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Editorial

Heading into the 2007 Climate Change Negotiations: What are the Issues for Developing Countries?

It is well known that developing countries did not commit themselves to any binding targets under the *Kyoto Protocol*,¹ although those that ratified the *United Nations Framework Convention on Climate Change*² (UNFCCC) remain obliged to comply with those commitments. At the eighth Conference of the Parties (COP 8) in Marrakesh, new guidelines were adopted to be followed by developing countries, which are required to report on their emissions, and the steps they are taking to meet their commitments under the UNFCCC.

From 3-14 December 2007, representatives of over 180 countries, together with observers from intergovernmental and nongovernmental organisations, will gather in Bali for the thirteenth Conference of the Parties (COP13) to the UNFCCC, as well as the third Meeting of the Parties (MOP3) to the *Kyoto Protocol*. It is expected that the deliberations will provide a “road map” for a post-2012 agreement. There is a general consensus that a functioning international regime within the UNFCCC framework must be established in Bali to achieve significant reductions in greenhouse gas (GHG) emissions. The most significant questions that are likely to emerge are long-term emissions targets for developed countries, whether developing countries will agree to accept binding emissions reduction targets and whether avoided deforestation will be an acceptable method of deriving Certified Emissions Reductions Units under the *Kyoto Protocol*.

At present there is no agreement as to what the long-term emissions reduction target should be. Should it be “well below half of 2000 levels” as suggested by the Ad Hoc Working Group on Further Commitments for Annex I Parties Under the *Kyoto Protocol* at its meeting in November 2006?³ Or should it be “between 25%–40%

1 Text available at http://unfccc.int/essential_background/kyoto_protocol/items/1678.php (November 2007).

2 Text available at http://unfccc.int/essential_background/convention/background/items/2853.php (November 2007).

below 1990 levels” as suggested by the 2007 Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC),⁴ or “50% below 1990 levels” as discussed at the June 2007 G8 Summit?⁵ Or, more importantly, are these reductions far too conservative?

The International Energy Agency’s (IEA) *World Energy Outlook 2007 – China and India Insights*,⁶ released on 7 November 2007 states that, based on energy demands particularly in China and India, and *current* policies to address global climate change, emissions are likely to rise by 57 per cent between 2005 and 2030. This is because China overtook the United States as the world’s biggest emitter in 2007, while India will become the third biggest emitter by around 2015.⁷ Alternatively, if all the measures *currently being considered* around the world to curb emissions are implemented, emissions could stabilise by the mid-2020s. OECD country emissions peak at 2015 and then begin to decline but global emissions are still likely to be 27 per cent higher in 2030 than 2005. If there are continued emissions reductions after 2030 stabilisation is likely to occur at 550ppm, way above the IPCC’s recommendation of 440ppm, resulting in a 3 degree Celsius rise in temperature. In its most pessimistic scenario, the IEA claimed that, on account of the estimated rapid emissions growth in China and India, if current policies were not changed the world would warm six degrees Celsius by 2030.

In terms of timing, there is no doubt that the world needs to move quickly if it hopes to achieve the IPCC’s stabilisation target of 450ppm. The 2006 Stern Review⁸ called for urgent coordinated action and international multilateral cooperation over the next 10–20 years. The IEA has warned that “exceptionally quick and vigorous policy action by all countries and unprecedented technological advances, entailing substantial costs” are needed.⁹

3 See FCCC/KP/A/AWG/2006/4 at <http://unfccc.int/resource/docs/2006/awg2/eng/04.pdf> (11 June 2007).

4 Available at www.ipcc.ch/SPM2feb07.pdf (11 June 2007).

5 See G8 Summit 2007 Declaration available at www.g-8.de/Content/DE/Artikel/G8Gipfel/Anlage/2007-06-07-gipfeldokument-wirtschaft-eng.property=publicationFile.pdf (10 June 2007).

6 Available at www.iea.org/Textbase/npsum/WEO2007SUM.pdf (November 2007).

7 If one takes emissions from land use change and deforestation into account Indonesia is the third largest emitter of GHGs in the world; see *Indonesia and Climate Change* (Department for International Development: March 2007).

8 Sir Nicholas Stern *The Economics of Climate Change* (HM Treasury, UK: 30 October 2006) www.hm-treasury.gov.uk/Independent_Reviews/stern_review_economics_climate_change/sternreview_index.cfm (November 2007).

