Global Climate Change Policies: From Bali to Copenhagen and Beyond

Jonathan Boston

Introduction

In early December 2007, the island of Bali in Indonesia hosted the 13th Conference of the Parties (COP13) to the United National Framework Convention on Climate Change and the 3rd Conference of the Parties serving as a Meeting of the Parties (COP/MOP3) to the Kyoto Protocol.[1] Attended by almost 11,000 participants and observers from across the globe, Bali marked the climax of a period of unparalleled international climate change summitry (Chasek, 2007). The decisions taken at COP13 have been variously hailed as a 'major breakthrough' (Egenhofer, 2007) and as an utter failure – 'the mother of all no-deals', to quote Sunita Narain (2008) and 'even worse than the Kyoto Protocol' according to George Monbiot (2007).[2]

This article provides a brief overview of the current global policy framework for addressing climate change, outlines the key issues facing international negotiators as they gathered for COP13, highlights the main decisions of the Bali conference (the so-called Bali 'roadmap') and assesses their significance. Attention is also given to the implications of COP13 for New Zealand.

The evolving global policy framework – a brief history

The United Nations Framework Convention on Climate Change (UNFCCC) provides the guiding principles and negotiating platform for multilateral action to address human-induced climate change. Negotiated in 1992, the UNFCCC took effect in 1994; by 2007 it had been ratified by 192 parties, including the United States. The 'ultimate objective' of the Convention is the 'stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic [i.e. human-induced] interference in the climate system'. Amongst the key principles specified in Article 3 of the Convention is the requirement that:

> The Parties should protect the climate system for the present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.

In response to growing scientific concerns during the early-to-mid 1990s that the process of human-induced climate change was accelerating, the international community negotiated a new agreement during 1995-97 (under the UNFCCC) to curb the growth in greenhouse gas emissions. The main elements of what became known as the Kyoto Protocol were agreed in late 1997 – although many of the technical details took a further decade to negotiate and implement (see Ward and Boston, 2007). The Protocol entered into force on 16 February 2005 and as of early 2008 had been ratified by at least 175 countries, including all but one developed country (i.e. the United States). Under the Kyoto Protocol, the 38 industrialized countries (known as Annex 1 Parties under the UNFCCC) agreed to fixed and legally-binding *responsibility* targets[3] for their greenhouse gas emissions during a five-year period (2008-12); this is known as the first commitment period (or CP1). Overall, Annex 1 Parties (including

1 The author would like to thank Stuart Dymond, Hugh Logan, Adrian Macey, Martin Manning and Murray Ward for their helpful comments on an earlier version of this paper.

2 For other views, see Diringer (2008), ENB (2007), Fuller and Revkin (2007), Müller (2008), and Spotts (2007).

3 Annex 1 Parties are not necessarily required under the Kyoto Protocol to reduce their domestic emissions by the specific targets agreed to, but rather to take responsibility for reductions of the agreed magnitude. Parties have the option, if they wish, of achieving these reductions through the purchase of Kyoto-compliant emission allowances on the international market or via the Clean Development Mechanism. For this reason, the Kyoto targets should be thought of as responsibility targets rather than domestic reduction targets.

the US at the time) agreed to an aggregate reduction in their emissions of about 5% relative to 1990 levels. The various national targets, however, differ markedly, with some countries accepting much deeper cuts than others. For instance, New Zealand's target for CP1 is 100% of 1990 levels.[4] By comparison, Australia's target is 108% and the European Union's is 92% (while that of the US was 93%). In order to achieve these targets in an effective and efficient manner, the Kyoto Protocol provided for the establishment of three so-called 'flexible mechanisms': an international emissions trading regime, the Clean Development Mechanism (CDM) and Joint Implementation (JI).

In accordance with the principle of 'common but differentiated responsibilities', developing countries were not required under Kyoto to take on legally binding emission-reduction targets. Nevertheless, under Article 10, non-Annex 1 Parties agreed to take a range of measures designed to improve the quality of the reporting of their anthropogenic emissions and to 'formulate, implement, publish and regularly update national … programmes containing measures to mitigate climate change and measures to facilitate adequate adaptation to climate change'.

It has been fashionable in some quarters to regard the Kyoto Protocol as a failure – politically, economically and environmentally. But such a stark assessment is questionable. After all, CP1 has barely begun, so it is too early for conclusive judgements. That said, in 2005 (the most recent year for which reliable data are available) the emissions (including those from land use, land-use chance and forestry) of the Annex 1 Parties that have ratified Kyoto were, on average, nearly 10% below their annual allocations for CP1. Note, however, that this result reflects the large emissions reductions in Russia and Eastern Europe during the 1990s following the collapse of the Soviet Union. Excluding such countries yields a rather different picture. Moreover, total emissions across all Annex 1 countries (including the US) are currently tracking upwards.

Nevertheless, virtually all Annex 1 Parties have reaffirmed their commitment to fulfilling their CP1 obligations. Thus far, only Canada (of the 37 developed countries to ratify the Protocol) has given any indication that it might be unwilling to meet its *responsibility* target for 2008-12 (i.e. the government has said that it will be impossible to keep domestic emissions within Canada's CP1 cap and that Kyoto-compliant emission units will not be purchased offshore). Whether the government retains such a policy stance over the coming years remains to be seen.

