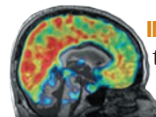


# THIS WEEK

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## All together now

*Proposals to bring hydrofluorocarbons under the auspices of the Montreal Protocol provide a simple test of the international community's commitment to tackling climate change.*

Four years ago, this journal endorsed a simple idea: use the world's most successful international environmental treaty, the Montreal Protocol on Substances that Deplete the Ozone Layer, to solve the world's most difficult environmental problem — global warming. Two years ago, *Nature* chided a handful of countries for blocking the path forwards, chiefly China, India and Brazil. Today, we are left with one major holdout: India.

As the latest negotiations over the future of the Montreal Protocol wrapped up in Bangkok on 25 October, India found itself increasingly isolated, and rightly so. On the table were a pair of amendments that would pull the regulation of hydrofluorocarbons (HFCs) out of the United Nations climate framework and into the Montreal Protocol's portfolio. HFCs replaced the infamous ozone-eating chlorofluorocarbons (CFCs), and were successfully created and deployed under the protocol to protect the ozone layer, which is now on the mend. However, they are powerful greenhouse gases. The simplest solution is to use the same tool that bred HFCs to phase them out. India took the lead in blocking consideration of the amendments.

In all likelihood, their acceptance is just a matter of time. Most countries have long supported the idea, and early objectors such as Brazil and South Africa have come around. US President Barack Obama brought Chinese President Xi Jinping on board in June, and the leaders of the Group of 20 (G20) nations — including India — gave their endorsement in September. The fact that India is on the losing side of this debate makes its renewed intransigence all the more galling. But there is hope: after the September G20 meeting, Obama and Indian Prime Minister Manmohan Singh agreed to launch negotiations over the issue.

Without action, HFC usage will rise sharply owing to more demand for refrigeration and air conditioning in the developing world. The Intergovernmental Panel on Climate Change's recent assessment of the science underlying global warming highlighted the challenges ahead, and its assessments of adaptation and mitigation measures will soon follow. The message is clear: delaying action will increase the severity of climate impacts, and India is well aware that these are likely to hit hardest in developing countries. Another year of haggling will probably not change the outcome of negotiations, but it will cost the world precious time.

Meanwhile, many in industry are gearing up to replace HFCs with chemicals such as HFO-1234yf, jointly developed by the chemical giants Dupont in Wilmington, Delaware, and Honeywell in Morris Township, New Jersey. Created in response to European Union regulations to limit the climate impact of vehicle refrigerants, the chemical is some 325 times less powerful as a greenhouse gas than the current industry standard.

More work is needed to replace HFCs in other applications, but the Montreal Protocol's job is to harness this work and accelerate the change. One concern in the debate is how much it will cost to shift industry towards climate-friendly chemicals, and who will pay. The treaty has a well-trodden pathway: developed countries pioneer workable solutions and then help developing countries with the transition.

Another concern is little more than a turf war between the Montreal Protocol and the UN climate convention, which has jurisdiction over greenhouse gases. The proposed amendments would address this by shifting management of the chemicals into the Montreal Protocol while leaving the accounting to the convention.

Delegates at the Bangkok meeting called for a technical report on HFC alternatives and scheduled a workshop on the issue for next year. That leaves the door open to a decision before the next headline climate summit in Paris in 2015. Success on this front might restore confidence in the multilateral process and build

some much-needed momentum going into the talks. It has been clear for some time that it will be difficult, if not impossible, for the world to achieve a singular solution through the UN climate negotiations. Climate mitigation has become decentralized, and countries must use all of the tools at their disposal to reduce emissions. With a little success, diplomats may find it easier to increase political ambitions and fold these efforts into a viable climate treaty.

At stake in the Montreal Protocol talks is not just the future of one treaty, but also our legitimately shaken confidence in multilateralism. If the world cannot agree on something as simple as this, what hope is there of meaningful cooperation on the difficult issues that lie ahead? ■

**“At stake is our legitimately shaken confidence in multilateralism.”**

## Time to talk

*Online discussion is an essential aspect of the post-publication review of findings.*

Scientists are an opinionated bunch. From the cutting criticisms they make during peer review to bold questioning after a conference presentation, the rough and tumble of academic debate is seen as a crucial part of scientific progress. So where is the online equivalent for published papers?

To be sure, there are lively debates on blogs and social media about the merits of published work. Individual communities have formed their own central areas for engaged and informed criticism of peer-reviewed results. For example, Haldane's Sieve, a site for evolutionary geneticists, is always busy and encourages authors to write short explanations of preprint abstracts. But click on the published homes of many of these papers — the websites of the journals in which they appear — and you will find digital tumbleweed.

In recent years, authors and readers have been able to post online comments about *Nature* papers on our site. Few bother. At the Public