9 IEA *World Energy Outlook 2007 – China and India Insights*, note 6 at 12.

Current Greenhouse Gas Initiatives for Developing Countries

The Asia-Pacific Partnership on Clean Development and Climate (AP6)¹⁰ was established on 28 July 2005 at the Association of South East Asian Nations (ASEAN) Regional Forum. Member nations include the US, Australia, China, India, Japan and South Korea which together account for around 50 per cent of the world's GHG emissions, energy consumption, GDP and population. Under AP6, the six countries are working together to develop, deploy and transfer existing and emerging clean technology; meet increased energy needs and explore ways to reduce the greenhouse intensity of their economies; build human and institutional capacity; and seek ways to engage the private sector; but without taking on any binding targets.

Fears have been expressed that AP6 will distract attention from multilateral arrangements under the UNFCCC and the *Kyoto Protocol*. However, the Sydney APEC Leaders' Declaration on Climate Change, Energy Security and Clean Development¹¹ reaffirmed the APEC countries' commitment to the UNFCCC's COP13 as the framework under which to negotiate a comprehensive post-2012 arrangement, but they did not commit to any binding targets. They did, however, agree to achieving a "long-term aspirational global emissions goal" to pave the way for an effective post-2012 arrangement. It is interesting that at the APEC meeting, China insisted that the UNFCCC and the *Kyoto Protocol* are the only legal basis for any international cooperation on climate change.¹² Also, significantly, the G8, including the US, committed itself to the further development of an international climate change regime to be negotiated at the UNFCCC conference in Bali.

10 Office of the Prime Minister, 28 July 2005 and the Australia Institute, 28 July 2005 at www.pm.gov.au/news/media_releases/media_Release1482.html (16 October 2005).

11 Available at www.apec.org/etc/medialib/apec_media_library/downloads/news_uploads/2007_aelm.Par.0001.File.tmp/07_aelm_ClimateChangeEnergySec.pdf (4 October 2007).

12 See Wilkinson "Kyoto is the Only Way, Hu Tells Howard" *Sydney Morning Herald* 10 September 2007.

China's Latest Climate Change Policies and Measures

Although it is unlikely that China will agree to accept binding emissions targets at Bali, at a press conference on 4 June 2007, Ma Kai, chairman of China's National Development and Reform Commission, briefed the press on China's latest approach to addressing climate change.¹³ There is no doubt that this press statement amounts to a comprehensive strategy for reducing greenhouse gas emissions in China.

It was made clear that China will continue to actively participate in the international negotiations of the UNFCCC and the relevant activities of the IPCC. China is also ready to strengthen international cooperation to tackle global climate change, including with respect to the clean development mechanism and technology transfer. By 2010, China proposes to establish an appropriate and efficient institutional and management framework to address climate change.

Key areas for GHG mitigation in China include energy production and transformation; energy efficiency improvement and energy conservation; and the promotion and development of clean production and a circular economy in the industrial sector. With respect to energy production and transformation, China proposes to expedite the enactment of laws and regulations relating to GHG mitigation. To this end, it proposes a national *Energy Law* and amendment of the *Law on the Coal Industry and Electric Power*. Preferential policies to develop and utilise clean and low carbon energy will be intensified. National medium- and long-term energy strategies and special programs for coal, electricity, oil and natural gas, nuclear energy, renewable energy and oil will be prepared. Commitments are made to comprehensively implement the *Renewable Energy Law of the People's Republic of China*¹⁴ and address institutional reform in the energy sector. The government proposes to use market mechanisms to optimise China's energy mix and promote energy price reform.

The following technologies will be specifically promoted to reduce China's greenhouse gas emissions:

- Hydropower – which is expected achieve a reduction of 500 Mt CO₂ by 2010;
- Nuclear power – which is expected to achieve a reduction of 50 Mt CO₂ by 2010;

13 Press conference on climate change program, 4 June 2007, available at http://english.gov.cn/2007-06/04/content_636052.htm (9 June 2007).

14 See Wang Mingyuan "Prospects for the Renewable Energy Industry in China: Legal Perspectives" (2007) 10 *Asia Pacific Journal of Environmental Law* 13.

- Thermal power generation – which is expected to achieve a reduction of 110 Mt CO₂ by 2010;
- Coal-bed methane (CBM) exploration, development and utilisation – which is expected to achieve a reduction of 200 Mt CO₂e by 2010;
- Bio-energy – which is expected to achieve a reduction of 30 Mt CO₂e by 2010; and
- Wind, solar, geothermal and tidal energy – which are expected to achieve a reduction of 60 Mt CO₂ by 2010.