Kyoto was, of course, never intended to be more than a limited step in what will be a multi-generational endeavour to mitigate climate change and adapt to its impacts. Its authors were fully aware that constraining the growth of emissions in the *developed* world, although vital, would be insufficient to reduce *global* emissions, particularly in a context of rapid economic growth in major developing countries such as China and India. Nor would capping emissions merely for five years make much difference to greenhouse gas concentrations in the atmosphere over the longer term.

But while acknowledging its imperfections, Kyoto can be regarded as a positive, indeed crucial, initiative. To quote the text of the *Summary for Policymakers* prepared by Working Group 3 of the IPCC (and endorsed by the governments of every country involved in the IPCC process):

> Notable achievements of the UNFCCC and its Kyoto Protocol are the establishment of a global response to the climate problem, stimulation of an array of national policies, the creation of an international carbon market and the establishment of new institutional mechanisms that provide the foundation for future mitigation efforts (*high agreement, much evidence*) (IPCC, 2007c, p.21).

Of these achievements, arguably the most significant has been creation of a global emissions trading scheme (including the related systems of accounting, reporting and review, national greenhouse gas inventories and registries, etc.). All being well, this scheme will be expanded and enhanced over the coming decades, thereby ensuring effective mitigation at the lowest possible cost.

Looking beyond 2012

Even before the Kyoto Protocol came into effect in 2005, international attention was already turning to what should happen when CP1 ends in December

4 During the first commitment period (2008-2012), New Zealand is permitted to emit five times its 1990 emissions levels and must take responsibility for emissions in excess of this amount (i.e. by purchasing Kyoto-compliant emission allowances).

Table 1: Characteristics of greenhouse gas stabilisation scenarios

Scenario category	CO_2 equivalent concentration (parts per million CO_2 equivalent)	Global mean temperature increase above pre-industrial at equilibrium using 'best estimate' climate sensitivity[a] (°C)	Change in global CO_2 emissions in 2050 (% of 2000 emissions)	Range of reduction in GDP in 2050 because of mitigation (%)	Allowed emissions by Annex I Parties in 2020 (% change from 1990 emissions)	Allowed emissions by Annex I Parties in 2050 (% change from 1990 emissions)
I	445-490	2.0-2.4	-85 to -50	Decrease of up to 5.5	-25 to -40	-80 to -95
II	490-535	2.4-2.8	-60 to -30			
III	535-590	2.8-3.2	-30 to +5	Slight gain to decrease of 4	-10 to -30	-40 to -90
IV	590-710	3.2-4.0	+10 to +60	Gain of 1 to decrease of 2	0 to -25	-30 to -80
V	710-855	4.0-4.9	+25 to +85			
VI	855-1130	4.9-6.1	+90 to +140			

Source: based on data from IPCC (2007c).
Note: [a]According to the IPCC (2007a), the best estimate of climate sensitivity is 3°C

2012. In framing an appropriate response, the global policy community has been increasingly mindful of the following considerations (see Stern, 2006; Garnaut Climate Change Review, 2008):

1 the growing strength of the scientific evidence – as reflected in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, published during 2007 – that 'most of the observed increase in global average temperatures since the mid-20th century is *very likely* due to the observed increase in anthropogenic greenhouse gas concentrations' (IPCCa, 2007, p.10), (due especially to the burning of fossil fuels and deforestation);

2 the need to avoid an increase in the global mean surface temperature much in excess of 2°C (i.e. above pre-industrial levels) – in order to reduce the risk of large-scale and irreversible adverse impacts, such as the loss of much of the Amazon rainforest or the disintegration of large parts of the Greenland and/or West Antarctic ice-sheets;

3 the need to ensure – if avoiding significantly more than 2°C of warming is the objective – that concentrations of carbon dioxide equivalent (CO_2e) are stabilized at around 450 parts per million (or lower). This, in turn, requires that *global* greenhouse gas emissions peak no later than 2020 and are then reduced by at least 50% by 2050 compared to 2000 levels (and possibly as much as 85%) (see Table 1; IPCCc, 2007; Meinshausen, 2006);

4 the strong case for developed countries to take the lead in mitigation and adaptation efforts on the grounds of historical responsibility, distributive justice, economic capacity and technical capability;

5 the fact that emissions from developing countries now constitute over 50% of global emissions, thus making it impossible to achieve *global* emission reductions of the scale, or within the timeframe, suggested in point 3 unless both developed *and* developing countries reduce their emissions significantly below a business-as-usual scenario;

6 the requirement, if global emissions are to peak no later than 2020, for developed countries to take on *responsibility* targets beyond 2012 that entail substantial cuts on 1990 levels (e.g. 25-40% by 2020) and for many developing countries (especially the major emerging economies) to adopt vigorous and comprehensive measures designed to reduce the growth in their emissions (including those from deforestation); and

7 the desirability, eventually, for agreement to be reached on a stringent, legally-binding multilateral treaty which defines the total global 'budget' of greenhouse gases that can be emitted over a relatively long period of time (i.e. many decades) in the interests of stabilizing CO_2e concentrations at an agreed level. Such a budget will need to be allocated between countries in accordance with a set of agreed principles and, above all, ensure that the burden of adjusting to a low-carbon future is fairly shared. The principle of equal per capita emission rights is likely to figure prominently in any such burden-sharing formula (see Garnaut Climate Change Review, 2008, p.30). Substantial assistance will also need to be provided to developing countries to help them adapt to the growing economic, social and environmental impacts of climate change.

