

# Climate science beats climate fatalism



The Paris climate agreement's goal of limiting global warming to 1.5C is in the headlines again. According to the latest projections from the World Meteorological Organisation, "There is a 66% likelihood that the annual average near-surface global temperature between 2023 and 2027 will be more than 1.5C above pre-industrial levels for at least one year." A supercharged El Niño cycle means that record-breaking temperatures are almost certain.

But, as concerning as these warnings are, it would be even more worrying if one year above 1.5C was taken as a sign that the 1.5C target has been missed. Drawing that erroneous conclusion would lead us to abandon the Paris agreement's goal just when we should be doubling down on it.

The 1.5C goal will not be lost with just one or a few years of extreme temperatures. The Paris goal refers to human-caused temperature increases that are measured over the course of decades. We must keep this firmly in mind to stave off the dangerous climate fatalism that has been gaining momentum in recent years.

Yes, now that the planet has warmed roughly 1.2C above pre-industrial levels, "once-in-a-century" heatwaves, forest fires, and floods are becoming more familiar to us. In some low-lying regions, rising seas are already forcing people to relocate. But there is still a massive difference between 1.2C and 1.5C – let alone between 1.5C and 2C – and the science shows that it is still possible to end this century at or below 1.5C.

Recent climate research has affirmed the importance and necessity of the 1.5C guardrail. As the Intergovernmental Panel on Climate Change warned last year, extreme weather events, ecosystem collapse, and planetary tipping points can

happen at markedly lower levels of global warming than previously thought. Since the IPCC's last reporting cycle in 2014, we have amassed much more evidence to show that even a 1.5C warmer world would be immensely challenging, and that temperature increases above that level would be truly devastating.

With every additional tenth of a degree of warming, more people will be exposed to life-threatening heatwaves, water shortages, and flooding. Worse, various studies show that the likelihood of reaching tipping points, like the potential collapse of the West Antarctic ice sheet, increases exponentially above 1.5C. These represent red lines. The world would not fall off a cliff, but there would be a fundamental shift in which planetary systems start moving irreversibly down the path toward more ice melt, marine-ecosystem change, and rising sea levels.

The only sensible approach is to mitigate that risk by reducing greenhouse gas (GHG) emissions as fast as possible. Though we still might overshoot the 1.5C limit in the short term, we can return to it in the long run. But that will be possible only if we have cut fossil-fuel emissions to zero. This is the crucial first step toward achieving net-zero GHG emissions.

It is no less important to preserve and restore the natural land and ocean systems that absorb and store carbon. And if we distort the Earth's carbon cycle (through the thawing of permafrost, for example), we will undermine our ability to reverse global temperature increases.

Limiting warming to 1.5C this century requires that we halve our emissions by 2030. This is not an arbitrary figure. Only if we halve our emissions this decade will we halve the pace of warming in the 2030s and bring it to a halt in the 2040s. Think of it as the difference between tackling climate change ourselves, or passing a civilisational time-bomb to our children.

Slowing the warming process also buys us precious time for adaptation. Even a rich country like the United States will be

limited in how fast and fully it can adapt to the consequences of climate change. For those in more vulnerable places, the situation is incomparably worse. Disasters like the flooding in Pakistan last year can derail a country's economy and leave it in a downward spiral of rising debt and poverty – all of which will be compounded by future climate disasters for which it could not afford to prepare.

Moreover, many of the net-zero commitments made by governments, companies, and cities around the world are premised on the 1.5C limit. Phaseout plans for coal (such as those in Germany, Vietnam, and the United Kingdom) are based on 1.5C-aligned modelling, which shows that OECD countries need to stop using coal by 2030, and that non-OECD countries need to do so by 2040. Gas must follow shortly thereafter.

With the clock ticking down, these 1.5C-based models are telling us how to prioritise. We must decarbonise electricity first, then electrify as much transportation, buildings, and industry as we can, while also reducing demand. Beyond this low-hanging fruit, we also will need to scale up technologies for carbon removal.

Investments have been moving in this direction. Since the Paris agreement was concluded in 2015, the costs of solar, wind, and batteries have plummeted. Electric vehicles and heat pumps are going mainstream. These are market-driven responses to government incentives. Public policy has been crucial for instilling confidence and supporting clean-energy growth.

To give up and start looking beyond 1.5C would let big emitters off the hook. Rather than instilling confidence, it would signal to everyone that they should expect less – and betray all those who live in places that lack the resources and possibilities to adapt to a warmer world.

If we don't keep pushing for the most ambitious science-based targets, those with vested interests in the status quo will exploit our fatalism. Following a massively profitable year, owing to Russia's war in Ukraine, BP recently signalled that it will divert much of its intended investments in decarbonisation toward oil and gas.

The best science we have tells us that 1.5C is still feasible, and it tells us how to get there. As the British climate-change diplomat Pete Betts puts it, “If we do go above 1.5C, the message is not to give up. It’s to double down.” – Project Syndicate

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