Energy Efficiency and Conservation

Energy efficiency and conservation will play a key role in China's GHG mitigation strategy. It is proposed to amend and improve the *Energy Conservation Law of the People's Republic of China* and make regulations addressing electricity, petroleum and building energy conservation. Energy efficiency standards for energy-consuming industrial equipment, domestic appliances, lighting appliances and motor vehicles will be formulated. Energy conservation targets will be set and GHG mitigation and energy conservation will be integrated into regional economic development.

Energy conservation technologies will be promoted in key sectors, including the iron and steel industry; nonferrous metal industry; oil and petrochemical industry; the building and building material industries; transportation; agricultural machinery; and commercial and residential energy consumption.

A commitment is made to implement the ten key energy conservation priority programs in the Medium-and-Long-Term Energy Conservation Plan, including addressing low efficiency coal-fired industrial boilers, district heat and power cogeneration, recovery of residual heat and pressure, oil saving and substitution, energy conservation in buildings and in government agencies, and energy conservation monitoring and technological support. It is estimated that: "Through the implementation of these ten programs ... 240 Mtce can be conserved during the 11th five-year plan period (2005–2010), equivalent to 550 Mt CO₂ reductions."¹⁵

Industrial Processes

With regard to industrial processes, China will pursue the principle of "reduction, reuse and recycling of waste" to further promote the development of clean production and a circular economy in the industrial sector. Sectors being targeted

¹⁵ Press conference on climate change program, note 13.

include the iron and steel industry, the production of bulk cement and slag cement, and building construction. Controls on emissions of nitrous oxide and other GHGs will be strengthened through CDM projects and pursuing other forms of international cooperation, including technical assistance.

Agricultural Sector

Reforms in the agricultural sector are proposed to improve agricultural production and increased carbon storage, to conserve agricultural land and to control land reclamation in areas with fragile ecosystems. The press statement anticipates a strengthening of the laws and regulations on agriculture, grasslands and land management,¹⁶ and their implementation.

Forestry

Legislative reform is also proposed in the forestry sector, together with stricter monitoring and enforcement. Policies to promote voluntary planting and governmental afforestation will be developed so as to increase forest resources and carbon sequestration. The press statement includes a commitment to implement key forestry programs such as the Natural Forest Protection Program, the Conversion of Cropland to Forest Program, the Sandification Control Program for Areas in the Vicinity of Beijing and Tianjin, Key Shelterbelt Development Program in Such Regions as the Three North and the Middle and Lower Reaches of the Yangtze River, and the Wildlife Conservation and Nature Reserve Development Program.

Municipal Waste

Municipal waste management principles will be reoriented to focus on the “whole-process”; that is to say, reduction of wastes at source, recovery and utilisation, and non-hazardous disposal. Improved implementation of relevant laws is foreshadowed, including the *Law on Prevention of Environmental Pollution Caused by Solid Waste of the People’s Republic of China*, the *Regulations on the Management of City Appearance and Sanitation*, and *Measures for the Management of Municipal Domestic Waste*.

¹⁶ *Law of Agriculture of the People’s Republic of China; Law of Grassland of the People’s Republic of China; and Law on Land Management of the People’s Republic of China.*

Proposed economic measures include an incentive policy for the recovery and utilisation of landfill gas. It is proposed to increase fees for waste disposal; to establish a preferential feed-in tariff for landfill gas power and waste incineration power projects; and to provide preferential value-added tax and enterprise income tax relief and reduction for landfill gas recovery and utilisation projects.

Reducing Emissions from Forests in Developing Countries: A Focus on Indonesia

One of the most crucial issues for “tropical” developing countries is the extent to which reducing emissions from avoided deforestation will be recognised at COP13. Forestry activities are expressly recognised under the *Kyoto Protocol*. Under Article 3.3, reductions in greenhouse gas emissions resulting from forestry activities, limited to afforestation, reforestation and deforestation since 1990, may be used to meet the commitments of each Party. It was also agreed that, in addition to these, human-induced activities relating to revegetation, forest management, cropland management, grazing land management could be counted toward commitments in the second and subsequent commitment periods.¹⁷ However, a Party may choose to have them counted for its first commitment period, provided that the activities have taken place since 1990. To comply with Article 3, Parties must keep an annual inventory of anthropogenic emissions and removals of sinks (Art.7). Information in the inventory must be reviewed by expert review teams, selected from those nominated by Parties and intergovernmental organisations. The inventory must provide a thorough and comprehensive technical assessment of all aspects of implementation, including a report on problems with fulfilling commitments. The inventories must be circulated to all Parties (Art.8).