Ensuring that global emissions peak by 2020 and then fall substantially will be very challenging, not least because of the power of vested interests (especially the fossil fuel industry), the long lags in the relevant policy processes, the high degree of path dependence in global energy and transport systems, and the tendency for the short-term self-interest of individual nations to prevail over the common good.

Even achieving a broad global consensus on long-term (e.g. 2050) emission-reduction targets has thus far proved elusive, partly because the US reluctance to endorse stringent emission reductions of the magnitude suggested in point 3 above. Progress towards more vigorous international action has also been rendered difficult for at least two other reasons. First, the Bush Administration has steadfastly rejected ratification of the Kyoto Protocol and, until very recently, has opposed taking on legally-binding emission-reduction targets. Against this, there has been considerable action at the sub-national level (i.e. via states and cities) in the US, and there is a reasonable prospect that the Congress will support legislation, during 2008, to enforce emission reductions.[5] Second, to date most of the newly industrialized countries (e.g. the Gulf states, Israel, South Korea, Singapore, etc.) and the major emerging economies (e.g. Brazil, China and India), have rejected the idea of non-Annex 1 countries taking on any kind of *legally-binding commitments* – whether in the form of intensity targets, emission-reduction targets or targets for renewable energy.

Their rationale for rejecting such commitments can be summarized as follows:

1 it is the moral duty of the main developed countries to act first; this is because such countries are largely responsible for the significant increase in the atmospheric concentrations of greenhouse gases since the 18th century, and their emissions per capita are typically five-to-ten times those of developing countries;

2 many developed countries have taken insufficient action to meet their international obligations under the UNFCCC and the Kyoto Protocol, both with respect to their domestic mitigation efforts and their assistance to developing countries (e.g. with regard to technology transfer, capacity building and the funding of adaptation); and

3 expecting developing countries to sacrifice their economic development in order to curb their emissions is unrealistic given the moral priority of alleviating poverty and the unwillingness of the US to fulfill its international obligations.

Mindful of the need for developed countries to show leadership, the European Union made a unilateral commitment in early 2007 to cut their emissions by 20% by 2020 (compared to 1990 levels). It also declared its willingness to reduce emissions by up to 30% if other developed countries agree to commensurate commitments. Various other developed countries, such as Norway, have also made significant medium-term commitments to reduce their emissions. Closer to New Zealand, the Interim Report of the Garnaut Climate Change Review has suggested that Australia should follow the example of the European Union and take unilateral, unconditional action (e.g. in setting interim domestic emission-reduction targets) as well as offering to accept even tougher targets in the context of agreed international action (Garnaut, 2008, p.40). Nevertheless, without further change in the US policy stance, it will be difficult to secure a multilateral solution to human-induced climate change. In the short-term, therefore, much will depend on the position adopted by

5 For instance, there are various Bills dealing with climate change currently before both the Senate and the House of Representatives, and one or more or these have a reasonable prospect of securing majority support. That said, President Bush may veto such legislation.

the new US administration (following the Presidential election in November 2008) and the balance of forces within Congress.

Towards Bali and a second commitment period

The Kyoto Protocol provides (in Article 3.9) for further commitment periods for Annex 1 Parties after CP1. But neither the precise nature, nor the duration, of such commitment periods are specified. Theoretically, a second commitment period (CP2), together with the issue of which Parties it applies to and how, could be negotiated under the framework provided by Kyoto or as part of a new protocol under the UNFCCC. Either way, a key concern is to avoid any gap between CP1 and subsequent commitment periods because of the uncertainty and complications that such a gap would cause. For instance, global carbon markets and investment in low-carbon energy sources could be significantly disrupted unless the nature of the second commitment period (and related domestic policy measures in major economies) is clarified by early 2010. Moreover, any new international agreement on climate change is likely to take several years for the Parties to ratify and come into force. For such reasons, it has been widely accepted that, ideally, a new agreement should be crafted by the end of 2009 (i.e. at the planned UNFCCC conference in Copenhagen).

Under the Kyoto Protocol, Parties were required to initiate consideration of future commitments by developed countries at least seven years before the expiry of CP1. Accordingly, at the first Meeting of the Parties (MOP1) to the Kyoto Protocol in Montreal in late 2005 an Ad Hoc Working Group (AWG) was established on 'Further Commitments for Annex I Parties under the Kyoto Protocol'. The AWG met on four occasions during 2006-07 to discuss mitigation potentials, measures and technologies and considered various background reports prepared by the UNFCCC Secretariat. Separately, the Parties to the UNFCCC agreed in Montreal to undertake discussions during 2006-07 to enable an exchange of views on 'strategic approaches for long-term cooperative action to address climate change'.[6] This consultative process, known as the 'Dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention', has focused on both adaptation and mitigation (including realizing the full potential of various technologies and market-based opportunities).

