

AIIA Policy Commentary

**Bali and Beyond:
Planning for a Post-Kyoto World**

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Bali Action Plan
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United Nations Climate Change Conference, Bali

The Conference of the Parties,

Resolving to urgently enhance implementation of the Convention in order to achieve its ultimate objective in full accordance with its principles and commitments,

Reaffirming that economic and social development and poverty eradication are global priorities,

Responding to the findings of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change that warming of the climate system is unequivocal, and that delay in reducing emissions significantly constrains opportunities to achieve lower stabilization levels and increases the risk of more severe climate change impacts,

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,

- 1) *Decides* to launch a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to reach an agreed outcome and adopt a decision at its fifteenth session, by addressing, inter alia:
 - a) A shared vision for long-term cooperative action, including a long-term global goal for emission reductions, to achieve the ultimate objective of the Convention, in accordance with the provisions and principles of the Convention, in particular the

principle of common but differentiated responsibilities and respective capabilities, and taking into account social and economic conditions and other relevant factors;

- b) Enhanced national/international action on mitigation of climate change, including, inter alia, consideration of:
 - 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;
 - 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;
 - iii) Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries;
 - iv) Cooperative sectoral approaches and sector-specific actions, in order to enhance implementation of Article 4, paragraph 1(c), of the Convention;
 - v) Various approaches, including opportunities for using markets, to enhance the cost-effectiveness of, and to promote, mitigation actions, bearing in mind different circumstances of developed and developing countries;
 - vi) Economic and social consequences of response measures;

- vii) Ways to strengthen the catalytic role of the Convention in encouraging multilateral bodies, the public and private sectors and civil society, building on synergies among activities and processes, as a means to support mitigation in a coherent and integrated manner;
- c) Enhanced action on adaptation, including, inter alia, consideration of:
- i) International cooperation to support urgent implementation of adaptation actions, including through vulnerability assessments, prioritization of actions, financial needs assessments, capacity-building and response strategies, integration of adaptation actions into sectoral and national planning, specific projects and programmes, means to incentivize the implementation of adaptation actions, and other ways to enable climate-resilient development and reduce vulnerability of all Parties, taking into account the urgent and immediate needs of developing countries that are particularly vulnerable to the adverse effects of climate change, especially the least developed countries and small island developing States, and further taking into account the needs of countries in Africa affected by drought, desertification and floods;
 - ii) Risk management and risk reduction strategies, including risk sharing and transfer mechanisms such as insurance;
 - iii) Disaster reduction strategies and means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change;
 - iv) Economic diversification to build resilience;

- v) Ways to strengthen the catalytic role of the Convention in encouraging multilateral bodies, the public and private sectors and civil society, building on synergies among activities and processes, as a means to support adaptation in a coherent and integrated manner;
- d) Enhanced action on technology development and transfer to support action on mitigation and adaptation, including, inter alia, consideration of:
 - i) Effective mechanisms and enhanced means for the removal of obstacles to, and provision of financial and other incentives for, scaling up of the development and transfer of technology to developing country Parties in order to promote access to affordable environmentally sound technologies;
 - ii) Ways to accelerate deployment, diffusion and transfer of affordable environmentally sound technologies;
 - iii) Cooperation on research and development of current, new and innovative technology, including win-win solutions;
 - iv) The effectiveness of mechanisms and tools for technology cooperation in specific sectors;
- e) Enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation, including, inter alia, consideration of:
 - i) Improved access to adequate, predictable and sustainable financial resources and financial and technical support, and the provision of new and additional resources, including official and concessional funding for developing country Parties;

- ii) Positive incentives for developing country Parties for the enhanced implementation of national mitigation strategies and adaptation action;
 - iii) Innovative means of funding to assist developing country Parties that are particularly vulnerable to the adverse impacts of climate change in meeting the cost of adaptation;
 - iv) Means to incentivize the implementation of adaptation actions on the basis of sustainable development policies;
 - v) Mobilization of public- and private-sector funding and investment, including facilitation of carbon-friendly investment choices;
 - vi) Financial and technical support for capacity-building in the assessment of the costs of adaptation in developing countries, in particular the most vulnerable ones, to aid in determining their financial needs;
- 2) *Decides* that the process shall be conducted under a subsidiary body under the Convention, hereby established and known as the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, that shall complete its work in 2009 and present the outcome of its work to the Conference of the Parties for adoption at its fifteenth session;
- 3) *Agrees* that the process shall begin without delay, that the sessions of the group will be scheduled as often as is feasible and necessary to complete the work of the group, where possible in conjunction with sessions of other bodies established under the Convention, and that its sessions may be complemented by workshops and other activities, as required;
- 4) *Decides* that the first session of the group shall be held as soon as is feasible and not later than April 2008;

