

Strap: The future

Looking beyond 2012

The Kyoto Protocol only sets emission reduction targets to 2012 – what happens after that remains to be agreed. This uncertainty is already making life difficult for business, and as **Axel Michaelowa** and **Sonja Butzengeiger** argue, a robust climate regime post-2012 is in everyone's interests

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Given the lingering uncertainty over the Kyoto Protocol, it may seem premature to worry about what happens after the Protocol's first 2008-12 target or 'commitment' period. But business is already being asked to make climate-related investment decisions that have implications beyond 2012. And policymakers need to start considering now what direction climate policy should take.

Without a doubt, climate policy has reached the boardroom of many companies. Despite still needing ratification by Russia to come into force, the Kyoto Protocol is firmly on the radar screen of chief executives and chief financial officers. Planned greenhouse gas (GHG) emissions trading schemes in the European Union, Canada and, potentially, Japan, will go ahead regardless of Kyoto. And investments are already being made in emissions reduction projects designed to earn 'carbon credits' under the terms of the Kyoto Protocol.

But the question of what happens after 2012 is already impacting on investments in 'Clean Development Mechanism' (CDM) projects, one of the Kyoto mechanisms designed to encourage investments in developing country that reduce GHGs. The World Bank, an early investor in CDM projects, states that its investors[not-the-bank-itself?] in carbon finance products do not place any value to post-2012 emission credits from the Kyoto mechanisms. Their argument is that uncertainty about the climate regime after the first commitment period creates such a risk to discount the value of the credits to zero.

Business needs certainty, and the long-term nature of the Kyoto mechanisms needs to be reinforced. Under the Kyoto rules, CDM projects can generate credits for up to 21 years. Moreover, large projects have long lead times and thus would not be attractive unless they generate credits beyond 2012. So what are the ways forward beyond 2012?

Sceptics, of course, argue that the Kyoto regime has no future because the US will never accept it. The abundance of cheap coal, with its associated GHG emissions, will make it economically impossible to cost-effectively mitigate sufficient emissions. This is supported by some US economists who say that a 'business-as-usual' approach should be followed for some decades, as a cost-benefit analysis does not justify the costs of earlier action.

Business associations of emission-intensive industries have often taken up these arguments, often helping to stall the implementation of national climate policy measures. Even member companies within the International Emissions Trading Association – by definition favourable to the Kyoto mechanisms – tried to prevent the introduction of the EU emissions trading scheme.

Some of the more ignorant cynics even argue that climate change is beneficial for temperate and cold countries and that impacts on developing countries do not matter. This line of

thought would lead to a 'fortress world' of the rich. Historical experience shows that fortresses are eventually overrun.

But there are more compelling factors suggesting that limits on GHG emissions will become tighter in the future. First, natural scientists are becoming more – rather than less – alarmed about climate change. The sensitivity of the climate system to GHGs seems to be greater than first thought. Scientists are now arguing for deep global emissions reductions of 60-80% in the next 50 years. This would mean that the current GHG growth trend would have to be bent downwards quickly, without stifling the growing energy needs of developing countries.

Moreover, extreme weather events such as floods and heatwaves are seemingly becoming more common, generating an increasing public awareness about the impacts of climate change. This can lead to policy pressure for stronger mitigation efforts. This has already materialised in some countries, such as Germany and the UK, where aggressive long-term mitigation targets have been announced.

A path towards stronger mitigation will push upwards prices of emissions credits unless a technical breakthrough provides carbon-free energy at low prices. Recent promising cost reductions in some forms of renewable energy raise the hope that eventually the price gap between fossil fuels and renewables will be closed. However, this will take decades, and we therefore expect rising carbon credit prices at least until 2020.

Another trend reinforcing this interpretation is the emerging tendency to make companies liable for climate change impacts caused by their GHG emissions. Several non-governmental organisations are campaigning along these lines, and the small island state of Tuvalu has announced the first legal action. Some analysts speculate that climate change could be to the 21st century what asbestos and tobacco litigation was to the late 20th.

A bullish global GHG market has clear implications. On the one hand, the use of options contracts on future emissions credit streams are likely to become popular until the start of the first commitment period because the up-front payment is limited, although contracts need to be drafted carefully to address risks of delivery. On the other hand, temporary credits, which would expire after five years and then have to be replaced as currently contemplated for forestry projects under the CDM could become worthless. If prices rise rapidly, it would be cheaper to buy 'permanent' credits now instead of having to replace temporary forestry credits with expensive permanent credits in the future.

However, the question remains whether future climate policy will follow the Kyoto model, or whether an alternative approach will be adopted. The international climate negotiations have set a deadline of 2007 to fix the regime for the second commitment period and talks are due to begin as early as 2005. The Kyoto negotiations have shown that it is possible to reach agreement within three years.