Hence, in the lead-up to COP13 in Bali there were two separate, but closely related, processes under way through the auspices of the UN – a Protocol track and a Convention track. Additionally, climate change issues, and especially the question of what to do post-2012, figured prominently during 2007 on the agendas of high-level summits, such as the G8, APEC and CHOGM, as well as many other formal and informal international forums (e.g. see Calgren, 2007; Chasek, 2007).

Critical to such discussions were two interconnected issues: one *procedural*, the other *substantive* (bear in mind that in negotiating contexts procedural matters often have major implications for substance):

1 Procedurally, the key issue was what kind of *negotiating process* should be instituted in order to secure a post-2012 agreement? In particular, should the AWG and Dialogue processes be combined into a single track or should they continue (albeit with some modifications) until COP15 in Copenhagen as separate processes? A single-track approach was favoured by some developed countries, including New Zealand, in the interests of securing a coherent and integrated package of measures. By contrast, most developing countries favoured a multi-track approach, believing that this would help protect the distinction between Annex 1 and non-Annex 1 countries and thereby minimize developing country obligations post-21012. Aside from this, there was a separate procedural issue of how the negotiating process for post-2012 should relate to other processes, such as the planned second review of the Kyoto Protocol (under Article 9).

2 Substantively, the key issues included how specific the negotiating framework for a post-2012 agreement should be, including whether there should be a *mandate* (like, for instance, the 'Berlin Mandate' in 1995 that paved the way for the Kyoto Protocol) or a more general *roadmap*. And irrespective of the nature of the negotiating template and parameters, what principles and considerations should inform the negotiating process, what issues should be on (and off) the agenda, how should the negotiations be sequenced and in accordance with what specific timetable?

6 See Decision 1/CP.11, paragraph 1, COP 11, Montreal.

The events leading up to Bali indicated that agreement on a broad *roadmap* would be achievable. Nevertheless, the shape of this *roadmap* remained contentious due to disagreement amongst the major players on a variety of important issues. These included:

1 What overall *level of ambition* should the international community aspire to achieve in relation to medium-term (2020) and longer-term (2050) global emission-reduction targets (and atmospheric stabilization targets) and should explicit targets (and, if so, of what kind) be agreed to at Bali or sometime later?

2 Should all developed countries, including the US, be expected to take on legally-binding emission-reduction targets for the immediate post-2012 period or could some exceptions be tolerated (e.g. in a context where certain countries, while refusing to ratify an international agreement, nonetheless agreed to make a 'comparable effort' to reduce their domestic emissions)?

3 What should be the nature and extent of the contributions of non-Annex 1 Parties to a post-2012 arrangement and what criteria should guide the level of such contributions? More specifically, should certain non-Annex 1 Parties be expected to take on explicit and binding *commitments* or should any agreed measures be only voluntary in nature?

4 What parameters should be set in relation to other key policy issues, such as reducing deforestation in developing countries, enhancing adaptation assistance, improving technology development and transfer, and determining the length of the proposed CP2 and related issues (such as the emission baseline year)?

The Bali 'Roadmap'

What, then, was actually achieved at COP13? The short answer is more than most pessimists expected, but less than would have been desirable. In formal terms, COP13 adopted 15 decisions (of varying importance) and COP/MOP3 a further 13 decisions (ENB, 2007, p.1). The main elements of the Bali 'roadmap' or 'action plan', as it is variously called, can be summarized as follows.

Negotiating tracks

Despite efforts by various developed countries, including New Zealand, there was little support within the developing world for an integrated, single-track negotiating process. Instead, it was agreed at Bali that there would be twin-track negotiations leading up to COP15, together with the second review of the Kyoto Protocol – in effect, therefore, three separate processes. The first track will involve the continuation of the deliberations of the Ad Hoc Working Group on Further Commitments for Annex 1 Parties. (Note that the US is not part of this process.) The second track will replace the Dialogue process and will be conducted via a new Ad Hoc Working Group on Long-Term Cooperation under the Convention. Importantly, both tracks have a common end date (COP15). A detailed work programme for the Protocol track has been agreed (see Table 2); a programme for the Convention track is in preparation. In order to make progress on the wide range of issues to be negotiated, both AWGs will meet four times during 2008. These meetings will be held at similar times and locations in the interests of coordination and minimizing the pressures on negotiators.

It remains to be seen when and how the Protocol and Convention tracks will converge. But at some point detailed coordination will be essential because any agreement by developed countries to take on new *responsibility* targets for CP2 will be contingent upon the willingness of the larger emerging economies to adopt mitigation measures of various kinds. The stringency of the agreed targets will also be influenced by the nature of any deal to reduce deforestation in developing countries (see next page).