The potential for forests to act as carbon sinks gained prominence at COP11 in Montreal in 2005 where the issue of Reducing Emissions from Deforestation in Developing Countries (REDD) was placed on the agenda by Papua New Guinea, Costa Rica and eight other Parties. Two workshops on REDD were subsequently held at the end of August 2006 in Rome, and another in early March 2007 in Cairns, Australia. REDD will be a crucial issue at COP13 in Bali in December 2007. At stake

¹⁷ See the Report of the Conference of the Parties on the Second Part of its Sixth Session, held at Bonn, 16–27 July 2001, at 10 at <http://unfccc.int/resource/docs/cop6secpart/05a02.pdf> (16 November 2004). This provision is included in Art.3.4, also known as the “Australia clause”, as it was a concession proposed, and won, by the Australian government in Bonn. The Australian government successfully persuaded the international community to allow a more generous accounting of emissions reductions resulting from halting broadscale landclearing.

is recognition of REDD as a way forward for achieving climate change mitigation and for offering significant financial incentives to developing countries for ecologically sustainable forest conservation and management. In its Fourth Assessment Report, the IPCC stated that approximately 20 per cent of anthropogenic CO₂ emissions during the 1990s resulted from land use change, primarily deforestation. However, 25 per cent of total emissions are estimated to have been absorbed by terrestrial ecosystems through replacement vegetation growth on cleared land, and land management practices. Forests therefore are an integral part of the global carbon cycle and have a crucial role to play in carbon sequestration.

The issue is of particular relevance to the Republic of Indonesia as the world's third highest emitter of greenhouse gases, due to land use change and deforestation (which annually releases over 30 per cent of total global greenhouse gas emissions). The retention of the carbon stock in Indonesia's vast remaining forest areas has become a critical priority for the global community and has led to two emergent policy responses: (1) the provision of funds for direct aid to avoid deforestation to preserve forest ecosystem services, including carbon sequestration (such as the World Bank Global Forest Alliance and the Global Initiative on Forests and Climate) and (2) the creation of financial incentives for forest conservation through trading instruments such as carbon credits for avoided deforestation (World Bank Forest Carbon Partnership Facility).

To be effective, REDD projects will need to be real, additional and measurable and provide long-term continuity. In turn this will require a comprehensive regime of laws, regulations, guidelines and policies for forest management and REDD accreditation that is supported by effective structures of administration and governance. Without this, it is unlikely that carbon credits arising out of avoided deforestation will be acceptable as a source of certified emissions reductions under the *Kyoto Protocol's* Clean Development Mechanism (CDM). This is particularly pertinent in a country like Indonesia where Indonesia's Basic Forestry Law, Law No. 41/1999, the Presidential Instruction No. 4 of 2005, the Long Term Forestry Development Plan for 2006-2025, the Medium Term Strategic Plan 2005-2009, and the National Forest Statement are silent on the issue of avoided deforestation. There is clearly a need for legal reform in this area.

Yet recognition of carbon credits generated from avoided deforestation is likely to be highly controversial at Bali. Already, forestry offsets, including afforestation¹⁸ and reforestation,¹⁹ are the most controversial type of offsets under existing and proposed emissions trading schemes. This is because there is doubt about whether forestry projects can store carbon permanently. In the case of avoided deforestation,

18 Afforestation is the artificial establishment of forests by planting or seeding in an area of non-forest land.

19 Reforestation is the restocking of existing forests and woodlands which have been depleted, with native tree stock.

the problem of “additionality” is particularly acute as there is doubt whether it can be proved that a forest would have been cleared but for the ability to generate credits by avoiding clearing.

As the Australia Institute notes,²⁰ under the Joint Implementation (JI)/CDM rules, forestry offsets are limited to afforestation and are only permitted until 2012. All forestry projects must be guaranteed for a minimum of five years to a maximum of 60 years, depending on the project, and all credits generated from projects must be replaced with credits from other projects when they expire. Under the EU emissions trading scheme, forestry offset projects are excluded as allowable offsets, while under the US Regional Greenhouse Gas Initiative (RGGI) up to 3 per cent of total emissions can be offset under projects including afforestation.²¹ Australia is the country which is most supportive of forestry offsets.²²

The problem is exacerbated by the fact that there is no universal standard for accrediting offsets. The Gold Standard for offsets, for example, only includes JI/CDM registered renewable energy and energy efficiency projects. Projects must be “additional” and forestry projects are excluded. A Voluntary Carbon Standard for offsets is currently being developed which will permit offsets from renewable energy, energy efficiency and forest projects.²³ All of these different rules suggest that there may be a backlash against forestry offsets if they are viewed as unreliable.²⁴ It remains to be seen how negotiations in Bali will overcome these problems.