- 5) *Decides* that the Chair and Vice-Chair of the group, with one being from a Party included in Annex I to the Convention (Annex I Party) and the other being from a Party not included in Annex I to the Convention (non-Annex I Party), shall alternate annually between an Annex I Party and a non-Annex I Party;
- 6) *Takes note* of the proposed schedule of meetings contained in the annex;
- 7) *Instructs* the group to develop its work programme at its first session in a coherent and integrated manner;
- 8) *Invites* Parties to submit to the secretariat, by 22 February 2008, their views regarding the work programme, taking into account the elements referred to in paragraph 1 above, to be compiled by the secretariat for consideration by the group at its first meeting;
- 9) *Requests* the group to report to the Conference of the Parties at its fourteenth session on progress made;
- 10) *Agrees* to take stock of the progress made, at its fourteenth session, on the basis of the report by the group;
- 11) *Agrees* that the process shall be informed by, inter alia, the best available scientific information, experience in implementation of the Convention and its Kyoto Protocol, and processes thereunder, outputs from other relevant intergovernmental processes and insights from the business and research communities and civil society;
- 12) *Notes* that the organization of work of the group will require a significant amount of additional resources to provide for the participation of delegates from Parties eligible to be funded and to provide conference services and substantive support;

- 13) *Strongly* urges Parties in a position to do so, in order to facilitate the work of the group, to provide contributions to the Trust Fund for Participation in the UNFCCC Process and the Trust Fund for Supplementary Activities for the purposes referred to in paragraph 12 above and to provide other forms of in kind support such as hosting a session of the group.

The Bali Roadmap and Beyond: Opportunities for Australia

Professor Robyn Eckersley

Introduction

The thirteenth conference of the parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) held in Nusa Dua, Bali on 3-15 December, 2007 marked a geopolitical realignment in the global politics of climate change. However, whether this will turn out to be a subtle or seismic shift remains to be seen. For Australia, the Rudd government's ratification of the Kyoto Protocol will serve as the defining moment between 'before' and 'after' in Australia's international stance on climate change. The Howard years (1996-2007) represent the 'before', marked by unapologetic nationalist bargaining at Kyoto in 1997 followed by a loyal alignment with the Bush administration's refusal to ratify the Kyoto Protocol. The 'after' under a Rudd Labor government spells the end of the US-Australian 'coalition of the unwilling' and Australia's re-engagement with environmental multilateralism.

The Labor Party had chosen climate change as one of the small handful of policies on which it distinguished itself from the Coalition during the 2007 election campaign. This policy stance capitalised on growing public concern and media interest in climate change in Australia arising from a confluence of developments: the popularity of Al Gore's movie *An Inconvenient Truth*, the publication of the Stern Review on the Economic Costs of Climate Change (Stern 2007), the release of the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report in 2007 and an unprecedented drought in Australia. The award of the Nobel Peace Prize to the IPCC and Al Gore on 10 December 2007 (coinciding with the Bali meeting) helped to seal the international consensus on the science of climate change and marginalise the climate skeptics that had played a dominant role in John Howard's

cabinet. However, apart from the Labor Party's promise to ratify the Kyoto Protocol, and its decision to commission Professor Ross Garnaut to undertake a study on the economic costs of climate change for Australia, the differences in the core domestic climate change policies of the two major parties during the election campaign were not especially stark. Both promised a national cap-and-trade system but declined to announce the targets, and both promised a national renewable energy target – although Labor's target of 20% was confined to renewable energy sources whereas the Coalition's 15% 'clean energy target' included 'clean coal'.

More significantly for the international negotiations, during the election campaign John Howard had boxed Labor into a corner after Labor's shadow minister for the environment, Peter Garrett, declared that a Labor government would sign a Kyoto successor treaty regardless of whether China or the US signed (ABC News 2007). John Howard declared during the campaign this was a policy to 'reduce Australian jobs', not emissions (News.com.au 2007). This tactic precipitated so-called 'crisis talks' between Kevin Rudd and Peter Garrett, which resulted in Garrett issuing a statement of 'clarification' that declared 'Appropriate developing country commitments for the post-2012 commitment period ... would be an essential pre-requisite for Australian support' (News.com.au 2007). However, it was clear that both the US and China were opposed to mandatory targets, which raised the crucial question of what other types of developing country commitments might satisfy a Labor government's test of 'appropriateness'.

Kyoto Symbolism

Prime Minister Rudd was only one of six heads of state to attend the Bali gathering, which included representatives from 187 countries. This presence reinforced the symbolic shift in the geopolitical landscape of climate change while also affording the new Rudd government an opportunity to establish ties with Indonesia and East Timor. The rapturous applause received by the Australian delegation at the conference plenary following the ratification announcement intensified

the US's isolation as the only significant developed country outside the Kyoto club, placing it under increasing international and domestic pressure to play a more proactive and multilateral role in the Bali negotiations.