Substantive issues

1. The level of ambition

On the issue of stabilization objectives, including medium-term and long-term global emission-reduction targets, there was only modest progress at Bali. In a so-called 'non-paper' prepared by Howard Bamsey and Sandea de Wet (the co-facilitators of the Dialogue on long-term cooperative action), and distributed to delegates on 8 December, the following wording was proposed to guide negotiations for a post-2012 deal:

> … preventing the worst impacts of climate change will require Parties included in the Annex 1 to the Convention as a group to reduce

Table 2: Timetable of the Ad Hoc Working Group on Further Commitments for Annex 1 Parties under the Kyoto Protocol

Sessions	Work Programme
Fifth Session (first part) – late March and early April 2008	Analysis of means that may be available to Annex 1 Parties to reach their emission reduction targets, including: emissions trading and project-based mechanisms under the Kyoto Protocol; the rules to guide the treatment of land use, land-use change and forestry; the GHGs, sectors and source categories to be covered, and possible approaches targeting sectoral emissions; and identification of ways to enhance the effectiveness of these means and their contributions to sustainable development.
Fifth Session (second part) – early June 2008	Continuation of the above, together with work on relevant methodological issues, including the methodologies to be applied for estimating anthropogenic emissions and the global warming potentials of GHGs.
Sixth Session (first part) – August or September 2008	Consideration of information on the potential environmental, economic and social consequences, including spillover effects on all Parties, in particular developing country Parties, of available tools, policies, measures and methodologies available to Annex 1 Parties.
Sixth Session (second part) – early December 2008	Continue and adopt conclusions on the issues considered in the first part of the Sixth Session, and revert to, and adopt conclusions on, the tasks considered earlier, including: (a) analysis of the mitigation potential, effectiveness, efficiency, costs and benefits of current and future policies, measures and technologies at the disposal of Annex 1 Parties, appropriate in different national circumstances, taking into account their environmental, economic and social consequences, their sectoral dimensions, and the international context in which they are deployed; and (b) the scale of emission reductions to be achieved by Annex 1 Parties, through their domestic and international efforts, and analysis of their contribution to the ultimate objective of the Convention, ensuring due attention to the issues mentioned in the second sentence of Article 2 of the Convention.
Seventh and Eighth Sessions – 2009	Adopt conclusions on the scale of emission reductions to be achieved by Annex 1 Parties in aggregate and the allocation of the corresponding mitigation effort, and agree on further commitments, including new quantitative emission limitation and reduction commitments, and the duration of the commitment period(s); and adopt conclusions on the legal implications arising from the work of the AWG.

> emissions in a range of 25-40 per cent below 1990 levels by 2020 and … global emissions of greenhouse gases need to peak in the next 10 to 15 years and be reduced to very low levels, well below half of levels in 2000 by 2050.

There were predictable objections to this wording. On the one hand, some developed countries expressed concern at the lack of any explicit reference to the need for developing countries to reduce their emissions (i.e. below a business-as-usual scenario), nor any indication of the likely magnitude of this reduction. Be that as it may, the specific reference to *global* emissions needing to peak within the next 10-15 years carried very obvious implications for the emission path of developing countries (i.e. that they must diverge *substantially* from a business-as-usual scenario). On the other hand, the US remained adamantly opposed to explicit targets (claiming that Bali should set the negotiating framework but not the 'destination'), and drew some support for its stance from a few other developed countries. In the end, the terms of reference for the AWG on Long-term Cooperative Action under the Convention stated:

> *Recognizing* that deep cuts in global emissions will be required to achieve the ultimate objective of the Convention and emphasizing the urgency to address climate change as indicated in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change …

A footnote was included in the preamble referring to the relevant pages in the various IPCC reports, thereby signaling, if not explicitly endorsing, the level of global emission reductions required over the medium-to-longer term.[7]

But while explicit targets were not included in the terms of reference of the AWG on Long-term Cooperative Action, the 'conclusions' adopted at Bali by the AWG on Further Commitments included the following:

> The AWG … noted the usefulness of the ranges referred to in the contribution of Working Group III to the Fourth Assessment Report (AR4) … and that this report indicates that global emissions of greenhouse gases … need to peak in the next 10-15 years and reduced to very low levels, well below half of levels in 2000 by the middle of the twenty-first century in order to stabilize their concentrations in the atmosphere at the lowest levels assessed by the IPCC … [This] would require Annex 1 Parties as a group to reduce emissions in a range of 25-40 per cent below 1990 levels by 2020, through means that may be available to these Parties to reach their emission reduction targets …

In short, this wording suggests that, with the exception of the US (and to a lesser extent Russia), the international community has broadly accepted the need for very deep cuts in *global* emissions by 2050 and that, as a guideline, Annex 1 Parties (as a group) will be expected to reduce their emissions in a range of 25-40% below 1990 levels by 2020. These parameters will no doubt inform the negotiations during 2008-09 and influence the magnitude of the CP2 *responsibility* targets for Annex 1 Parties.

7 See FCCC/CP/2007/L.7/Rev.1, 14 December 2007. The footnote refers readers to IPCCc, 2007, p.39 and p.90, and IPCCd, 2007, p.776.

2. The responsibilities of developed and developing countries

In framing the Bali 'roadmap', COP13 focused on four 'building blocks' and the interconnections between them: mitigation, adaptation, technology and finance. As expected, there was intense and protracted debate over the respective mitigation responsibilities of Annex 1 and non-Annex 1 Parties and the nature of the assistance that developing countries could expect to receive from the developed world.

