of 2015 are insufficient to meet the target, and governments are expected to review and increase these pledges as a key objective this year, 2021.
- The updated [Paris Agreement](#) commitments will be reviewed at the [climate change conference known as COP 26](#) in Glasgow, UK in November 2021. This conference will be the most important intergovernmental meeting on the climate crisis since the Paris agreement was passed in 2015.
- The success or otherwise of this conference will have stark consequences for the world. If countries cannot agree on sufficient pledges, in another 5 years, the emissions reduction necessary will leap to a near-impossible 15.5% every year. The unlikelihood of achieving this far steeper rate of decarbonization means the world faces a global temperature increase that will rise above 1.5°C. Every fraction of additional warming above 1.5°C will bring worsening impacts, threatening lives, food sources, livelihoods and economies worldwide.
- Countries are not on track to fulfill the promises they have made.
- Increased commitments can take many forms but overall they must serve to shift countries and economies onto a path of decarbonization, setting targets for net-zero carbon, and timelines of how to reach that target, most typically through a rapid acceleration of energy sourced from renewables and rapid deceleration of fossil fuel dependency.

1.5°C

### Why is 1.5°C important?

The world will see serious climate impacts at 1.5°C. But after that it gets much worse. The difference between 1.5°C and 2°C is...

- the difference between 70% or 99% of coral reefs dying.
- double the likelihood that insects, vital pollinators, lose half their habitat.
- ice-less summers in The Arctic Ocean once per century or once per decade.
- 1 meter added in sea-level rise.
- 6 million or 16 million affected by sea-level rise in coastal areas by the end of this century.

Source: [Intergovernmental Panel on Climate Change \(IPCC\)](#)

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