

# FAST FACTS



## What is Climate Change?

1. Climate change refers to long-term shifts in temperatures and weather patterns. Such shifts can be natural, due to changes in the sun's activity or large volcanic eruptions. But since the 1800s, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil and gas.
2. Increasing greenhouse gas emissions from human activity act like a blanket wrapped around the earth, trapping the sun's heat and raising temperatures.
3. Carbon dioxide and methane are the main greenhouse gases that are causing climate change. These emissions come from burning fossil fuels such as gasoline when driving a car or coal when heating a building. Clearing land and forests can also release carbon dioxide. Landfills for garbage are a source of methane. Energy, industry, agriculture and waste disposal are among the major greenhouse gas emitters.
4. Greenhouse gas concentrations in the atmosphere are at record levels, driving up average surface temperatures. 2024 was the hottest year on record, more than 1.5°C warmer than the pre-industrial era. Measured over decades, the current average surface temperature is now between 1.34°C and 1.41°C higher than the 1850-1900 baseline.
5. Many people think climate change mainly means warmer temperatures. But temperature rise is only the beginning of the story. Because the Earth is a system, where everything is connected, changes in one area can influence changes in all others. The consequences of climate change include, among others, intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms and declining biodiversity.
6. People are experiencing climate change in diverse ways. It affects our health, ability to grow food, housing, safety and work. Some of us are more vulnerable to climate impacts. In some of the small island developing States, whole communities have had to relocate because of sea-level rise and saltwater intrusion. In the future, the number of people displaced due to climate change is expected to rise.
7. Every increase in global warming matters. Scientists and governments agree that limiting global temperature rise to no more than 1.5°C would help avoid the worst climate impacts and maintain a liveable climate. Yet the policies currently in place point to an increase in global temperature of as much as 3.1°C by the end of the century.
8. The emissions that cause climate change come from every part of the world and affect everyone, but some countries produce much more than others. The G20, the group of the world's largest 20 economies are responsible for about 77 per cent of global greenhouse gas emissions. Everyone



must take climate action, but people and countries creating more of the problem have a greater responsibility to act first.

9. Climate change is a huge challenge, but we already know many solutions – such as [renewable energy](#) like wind and solar power. These can deliver economic benefits while improving our lives and protecting the environment. We also have global agreements to guide progress, such as the [UN Framework Convention on Climate Change](#) and the [Paris Agreement](#). Three broad categories of action are: cut emissions, adapt to climate impacts and finance required adjustments.
10. Switching energy systems from fossil fuels to renewables like wind and solar will reduce the emissions driving climate change. But we have to start right now. While a growing coalition of countries is committing to [net zero emissions](#) by 2050, about half of emissions cuts must be in place by 2030 to keep warming below 1.5°C.
11. Adapting to climate consequences protects people, homes, businesses, livelihoods, infrastructure and natural ecosystems. It covers current impacts and those likely in the future. Adaptation is required everywhere, but must be prioritized for the most vulnerable people with the fewest resources to cope with climate hazards. The rate of return can be high. Early warning systems for disasters, for instance, save lives and property, and can deliver benefits up to 10 times the initial cost.
12. We can pay the bill now, or pay dearly in the future. Climate action requires significant financial investments by governments and businesses. But climate inaction is vastly more expensive. One critical step is for industrialized countries to fulfil their commitment to provide \$300 billion a year to developing countries and raise \$1.3 trillion per year by 2035.

Sources: [IPCC](#) (1), [IPCC](#) (1), [WMO](#) (2), [WRI](#) (3), [WMO](#) (4), [IPCC](#) (5), [IPCC](#) (6), [IPCC](#) (7), [UNEP](#) (8, 10), [World Bank](#) (11) [UNFCCC](#) (12)