COP13 eventually decided on the following crucial paragraphs (as embodied in the terms of reference of the AWG on Long-term Cooperative Action):

> 1(b)(i) Measurable, reportable and verifiable nationally appropriate mitigation commitments or actions, including quantified emission limitation and reduction objectives, by all developed country Parties, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances;
>
> 1(b)(ii) Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner.

Various aspects of this wording deserve comment. First, there is a potentially significant change in the language used in these paragraphs, with a distinction being made between 'developed' and 'developing' countries rather than between 'Annex 1' and 'non-Annex 1'. This is seen by many observers as a breakthrough, signaling an acceptance by non-Annex 1 countries that mitigation responsibilities must in the future be more appropriately differentiated and reflect the relative affluence, economic resources and technical capacity of individual countries (ENB, 2007, p.19). But in transitioning from the previous Annex 1/non-Annex 1 distinction, the challenge will be to define and agree upon a variegated classification system and then determine the mitigation responsibilities of the countries in each category. One risk of moving to a new framework is that certain Annex 1 countries may seek to reduce their responsibilities in CP2, thus triggering a loss of goodwill and more convoluted and protracted negotiations.

Second, the mitigation effort expected of developing countries is limited to 'actions' rather than 'commitments' (i.e. they will not be expected to take on legally-binding, economy-wide emission-reduction targets). Nevertheless, there are many other possible (and useful) 'actions' – including sectoral approaches (i.e. for carbon intensive industries), targets for renewable energy, intensity targets, and measures to limit deforestation – and it is possible that some of these could be made binding for the larger and more advanced non-Annex 1 countries. There was some dispute during the closing stages of the Bali conference as to whether the words 'measurable, reportable and verifiable' at the end of paragraph 1(b)(ii) referred to the actions of developed countries in providing 'technology, financing and capacity-building' or the 'appropriate mitigation actions' of developing countries, or both (Müller, 2008, p.5). Clarification, by representatives of the G77, that these words included the actions of *developing* countries helped persuade the US, in the words of Paula Dobriansky (the leader of the US delegation), 'to go forward and join consensus' (Fuller and Revkin, 2007). In effect, therefore, the major developing economies have committed themselves, for the first time under the Convention, to taking 'measurable, reportable and verifiable' mitigation actions. Also, the US is fully engaged in the process. Both outcomes represent significant steps forward. Equally, paragraph 1(b)(ii) makes it clear that developing countries, in undertaking 'mitigation actions', will be supported by 'technology, financing and capacity-building' from developed countries.

Third, the wording of paragraph 1(b)(i) implies that the mitigation efforts of developed countries can take the form of either 'commitments' or 'actions'. The provision for the latter was designed to accommodate US objections to legally-binding emission-reduction targets. The problem with including this kind of 'escape clause', however, is that it potentially opens up the possibility of other developed countries (e.g. Canada and Japan) choosing not to take on responsibility targets for CP2. If this were to occur, potentially the whole architecture of Kyoto would collapse. Another challenge posed by paragraph 1(b)(i) is the meaning of 'comparability of efforts'. This, of course, is part of the wider issue of determining the nature of fairness in relation to international burden sharing – both with respect to mitigation and adaptation.

Other decisions at Bali

Three related matters, also decided at COP13, deserve mention. First, after years of difficult negotiations, agreement was reached on the implementation of the Adaptation Fund (established under the Kyoto Protocol). This Fund is designed to assist developing countries to adapt to the impacts of climate change with funding being secured via a 2% levy on the carbon credits generated through CDM projects. In accordance with the Bali agreement, a new independent Adaptation Fund Board will be created (under the COP/MOP), the Global Environment Facility of the United Nations will provide secretariat services, and the World Bank will serve as a trustee (on an interim basis).

Second, progress was made at Bali on the important issue of 'avoided deforestation' in the developing world, especially the logging and burning of tropical rainforests (estimated to account for around 20% of global emissions each year). Specifically, the Parties agreed to 'explore a range of actions and undertake efforts, including demonstration activities, to address the drivers of deforestation'.[8] This included provision for the Subsidiary Body on Scientific and Technological Advice to undertake a programme of work on methodological issues (e.g. estimating deforestation rates, calculating emissions and removals from changing land-use patterns, and verifying emission savings from preservation efforts). There was also agreement for the AWG on Long-term Cooperative Action to examine 'policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries'.[9] In effect, this agreement opens up the possibility (despite earlier objections from Brazil) of using market-based mechanisms via the framework of the Kyoto Protocol to slow the pace of deforestation (i.e. carbon credits would be generated for forests that were protected on the basis of their carbon storage value). Not merely does this provide a means of achieving a rapid reduction in global emissions, but there are important implications for CP2. In particular, if Annex 1 Parties have access to a substantial quantity of (potentially relatively cheap) emission allowances through avoided deforestation in developing countries, they will be able to take on

8 FCCC/SBSTA/2007/L.23/Add.1/Rev.1, 12 December 2007.

9 See FCCC/CP/2007/L.7/Rev.1, 14 December 2007

much more stringent *responsibility* targets than would otherwise be politically or economically feasible. An added benefit is that such an approach would secure 'meaningful participation' by certain developing countries in a post-2012 global mitigation effort.

