

In need of action

Policymakers struggle to agree on new binding climate commitments and science warns time is already short if we are to avoid dangerous global warming.

Over the past twenty years of United Nations (UN) talks about climate change, little progress has been made in coordinating national efforts to cut the growth of carbon dioxide emissions. In a Commentary on page 4, Glen Peters and colleagues show that humankind will probably face a rise in temperature of between 4–6 °C by the end of this century if significant mitigation actions do not happen now. They have contributed an estimate of the 2012 global CO₂ emissions pathways to the Global Carbon Budget (<http://www.globalcarbonproject.org/carbonbudget/index.htm>) — a report produced by the Global Carbon Project, an international cooperation of scientists working to support policymakers in slowing down the rate at which greenhouse-gas concentrations are increasing in the atmosphere.

Despite the notable commitment of the scientific community, policy discussions at UN meetings have not been driven by science. The leaders of nearly 200 countries attending the 18th Conference of the Parties to the UN Framework Convention on Climate Change in Doha, Qatar — which began 26 November 2012 and is half-way through as this Editorial is being written — are unsurprisingly divided in their positions. The urgent call from many climate scientists is clearly insufficient to bring them onto the same footing. The first commitment period of the Kyoto Protocol — the world's only legally binding treaty for reducing greenhouse-gas emissions — comes to an end in 2012, and a second phase should start in January 2013 to avoid gaps. The new commitment period would serve as a bridge between the first Kyoto phase and the new binding global treaty to be implemented by 2020, as agreed in Durban in 2011. Talks in Doha will only succeed if the terms of the second Kyoto period are settled, without which the treaty envisaged in Durban will never see the light.

The European Union (EU) — together with Australia, Norway and Switzerland, among other countries — strongly supports a new Kyoto pact at a time when domestic leaders are increasingly looking to the future beyond 2020. As reported by Sonja van Renssen on page 13, the European energy-efficiency

and renewable targets will end this decade and do not yet have a successor. The performance of the EU Emissions Trading Scheme has also left many wondering about its value as a transparent and effective mitigation tool, and European governments have finally agreed that it requires tough reform. Although more needs to be done by each EU member country, together they are advancing in the fight to reduce emissions. “Since 1990, [total] emissions in the EU decreased by 18% while in the US they increased by 10.8%. There's this challenge for all of us to do even more” EU climate commissioner Connie Hedegaard told reporters in Doha. The EU is pushing the United States — who never signed the Kyoto Protocol — to get more involved in the discussion about the 2020 treaty.

Developing countries will probably be responsible for about two-thirds of emissions in 2030.

Conflicting positions among developed countries hinder progress towards the implementation of the Durban agreement and, more immediately, the post-Kyoto phase. However, perhaps the stickiest issue in Doha is the battle between the perspectives of developed and developing countries. These two blocs — North and South, respectively — seem to be eternally locked in a debate about what constitutes an equitable sharing of responsibilities for emissions, both past and present. “The climate change phenomenon has been caused by the industrialization of the developed world,” United Nations secretary general Ban Ki-moon said in Doha, “It's only fair and reasonable that the developed world should bear most of the responsibility.” Although the South has long insisted on the liabilities of the North for global warming, a recent report by Lord Nicholas Stern and colleagues (<http://go.nature.com/dvEW3l>), jointly published in the UK by the Grantham Research Institute on Climate Change

and the Environment, and the Centre for Climate Change Economics and Policy, suggests it's time for developing nations to step up their responsibilities on cutting greenhouse-gas emissions too. The study shows that even if developed countries reduce their emissions to zero by 2030, greater efforts will be required by the less-developed world to stay on a pathway for 2 °C warming by 2100. If they take no further action, developing countries will probably be responsible for about two-thirds of emissions in 2030, compared with about a third in 1990, the baseline year for the Kyoto Protocol. Stern and co-workers advise countries to come together in dynamic partnerships, with poor nations choosing a sustainable development path and rich countries supporting this transition through technology and finance transfers.

But finance is another stumbling block in the Doha negotiations. The so-called fast-start finance agreed in Copenhagen in 2009 — almost US\$30 billion over the period 2010–2012 to support poor countries in climate mitigation and adaptation initiatives — was supposed to help build trust between developed and developing countries in the climate change arena. However, a briefing paper (<http://go.nature.com/o4vJFz>) published on the eve of the Doha talks by the Institute for Environment and Development, London, shows that only US\$23.6 billion has actually been committed. There is also lack of clarity about how the US\$100 billion Green Climate Fund, established in 2010 in Cancun, will be mobilized by rich nations by 2020. The Fund is supposed to start lending in 2014, but poor countries are concerned that western economies suffering from the toughest recession in decades will not be willing or able to come up with the cash.

Whether or not a new Kyoto pact will be achieved at the Doha meeting remains to be seen. Science has already told us what is needed to limit warming of the planet to relatively 'safe' levels, and what many of the risks of failing to do so might be. It is now the turn of politics to cut the pessimism many of us share about climate negotiations, and to translate knowledge into policy and action. □