The Emergence of Carbon Funds to Support Avoided Deforestation

Carbon funds have emerged around the world in response to the emissions trading regime established under the *Kyoto Protocol*. In its report *State and Trends of the Carbon Market 2007*, the World Bank found that the value of carbon funds (pool of capital raised for the purposes of investment in the carbon market) was US\$4.6 billion in 2005 rising to US\$11.8 billion in 2006.²⁵ There were 40 carbon funds in 2005 and 58 in 2006.²⁶

20 C. Downie *Carbon Offsets: Saviour or Cop-out*, Research Paper No. 48 (The Australia Institute: 2007) at www.tai.org.au/documents/downloads/WP107.pdf (2 September 2007).

21 Regional Greenhouse Gas Initiative Model Rules, Subpart XX-10(1)(iii).

22 In Australia, there are currently two proposals for an emissions trading scheme. One, developed in 2004 by the State governments in the absence of any Federal leadership and known as the National Emissions Trading Scheme, is supportive of forestry offsets. A domestic emissions trading scheme endorsed by the then Prime Minister, John Howard, in June 2007, also endorses forestry offsets, including from avoided deforestation.

23 Downie, note 20 at 14.

24 *Ibid.*, at 12-17.

25 Karan Capoor and Philippe Ambrosi *State and Trends of the Carbon Market 2007* (The World Bank, Washington DC: May 2007) <http://etseq.law.harvard.edu/images/uploads/StateCarbon.pdf> (November 2007).

The most prominent carbon funds are those which have been established under the auspices of the World Bank Carbon Finance Unit (CFU).²⁷ Financial contributions made by governments and companies in OECD countries are used by the CFU to purchase Certified Emission Reductions (CER) and Emission Reduction Units (ERU) in developing countries and countries with economies in transition. The CERs and ERUs are purchased through one of the CFU's carbon funds on behalf of the contributor. The CFU does not lend or grant resources to projects but contracts to purchase CERs and ERUs, paying for them annually or periodically once they have been verified by a third party auditor. Carbon finance is providing a means of leveraging new private and public investment into projects that reduce GHG emissions. The role of the CFU is to expedite a global carbon market that reduces transaction costs, supports sustainable development and benefits the poorer communities of the developing world.²⁸

Funds devoted to forestry projects are beginning to emerge. They include the following:

- The BioCarbon Fund is a public/private initiative administered by the World Bank, which funds demonstration projects that sequester or conserve carbon in forest and agro-ecosystems. The Fund is composed of two tranches. Tranche One started operations in May 2004, has a total capital of US\$53.8 million and is closed to further participation. Tranche Two was operationalised in March 2007 and remains open to contributions.
- The Forest Carbon Partnership Facility has been established in response to a request by developing and industrialised countries to the World Bank to explore a framework for piloting activities that would reduce GHG emissions from deforestation and degradation.

On 10 September 2007, the World Bank announced that it is finalising arrangements relating to the Forest Carbon Partnership Facility. The Bank said that it would create two funds raising US\$300 million to assist efforts by developing countries in the "tropical belt" to sell credible CERs for avoided deforestation projects. The World Bank believes that fears about the future supply of carbon credits could be allayed by ensuring that the sector or programmatic CDM approach and avoided deforestation are incorporated into the post-2012 regime.²⁹

²⁶ Ibid, at 5.

²⁷ See <http://carbonfinance.org/Router.cfm?Page=About&ItemID=24668> (13 October 2007).

²⁸ Ibid.

²⁹ See *Point Carbon*, 10 September at www.pointcarbon.com/Home/News/All%20news/CDM%20%20I/article24413470.html (13 October 2007).

Conclusion

It is clear that COP13 in Bali will address significant issues relating to the obligations of developing countries to reduce their GHG emissions. The need to do so has been made all the more urgent by the IEA's recent report which draws attention to China's and India's escalating emissions. A strategy for reducing emissions in these, and other, developing countries will no doubt be negotiated. Given that emissions from deforestation in "tropical" developing countries are also significant, attention will have to be given to the possibility of deriving credits from avoided deforestation, no matter how controversial.

ASSOCIATE PROFESSOR ROSEMARY LYSTER
Australian Centre for Environmental Law Sydney
Faculty of Law, University of Sydney, Australia