Third, the scope and content of the second review of the Kyoto Protocol generated protracted wrangling at Bali. On the one hand, most developed countries wanted the review to focus on the Protocol's *effectiveness* in fulfilling the ultimate objective of the UNFCCC. An emphasis on effectiveness would provide an opportunity to review the (overly simplistic and increasingly unwarranted) distinction between Annex 1 and non-Annex 1 Parties and highlight the need for a more sophisticated approach to delineating the mitigation responsibilities of individual countries. On the other hand, most developing countries argued that the review should focus on the *implementation,* rather than the effectiveness, of the Kyoto Protocol. This would draw attention to the responsibilities of Annex 1 Parties (and hence any failures to fulfill these responsibilities) and thus avoid any attention being given to the overall framework of the Protocol, including the distinction between Annex 1 and non-Annex 1 Parties. In the event, it was agreed that the second review would focus on how to 'enhance the implementation of the Protocol'.[10]

Where to from Bali?

What was achieved at Bali was essentially an agreement to negotiate a new global climate agreement and to do so according to a fixed timetable. To quote Rachmat Witoelar (the Indonesian Environment Minister and Chairman of COP13): 'We now have a Bali roadmap, we have an agenda and we have a deadline. But we also have a huge task ahead of us and time to reach agreement is extremely short, so we need to move quickly' (Carbon Positive, 2007).

There can be no guarantee that the forthcoming negotiations will be successful. Formidable technical issues need to be resolved (e.g. over deforestation and sectoral approaches), not to mention the divergent views amongst the key players on targets, mechanisms, burden sharing, the nature and stringency of CP2 commitments, and the legal form of a new global arrangement. And even if an agreement is reached at Copenhagen, there will be little time for it to be ratified and brought into effect before the end of CP1.

Plainly, the negotiating position of the US will be crucial to the outcome of COP15. In this regard, there have been some promising developments since Bali. First, the Bush Administration has, for the first time, backed mandatory measures to increase the fuel efficiency of the US vehicle fleet. Second, President Bush announced in his annual State of the Union address in January 2008 that the federal government would invest US$2 billion over the next three years in a new international fund to encourage the adoption of clean energy technologies and help developing countries adapt to climate change. (Japan, meanwhile, has pledged to contribute US$10 billion for similar purposes.) Third, the Bush Administration is inching its way towards accepting the need to take on a binding emission-reduction target. On 26 February, Daniel Price, President Bush's deputy national security adviser for international economic affairs, announced that 'The US is prepared to enter into binding international obligations to reduce greenhouse gases as part of a global agreement in which all major economies similarly undertake binding international obligations' (Black, 2008). Of course, for Brazil, China, Mexico and other major emerging economies to agree to 'binding international obligations' of any kind would represent a significiant departure from their current negotiating positions. But at least the US is now discussing this option. Finally, all three of the leading contenders for the US Presidency – Hillary Clinton, Barack Obama, and John McCain – have pledged to adopt vigorous measures to reduce US emissions. Irrespective, therefore, of the outcome of the Presidential elections in early November 2008, the US is likely to become more favourably disposed to the negotiation of a new multilateral climate treaty and more willing to provide leadership in securing a positive outcome.

The stance adopted by the major emerging economies – especially China and to a lesser extent Brazil and India – will also be critical to the success in the forthcoming negotiations. China has, in fact, already taken measures to curb the growth of its emissions, including setting ambitious renewable energy targets for 2020 (Martinot and Junfeng, 2007, p.14); but much more will be required. At the broader level, unresolved issues include:

10 See FCCC/KP/CMP/20007/L.8, 14 December 2007.

- What overall contribution will developing countries be expected to make to the global emission reduction effort (e.g. how far below business-as-usual levels will developing world emissions need to be by 2020)?
- How should the contribution of developing countries be shared and on what basis?
- What specific measures will be required to achieve the desired emission-reduction objectives and how will these be framed (e.g. as emission-reduction goals or energy sufficiency and renewable energy goals)?
- How will domestic mitigation efforts in developing countries be linked to the requirement for 'measurable, reportable and verifiable' actions?
- What form should any sectoral agreements take and how might these be linked to, and accommodated within, the wider framework of *responsibility* targets and 'measurable, reportable and verifiable' actions?

For New Zealand, the outcome of the negotiations during 2008-09 will have significant implications. New Zealand will, of course, be expected to take on a *responsibility* target for CP2 and this is bound to be tougher than for CP1. Other things being equal, the greater the overall stringency of a new multilateral agreement, the deeper the cuts that developed countries will be required to make. Whatever the stringency of New Zealand's CP2 *responsibility* target, it will become the starting allocation of emissions units for the domestic emissions trading scheme, which is in the process of being implemented.

