

COP28: how bad is climate change already and what do we need to do next to tackle it?

Thursday 30 November 2023, by [FOSTER Piers](#) (Date first published: 29 November 2023).

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As the latest UN climate change summit (COP28) gets underway in Dubai, conversations around limiting global warming to 1.5°C will confront a harsh reality. Global temperatures have surged over the past year, with the monthly global average surpassing 1.5°C above pre-industrial levels [during the summer](#). Some days in November have even [breached 2°C](#) of warming for the first time.

Since the Glasgow Climate Summit in 2021, the UN has been conducting a review of our progress towards limiting temperature rise in line with the Paris Agreement. This review, which is set to conclude in Dubai, aims to make countries ratchet up their emission reduction commitments.

The [evidence](#) from this two-year “stocktake” is now available, and it shows just how far off track we are. To restrict global warming to 1.5°C, countries must reduce greenhouse gas emissions by more than 40% by 2030, yet emissions are currently on the rise.

Countries around the world have borne the human and economic toll. The United Arab Emirates itself is one of the latest countries to be hit by [severe flooding](#), with parts of Dubai under water for the first time. This has led some, including the legendary climate scientist James Hansen, to speculate that climate scientists have [underestimated the pace of change](#).

The evidence itself presents a more balanced view. Climate change has indeed accelerated, but this uptick in pace was entirely predicted by climate models and is expected due to greenhouse emissions being at an [all-time high](#).

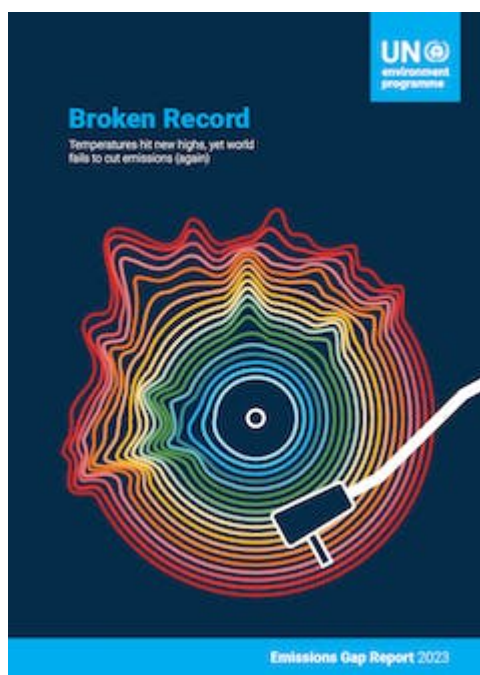
The potential for confusion as we approach 1.5°C of global warming makes it all the more crucial to [track rising temperatures and climate change](#) as they develop between the comprehensive Intergovernmental Panel on Climate Change assessments. The next assessment isn't expected until around 2030.

A broken record

As the global stocktake has found, policies on cutting emissions remain a long way off what is needed to hold temperatures to well below 2°C - let alone 1.5°C. The recently published 2023 [UN emissions gap report](#), which tracks our progress in limiting global warming, echoes the same concern. The report revealed that the world is on track for 2.9°C of global warming, and maybe considerably more, before the end of this century.

If this sounds like a broken record - as emphasised by the report's cover art - it is. The message that

we need urgent action and stronger emissions cuts to avoid the worst climate impacts is far from new, but still somehow needs to hit home.



The emission gap report's cover art. [UN Environment Programme / Emissions Gap Report 2023](#), [CC BY-NC-SA](#)

The UN emissions gap report finds that 80% of climate change can be attributed to G20 countries, a group consisting of the world's major economies. Within the bloc, western countries generally have ambitious emissions reduction targets, but are failing to deliver on them. By contrast, countries including China, India, Mexico and Indonesia are largely overachieving much weaker targets, but are failing on ambition.

This divide is evident in national submissions to the global stocktake process. Western countries are urging the rest of the world to increase ambition, while other nations are urging western governments to deliver on their finance and other commitments, especially in providing sufficient funding to help developing countries adapt to the harmful effects of climate change.

Inequalities in how emissions vary across a country's population were highlighted in the UN Emissions Gap report and also in a dedicated [report by Oxfam](#). The report revealed that the world's wealthiest 1% account for 16% of global emissions. These wealthy people each emit more than 100 tonnes of CO₂ every year, 15 times the global average.

Inequality drives vulnerability. The same report showed that floods kill seven times as many people in countries with higher levels of inequality than they do in more equal ones.

A crucial period

The gloomy picture places a clear focus on the need for transformative progress at COP28 and beyond. In a report that was released ahead of COP, the [International Energy Agency](#) places the challenge firmly at the door of the oil and gas sector.

This report found that only 1% of clean energy investment comes from the industry, and that oil and gas use needs to decline by 75% or more to be compatible with net zero targets. The industry needs to undergo radical change.

If oil and gas firms urgently remove emissions from their operations, especially around methane leaks, and invest in trebling global renewable energy capacity by 2030 instead of extraction, they can be a force for change.

Discussions around the role of oil and gas will be a recurring theme both at COP28 and at future climate change summits. But concerted efforts to reduce methane emissions, build renewable energy infrastructure, roll out electric vehicles and halt deforestation globally could also see emissions fall significantly by 2030, consequently slowing down the rate of warming.

Investment in global renewable energy capacity needs to be trebled by 2030.

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Whether the discussions in Dubai lead to the transformative change we need remains to be seen. However, it is essential to continue offering independent, expert and respected advice to governments through organisations like the UK Climate Change Committee, which I currently chair, and the [International Climate Councils Network](#). This effort is crucial in advocating for transformative change across all sectors and in providing consistent and ambitious national emission reduction policies that are based on evidence.

As we approach 1.5°C of global warming, we need to work even harder. To quote from a [recent article](#) in US magazine Scientific American: “Declarations that 1.5°C is dead make no sense. Global temperature limits don’t die if we surpass them. People do.”

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- The Conversation. Publié: 29 novembre 2023, 14:28 CET.

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Piers Forster is an atmospheric physicist who moved to Leeds in 2005 where he has been professor of climate physics since 2008. He is founding Director of the Priestley International Centre for

Climate. Graduating with a PhD in Meteorology from the University of Reading in 1994 he stayed in Reading, first as a post-doc and then as a NERC advanced research fellow from 2000-2005. During this time he worked at both Monash University and the University of Colorado (Boulder) for 12-month periods. He was awarded a Royal Society Wolfson Merit Award for 2011-2016. He was made a Fellow of the American Geophysical Union in 2019. He is a Web of Science Clarivate Analytics highly cited researcher.

As well as his research career, he established the forest protection and research charity: the United Bank of Carbon and has a number of roles advising industry and government, including membership of the Rolls Royce Environment Advisory Board and the UK Committee on Climate Change. He has played a significant role authoring Intergovernmental Panel on Climate Change (IPCC) reports, and currently has a coordinating lead author role for the IPCC sixth assessment report.



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