

THIS WEEK



EDITORIALS

FUNDING Arecibo's woes are emblematic of tough times **p.134**

WORLD VIEW A plan to shut down China's legal ivory trade **p.135**

MATERIALS Flexible battery made from paper, ink and foil **p.137**

A breath of fresh air

The decision to use the Montreal Protocol to reduce the impact of refrigerants on global warming is a step forward ahead of the Paris climate summit.

The world took a step in the right direction in the early hours of 6 November. Meeting in Dubai, 195 governments decided to pull the management of hydrofluorocarbons (HFCs) under the umbrella of the Montreal Protocol, an international agreement that governments signed in 1987 to protect the stratospheric ozone layer from damage by chlorofluorocarbons (CFCs). HFCs are ozone-friendly replacements for CFCs and are often used as refrigerants. Unfortunately, many are also powerful greenhouse gases, and their use is expected to skyrocket over the coming decades. Although a few governments were successful in delaying negotiation of the arrangement's details, the agreement to move forward is nonetheless welcome — and long overdue.

The United Nations Environment Programme estimates that HFC emissions are rising roughly 7% annually thanks in part to demand for air conditioners in emerging economies such as Brazil, India and Indonesia. By 2050, global HFC emissions could hit the equivalent of 8.8 billion tonnes of carbon dioxide, roughly equal to the current carbon emissions of the United States and European Union combined. The decision to regulate HFCs under the Montreal Protocol bodes well for the UN climate summit in Paris, which begins on 30 November. The Montreal Protocol is a well-oiled machine that has already proved its effectiveness and value among both industry and government leaders. In theory, dragging HFCs under its umbrella gives climate negotiators in Paris one less thing to worry about. All told, aggressively regulating HFCs could

reduce global warming by an estimated 0.5°C.

Unfortunately, some governments still seem to be hedging their bets. In particular, India, Saudi Arabia and Kuwait pushed to delay consideration of detailed amendments to the Montreal Protocol until next year. Other global leaders, including US President Barack Obama, who has negotiated agreements on HFCs with leaders in India, China and Pakistan, will need to maintain pressure.

A day after his administration helped to negotiate the agreement on the Montreal Protocol, Obama denied permission for construction of the Keystone XL pipeline from Canada to the southern United States (see page 141). His decision was based on a simple criterion: whether the project would be in his country's 'national interest'. Obama said the answer is no, and he may be right. The world is awash with oil at the moment, and there is no need to rush any of it to market, let alone carbon-rich crude from Alberta's tar sands.

The world must, however, be clear about what this decision does — and does not — accomplish. It sends a signal to industry about the environmental values of the current administration, and it may make things a little harder for Canadian companies seeking to develop and export dirty crude oil. But a symbolic one-off gesture from one government will not change the fundamental dynamic driving greenhouse-gas emissions. To do that, all countries must implement meaningful policies that will rush low-carbon technologies to market. The clean-energy pipeline runs through Paris and next year's Montreal Protocol meetings on HFCs. ■

Universities' value

Proposals for UK higher education contain some positive points amid the financial gloom.

The UK government's austerity policies are soon expected to deliver swingeing cuts in some departments. In the teeth of those prospects, British researchers, and an influential parliamentary science and technology committee, have lobbied hard to make the case that even a flat research budget, after five continuous years of the same, would be a betrayal of the country's needs.

How successful they have been, and how worthy of exception the government considers them to be, will become clear only when UK spending plans are announced on 25 November. On page 144, we explore the worrisome prospects.

As if that wasn't enough, last week the government began a consultation over its proposed restructuring of the way it administers higher-education funding (see go.nature.com/c97sww). It

announced that it wants to abolish the Higher Education Funding Council for England (HEFCE), the body that distributes £1.6 billion (US\$2.4 billion) of 'quality related' research money to universities. Those core funds would still be administered separately from the more-responsive funding by the UK research councils, probably by a research-funding organization that would be responsible for both areas.

"The impacts case studies provide welcome ammunition to the case for supporting research in all disciplines."

The case for those particular changes has not been adequately made, but other aspects of the proposals have virtues. The government is tackling two scandals in the UK higher-education system: its relative neglect of quality standards in teaching, and its inadequacies in contributing to social mobility.

Another positive feature is that the government supports the continuation of the Research Excellence Framework (REF) for assessing research quality and impact, despite the proposed abolition of HEFCE, which successfully implemented that process. It is worth taking stock of the REF — not least because its results strengthened the case for