CLIMATE ACTION

FAST FACTS

Temperature Rise

1. Global surface temperature has increased faster since 1970 than in any other 50-year period over at least the last 2000 years.

2. The Earth is now between 1.34°C and 1.41°C warmer than it was in the pre-industrial era (1850-1900). 2024 was the warmest year on record, with the global average near-surface temperature 1.55°C above the pre-industrial baseline. 2015-2024 was the warmest recorded decade.

3. Monthly or annual temperatures above 1.5°C do not mean that the world has failed to achieve the Paris Agreement's target. The agreement refers to a long-term temperature rise over decades, not short-term fluctuations. Temperatures for any single month or year fluctuate due to natural variability, including El Niño/La Niña and volcanic eruptions. Consequently, long-term temperature changes are typically considered on decadal timescales.

4. About 90 per cent of the excess heat from global warming is stored in the ocean, making ocean heat content a critical indicator of climate change. Today, the ocean is the warmest it has ever been as recorded by humans, not only at the surface but also for the upper 2000 meters. Glaciers around the world thinned by an average of one meter per year and sea level rose at a rate of 4.7mm per year between 2015 and 2024. Greenland and Antarctica lost 38 per cent more ice during the period 2011-2020 than during 2001- 2010.

5. Every fraction of a degree of warming matters. With every additional increment of global warming, changes in extremes and risks become larger. For example, every 0.5°C increase in global warming causes clearly discernible increases in the intensity and frequency of temperature and precipitation extremes, as well as agricultural and ecological droughts in some regions.

6. Greenhouse gas emissions reached a new record high of 57.1 gigatonnes in 2023. They must drop by 42 per cent by 2030 (compared to 2019 levels) to keep temperature increase from exceeding 1.5°C. Under current policies, the world is on track for a global average temperature rise of 3.1°C above pre-industrial levels over the course of the century.

7. Carbon dioxide (CO_2) is accumulating in the atmosphere faster than any time experienced during human existence, rising by more than 10 per cent in just two decades. Global concentrations of carbon dioxide are now 51 per cent higher than they were in the pre-industrial era.

8. The emissions gap in 2030, or the difference between necessary carbon dioxide reduction and current trends, is estimated at 22 gigatonnes of carbon dioxide equivalent (Gt CO_2e) to limit global warming to 1.5°C.

9. To ensure a safe and liveable planet, experts say humanity must phase out global coal production and use by 2040, and reduce oil and gas production and use by three quarters between 2020 and 2050.

Sources: IPCC (1, 5), WMO (2, 3, 4), WMO (4), UNEP (6, 8), WMO (7), UNEP (9)