Compared to other international regimes, the Kyoto Protocol structure is efficient due to its use of international market mechanisms, and is adaptable in the future due to the concept of subsequent commitment periods with the adjustment of rules and targets. It contains innovative verification and compliance provisions. The Protocol should thus not be discarded lightly.

Instead the Kyoto framework needs to be elaborated in a way that eliminates its defects. The most important issue in this regard is to widen its geographical scope while increasing the

stringency of reductions targets in an adequate way. Recent climate negotiations have seen a widening gap between industrialised and developing countries, fuelled by a US U-turn where the Administration is now trying to convince developing countries that climate policy will thwart their development.

Any strategy needs to address this gap and cannot argue that developing countries should adopt emission targets without an intensification of effort by industrialised countries. Developing countries can only be asked to adopt emission targets ('graduation') when reduction commitments of the industrialised countries are considerably strengthened ('deepening'). The principle of 'contraction and convergence' – reducing emission budgets of the high per capita emitters overproportionally over time until all countries have the same per-capita emissions budget – should guide this. However, its immediate introduction would lead to very high North-South transfers that would be politically difficult to achieve.

The Hamburg Institute of International Economics has studied the evolution of the Kyoto regime, analysing potential thresholds for developing countries for taking (active) commitments and formulas on the allocation of emission reduction targets. We have developed a 'Graduation and deepening' scenario for the second commitment period which includes the following elements:

- Adoption of an indicative 550 atmospheric parts per million concentration target for all GHGs, and a declaration that global emissions should peak not later than 2030;
- A reduction of –3% to –12% for different categories of industrialised countries between 2008-12 and 2013-2017. Allocation to each category would be on the basis of the country's overall emissions intensity and the availability of reduction options.
- On average, industrialised countries would have a target of –23% compared to 1990;
- Russian and Ukrainian 'hot air' surplus allowances would be eliminated. This would be done by defining the basis of a future reduction target for countries with a net surplus in 2008-2012 via a review team. However, the hot air accumulated in the first commitment period will not be taken away. Eliminating hot air is essential to prevent the impression that each group of graduating countries has to receive hot air to entice them into the system;
- Concentric rings of graduation of current countries without targets would be defined by a 'graduation index'. This index would be calculated on the basis of per capita emissions and income, with various thresholds for graduation.
- The targets for 2013-2017 would be less stringent the lower the threshold. The innermost ring would reduce by 6%, the second by 3% and the last would stabilise emissions. A crucial element is a base year of 2012, meaning that reductions start relatively slowly.
- Any country that does not accept a target despite being above a graduation threshold would lose the rights to host CDM projects and to receive any funding under the Kyoto Protocol.
- Large emitters such as China, India, Indonesia and Brazil would not graduate under this scheme. To give them an enhanced incentive to embark on emission reductions, the CDM should be extended from its current projects-only mode to include policies and sectoral approaches.
- All types of carbon absorbing sinks, both terrestrial and marine, would be available to allow a cost-efficient approach. To safeguard environmental integrity, countries would be liable for any reversal of sinks that see them release the stored carbon. The broad use of sinks is key to persuade reluctant industrialised countries as well as current hot air countries into the regime.

Many observers think that such a scenario is wishful thinking, and instead posit alternatives to Kyoto. One common approach is to suggest splitting up the international climate regime in several subject-specific treaties (such as technology, adaptation, caps) that would only be signed by 'like-minded' parties. Such an 'orchestra' of treaties would, however, require an enormous capacity for parallel negotiations and its effectiveness would be doubtful, especially as the potential for using broad negotiations with an opportunity for "tit-for tat" exchanges would be limited. While the Kyoto mechanisms could be integrated into such a scenario, demand for emissions credits would surely fall as fewer countries would sign up for a cap..

Business, especially those companies that have been fighting against Kyoto and/or domestic climate policy instruments, should note that discarding the Kyoto regime would lead to the loss of at least one decade in addressing global climate change. A course of 'do nothing' after 2012 opens governments to the risk of being forced to take drastic action around 2030 when climate-change related weather disasters become frequent. Attempting to achieve reductions of say 30% within one decade would definitely be more costly than embarking on a smooth reduction course now.

The alternative would be very grim: adapt to climate change in the North and leave the South to its fate. However, as September 11 has clearly shown, the South has the means to make life in the North difficult. A more sensible approach would be to embark on a cooperative path, starting with strong investments in the global GHG markets and continuing with graduation and deepening.

Axel Michaelowa is head of the international climate policy programme, and Sonja Butzengeiger is researcher at the Hamburg Institute of International Economics.
E-mail: a-michaelowa@hwwa.de, sonja.butzengeiger@hwwa.de