Given the huge economic, social, political and environmental risks associated with unmitigated global warming, it is undoubtedly in New Zealand's interests to argue for a comprehensive and robust post-2012 agreement with ambitious emission-reduction targets. But it will also be in the country's interests to ensure that the various policy mechanisms designed to achieve these targets are well designed. This means that New Zealand must be fully engaged in the various negotiation tracks and must, in particular, give serious attention to the complex issues surrounding, and the rules for, land use, land-use change and forestry – both as they apply for developed and developing countries. Achieving vigorous and effective measures to reduce global deforestation rates is especially important. Not only will this make available a potentially large pool of emission allowances through which *responsibility* targets can be met, but lower deforestation rates are likely to enhance the global price of wood products, thereby increasing returns to New Zealand's forestry industry. Many other policy issues, of course, will require active consideration during 2008-09 (see, for instance, Ward and James, 2007a, 2007b). To play an effective role in the Protocol and Convention tracks will require a significant investment of intellectual effort and diplomatic persuasion. Arguably, few, if any, issues are more deserving of such an investment.

References

Black, R. (2008) 'US to set 'binding' climate goals', BBC News, 26 February.

Boston, J. (ed) (2007) *Towards a New Global Climate Treaty: Looking Beyond 2012* Wellington, Institute of Policy Studies.

Carlgren, A. (2007) 'Chairman's Summary', Midnight Sun Dialogue on Climate Change, Riksgränsen, Sweden, 11-14 June.

Carbon Positive (2007) 'Bali deal sets scene for 2009 accord', 17 December.

Chasek, P. (2007) 'International Climate Change Politics: Looking Beyond 2012', in J. Boston (ed.) *Towards a New Global Climate Treaty: Looking Beyond 2012* Wellington, Institute of Policy Studies.

Diringer, E. (2008) 'Congressional Testimony Regarding International Climate Change Negotiations: Bali and the Path Towards a Post-2012 Climate Treaty', 24 January.

Egenhofer, D. (2007) 'Beyond the 'Bali Roadmap': The New International Cliamte Change Agenda Encompasses Trade', *CEPS Commentary*, 21 December.

Earth Negotiations Bulletin (ENB) (2007) 'Summary of the Thirteenth Conference of Parties to the UN Framework Convention on Climate Change and Third Meeting of Parties to the Kyoto Protocol: 3-15 December 2007', Vol. 12, No.354, 18 December.

Fuller, T. and Revkin, A. (2007) 'Climate Plan Looks Beyond Bush's Tenure', *New York Times*, 16 December.

Garnaut Climate Change Review (2008) *Interim Report to the Commonwealth, State and Territory Governments of Australia*, February 2008.

Intergovernmental Panel on Climate Change (2007a) *Climate Change 2007: The Physical Sciences Basis – Summary for Policymakers* Working Group I.

Intergovernmental Panel on Climate Change (2007b) *Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability – Summary for Policymakers* Working Group II.

Intergovernmental Panel on Climate Change (2007c) *Climate Change 2007: Mitigation of Climate Change – Summary for Policymakers* Working Group III.

Intergovernmental Panel on Climate Change (2007d) *Climate Change 2007: Mitigation* Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, B. Metz, et al., (eds) Cambridge, Cambridge University Press.

Meinshausen, M. (2006) 'What does a 2ºC Target Mean for Greenhouse Gas Concentrations?' in Schellnhuber, H.J., Cramer, W., Nakicenovic, N., Wigley, T. and Yohe, G. (eds.) (2006) *Avoiding Dangerous Climate Change* Cambridge, Cambridge University Press.

Martinot, E. and Junfeng, L. (2007) *Powering China's Development: The Role of Renewable Energy*, Washington, DC, Worldwatch Institute.

Monbiot, G. (2007) 'We've been suckered again by the US', *Guardian*, 17 December.

Müller, B. (2008) 'Bali 2007: On the road again! Impressions form the Thirteenth UN Climate Change Conference', Oxford Institute for Energy Studies, 20 January.

Narain, S. (2008) 'Bali: the mother of all no-deals', *Down To Earth*, 16, 16, January 09.

Spotts, P. (2007) 'Bali climate deal marks a geopolitical shift', *The Christian Science Monitor*, 17 December.

Stern, N. (2006) *Stern Review on the Economics of Climate Change* Cambridge, Cambridge University Press.

UNFCCC Secretariat (2007) *Kyoto Protocol Reference Manual on Accounting of Emissions and Assigned Amounts* February.

Ward, M. and Boston, J. (2007) 'Current International Climate Change Policy Architecture', in J. Boston (ed.) *Towards a New Global Climate Treaty: Looking Beyond 2012* Wellington, Institute of Policy Studies.

Ward, M. and James, C. (2007a) 'Agricultural Sector: Issues, Options and Perspectives', in J. Boston (ed.) *Towards a New Global Climate Treaty: Looking Beyond 2012* Wellington, Institute of Policy Studies.

Ward, M. and James, C. (2007b) 'Forestry Sector and Land-use Change: Issues, Options and Perspectives', in J. Boston (ed.) *Towards a New Global Climate Treaty: Looking Beyond 2012* Wellington, Institute of Policy Studies.

Jonathan Boston is Acting Director of the Institute of Policy Studies. He attended COP13 in Bali as a stakeholder member of the New Zealand delegation.