

Scientists must stay engaged in climate COPs

Many researchers are frustrated that the COP26 climate summit in Glasgow, UK, didn't achieve more – but it would be a tragedy if they disengaged with the COP process.

The momentous and much-anticipated 26th United Nations Climate Change Conference of the Parties (COP26), intended to run for two weeks, ended on 13 November, 24 hours later than scheduled. There were some notable achievements. More countries announced pledges to go carbon neutral – including, for the first time, India, by 2070. Richer nations committed to doubling funding, known as adaptation finance, to help low- and middle-income countries (LMICs) deal with damaging climatic effects. Rules for carbon trading were agreed. And world leaders will report their progress on emissions cuts every year.

But a study for the Climate Action Tracker website, by Niklas Höhne at Wageningen University in the Netherlands and his colleagues, showed that, if pledges announced at the COP meeting are implemented, temperatures are still projected to rise 2.4 °C by 2100 (see go.nature.com/3nn4hww), well above the 1.5 °C target agreed at the 2015 Paris climate summit. The effects of this are likely to be catastrophic.

Many researchers are frustrated at the lack of more meaningful measures to cut greenhouse-gas emissions. They have every right to be angry. But it would be a tragedy if that led them to disengage with the COP process and with humanity's fight to stop catastrophic climate change.

COP26 was the most important such event since Paris. But it is part of a much longer process: a stocktake of pledges made in Paris. COP26 also represented progress on several fronts, and it is not the final opportunity to take action; the task continues at COP27 in Egypt next year. Researchers must take every opportunity to expand their role in that process, as it moves further into one of the planet's most critical decades.

The final agreement includes pledges, words and phrases that have not previously appeared in such texts. Besides the doubling of adaptation funding to US\$40 billion annually from 2025, high-income countries, including oil- and gas-exporting states, agreed for the first time to language that calls for reducing coal-fired power and an end to some types of public subsidy for other fossil fuels. High-income countries had wanted a total phase-out of coal; LMICs forced a compromise, pointing out that in many parts of the world, alternative energy sources do not yet exist.

High-income countries also agreed to set up an office to continue with research on a possible "loss and damage"

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fund, through which they could make payouts to LMICs that have been affected by climate change that they did not cause. And in the first week of COP26, more than 400 companies in the financial sector announced that they would be moving trillions of dollars of investments into firms that are committed to net-zero emissions.

These commitments were hard-fought – some have been more than 30 years in the making – and represent essential progress. But simmering below the surface are disagreements on definitions and on the detail of implementation – and that's where the research community's input will be vital. For example, the text calls for reducing “unabated” coal, referring to coal without carbon capture and storage. But in reality, even coal plants equipped with carbon capture generate pollution. Researchers can spell this out.

Another crucial question concerns the impact of ‘net-zero’ commitments. This phrase is now commonly used as an indication of commitment to decarbonization. But there's no agreed definition or measure of net zero. Without this, it is impossible to know if ‘net-zero’ pledges will actually stop global warming. There's also no agreed definition of climate finance. Richer countries are providing around \$80 billion annually in climate finance to LMICs, but the lack of an agreed definition means the funds are dominated by loans and include elements such as development assistance (for example, funding for schools and clean water), which do not directly reduce carbon emissions.

Research can inform all these questions, and the UN is inviting input. UN secretary-general António Guterres announced that he is asking a group of experts to “propose clear standards” to measure and analyse companies' net-zero pledges. COP26 delegates also agreed that an expert group currently advising the UN climate convention on how to define climate finance must continue its work.

All advisers must be named as quickly as possible, because the time to act is short. They must span the range of disciplines: a group that is advising on standards for measuring net zero, for example, would need physical scientists working with economists and with researchers who study the methodology of creating financial indices. And it cannot be said loudly enough that researchers from institutions in the LMICs have to be heard.

If *Nature's* experience of reporting from COP26 is anything to go by, researchers are not well integrated into climate policymaking. Indeed, researchers were frequently prevented by the conference organizers from accessing the rooms where negotiations were taking place. The UN allows researchers to observe negotiations directly so they can use these experiences as part of research projects or for teaching case studies. The UN climate convention office has promised to review how this obstruction happened. This experience must not be repeated in any future COP.

Stopping global warming will not happen without a partnership between nations, or a contract that all sides believe in, and buy into. Right now, countries with different levels of economic development and climate vulnerability are far apart. From the earliest COPs, researchers and their work have helped to bridge these divides. They must continue to do so now and in the future.