

## Hoping for better

 Check for updates

**Soaring temperatures hit the headlines throughout 2023; only time will tell if the annual climate talks have pivoted from discussion and debate to meaningful progress for climate action.**

Reflecting on 2023, it has been a year where temperature records tumbled, driven in part by the natural shift to the warm phase of the El Niño Southern Oscillation, an El Niño event. But don't be mistaken, these temperatures are a result of continuing anthropogenic emissions. We saw repeated announcements of record highs, with temperatures passing 1.5 °C above the pre-industrial average on a number of days (in the boreal summer), and then 2 °C for the first time (2.07 °C on 17 November; and on that day, the global surface air temperature was 1.17 °C higher than the average for the 1991–2020 reference period<sup>1</sup>). We head into 2024 expecting 2023 to have set the record as the hottest year, but anticipate that it will not be a long-standing record, as temperature increases are expected for years to come.

The annual UN climate conference, COP28, held in December 2023 in Dubai, once again had hopes for enhanced and prompt climate action, but has it laid the path for this to happen? Days before the event began, there were announcements that the host nation was looking to increase fossil fuel production and to use the event to broker oil deals<sup>2</sup>. This is in opposition to the conference's broad aspirations for a decrease in fossil fuel production. Yet, the first weekend saw announcements of substantial cuts to methane emissions with companies that account for approximately 40% of global oil production committing to methane cuts and elimination by 2050. This was followed by a further announcement from the USA committing to regulations for the oil and gas industry that are expected to reduce emissions by 80% relative to continued



operations under current regulations over the next 15 years to 2038 (ref. 3). Our January 2023 editorial<sup>4</sup> called for 2023 to be the year of methane mitigation progress – it might have been late in the year that these announcements were made but it does seem that there was progress being made in 2023, with hopefully more to come in 2024.

However, while there were **announcements and commitments** to transform food systems, emissions and how these will be managed are not detailed. Agriculture, particularly livestock and rice production, has large associated methane emissions and were discussed in a Food and Agriculture Organization (FAO) report published in 2023 (ref. 5).

Over the two weeks of COP28, the reporting of the event indicated that substantial progress was not being made, but in the end, the agreement stated, explicitly for the first time, the commitment to phase down fossil fuels. While this has been hailed as the “beginning of the end” for fossil fuels, and a promising step on the path to net zero, this needs to translate into individual-country commitments. At the moment, there have been few nationally determined contributions (NDCs) updates that reflect this with

either no update submitted or updates that do not increase ambition from the previously submitted NDCs.

Regardless of the pledges and commitments that came from the discussions, and we wait to see updated NDCs in the coming months, this needs to translate into action and delivering on these promises for progress to be achieved on minimizing climate change impacts. The Paris Agreement in 2015 looked to have changed climate aspiration, but here we are 8 years later still discussing action plans, when these should have been in place already.

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### References

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4. *Nat. Clim. Change* **13**, 1 (2023).
5. *Methane Emissions in Livestock and Rice Systems: Sources, Quantification, Mitigation and Metrics* (FAO, 2023).