

## CLIMATE More countries sign up to Copenhagen Accord

# Emission reduction pledges pour in

Dozens of countries, including the world's biggest greenhouse gas emitters, have met a 31 January deadline and submitted emission reduction targets to the UN in line with the Copenhagen Accord signed during the climate summit in December (see *Chemistry World*, February 2010, p7).

The UN summit on climate change in Copenhagen, held at the end of 2009, failed to produce the world-changing deal on cutting greenhouse gas emissions that many were hoping for. However, the Copenhagen Accord, which almost 90 countries have now signalled their intention to engage with, may represent one small step towards tackling climate change.

The accord was developed by a small group of countries that included two of the world's biggest greenhouse gas

emitters, the US and China, in the closing hours of the summit. The provisions of the accord call for all nations to reduce emissions, invest in clean energy technologies and practices, and help people adapt to the effects of climate change. It also acknowledges that an increase in global temperatures should be kept below 2°C.

### Signing on the dotted line

The countries that have signalled to the UN their wish to be associated with the accord represent 80 per cent of global emissions. Around half of these countries have pledged specific emission reduction targets. However, the accord is not a legally binding document as the summit delegates only 'took note' of the agreement rather than fully adopting it.



CO<sub>2</sub> emissions are being targeted

Most European countries are now pushing for the pledges to become legally binding.

China, which contributes 17 per cent of global emissions, has pledged to endeavour to lower its emissions by 40–45 per cent by 2020 compared to 2005 levels, but does not explicitly mention the accord in setting these goals. The EU has told the UN that it will stick to its pledge to cut carbon dioxide emissions by

20 per cent by 2020 from 1990 levels and may increase this cut to 30 per cent if other major emitters take their fair share of the reduction effort. The US plans to reduce emissions by 17 per cent by 2020 compared to levels in 2005.

Paul Williams, a climate modeller from the University of Reading, UK, calls these pledges a 'disappointingly small step in the right direction' and is concerned about longer term commitments. 'Unless they are followed by much stronger pledges for the post-2020 period, I cannot see how the atmosphere's CO<sub>2</sub> concentration could remain below 450ppm, at which the chances of meeting the 2°C target are only roughly one in three. Is that a gamble we are willing to take?' 

Leila Sattary

## RUSSIA

# Russian science is losing its edge

Research in Russia, considered a scientific powerhouse during the cold war years, has faded in global importance since the break-up of the former Soviet Union in the early 1990s and now is lagging behind China and India, according to a recent Thomson Reuters report.

Russia produced about 127 000 scientific papers in a recent five-year period, accounting for 2.6 per cent of global papers in journals indexed by Thomson Reuters. Meanwhile, China published 415 000 in the same period, 8.4 per cent of world output.

Russian science is still suffering from the negative consequences of the collapse of the Soviet Union, the authors state, adding: 'a serious "brain drain" dates from the early 1990s, when, according to some estimates, upwards of 80 000 talented scientists left the country in search of better earnings, funding and facilities abroad – to the benefit of Western

Europe in particular.'

While the number of papers from China, Brazil and India has surged in recent years, Russia's decline has steepened, particularly in fields of traditional global strength, including chemistry. Russia accounted for 28 564 chemistry papers from 2004 to 2008, fourth place in the world with a 4.87 per cent global share, but down from 6.15 per cent over 1999–2003.

Jörn Achterberg, head of the German Research Foundation's Moscow liaison office, told *Chemistry World* that Russian scientists are deeply concerned about the future of science in their country. However, he notes that despite the drop in papers, some officials and scientists contend that Russia is still strong in certain

areas and will hold its position.

'The Russian scientific community, on the whole, does not see itself as a minor player in the world of science,' he says. 'But there can be no doubt about the fact that many scientists have the feeling that not enough attention is being given to science.'

### Community anxiety

This concern was underscored by an open letter in October from 185 expatriate Russian scientists to Russian president Dmitry Medvedev and prime minister Vladimir Putin warning of a 'looming collapse' of Russian science, says Achterberg, adding that the global financial crisis triggered dramatic budget cuts at the Russian Academy of Sciences and the Russian Foundation for Basic Research. 'The financial crisis will probably lead to another major brain drain,' he says.

Nonetheless, in November's state of the nation address Medvedev proposed five research priorities that will receive substantial support: medical, energy and energy efficiency, information, space, and telecommunications, Achterberg says. Additionally, in December Medvedev also said he wants to improve housing for scientists and support for younger researchers, as well as encouraging more international scientific cooperation and private sector financing.

'Generally speaking, Russia is trying harder than ever to restructure their system in order to meet the contemporary challenges and bolster scientific research,' explains Achterberg. Ned Stafford

### Reference

J Adams and C King, *Global research report: Russia – Research and collaboration in the new geography of science*, Thomson Reuters, January 2010