Yet Australia's ratification of the Kyoto Protocol was hardly heroic, as it would be for the US. Australia enjoys the second most generous target of all the countries listed in Annex I – an 8% increase from a 1990 baseline.¹ Even under the Howard government, Australia was more or less on track to meet this target by the Kyoto commitment period of 2008-2012, aided by the inflated baseline provided by the so-called 'Australia clause' in the Protocol, which enables Australia to include reduced emissions from land clearing in its emissions calculations.² According to the Australian Greenhouse Office, Australia's emissions are projected to be around 109% by 2008-12 (Australian Government 2007). In contrast, the Clinton-Gore administration had negotiated at Kyoto a much more challenging cut of 7%, which the US Senate rejected, the Bush administration repudiated and any successor administration will find difficult to approach. US emissions had already grown by 20% by 2003 (World Bank 2007). The most radical climate bill presented to Congress to date – Democrat Henry Waxman's *Safe Climate Act 2007* (H.R. 1590) – merely seeks to return US emissions to 1990 levels by 2020.³

However, Australia's easy ride will be short-lived. The Australian Greenhouse Office (2007) estimates Australia's emissions will climb to 127% by 2020 from a 1990 baseline, which presents Australia with a much bigger challenge in the post-Kyoto commitment period.

The Bali Challenge

The primary purpose of the Bali meeting was to develop an action plan or 'roadmap' for the negotiation of a successor to the Kyoto Protocol, due to expire in 2012. The IPCC has warned that global emissions must peak by 2015 and then decline by 80-90% by 2050 to prevent a dangerous warming of more than 2-2.4 degrees above pre-industrial

levels. When set against these scientific recommendations, the Kyoto Protocol must be seen as merely a warm-up match, with modest emission reduction targets averaging only 5% by 2012, and restricted to the developed countries listed in Annex I. The Kyoto successor will be the main game, and time will be of the essence. The negotiations are scheduled to conclude by the end of 2009, in time for the fifteenth Conference of the Parties in Copenhagen, to allow for the new treaty to come into legal force immediately after the expiry of the Kyoto commitment period in 2012.

Two central challenges faced the negotiators at Bali. The first was to persuade developed countries to move towards much more robust targets in the post-Kyoto commitment period (2013-2020). This entails moving from the Kyoto Protocol's modest average target of 5% to a range of 25-40% as recommended by the IPCC (IPCC 2007, 776). The second was to design appropriate incentives (including funding and technology transfer, and assistance with adaptation) to engage the developing world, especially major emerging emitters such as China and India, in effective mitigation efforts. These two challenges were to become linked in the final dramatic day of the negotiations, which saw the most powerful state in the world continue to resist mandatory targets but succumb to intense pressure to join the consensus over a text full of compromises.

Both the Bush administration and Howard government had joined forces in 2001 in arguing that the Kyoto Protocol was flawed because it exempted major emerging emitters from the developing world from any mandatory emissions reductions targets. Yet their argument selectively focused only on future aggregate emissions and ignored the vast discrepancy in historical responsibility for emissions, capacity to absorb emission cuts and per capita carbon footprints between developed and developing countries. This amounted to a rejection of the burden sharing principles of equity, 'common but differentiated responsibility and capability', Northern leadership and Northern assistance to the South that are embedded in the UNFCCC.⁴ These principles have been repeatedly reaffirmed by the parties to the UNFCCC and the Kyoto

Protocol, and China has led the G-77 in insisting that these principles continue to guide the negotiation of a successor to the Kyoto Protocol. While rapidly growing China is poised to overtake the US as the world's biggest aggregate emitter, the Chinese per capita carbon footprint is only around one fourth of the US's. So while engaging China and other major emerging emitters from the developing world is crucial to the success of a post-Kyoto treaty, this engagement must be of a kind that provides sufficient development slack for these developing countries to address poverty and improve the welfare of their citizens relative to affluent countries. The Action Plan agreed to in Bali (UNFCCC 2007) continues this two track approach by explicitly endorsing the principles of the UNFCCC, including 'the principle of common but differentiated responsibilities and respective capabilities' (Paragraph 1(a)).

The Bali Compromise

On the crucial issue of targets for developed countries, the European Union (EU) took the lead in pushing for a 30% cut below 1990 levels by 2020, which sat comfortably within the IPCC's recommended reduction target range for developed countries of 25-40%. However, the US strongly opposed a commitment to specific targets of any kind, and was widely regarded as the biggest 'spoiler' of the effort to construct a bold roadmap based on developed country leadership. Australia, Canada, Russia and Japan – all long standing US allies in the climate change negotiations under the so-called Umbrella Group – also backed this refusal to commit to targets in the action plan.⁵ Australia argued that it could make no firm commitments to targets until it had considered the findings and recommendations of the Garnaut Report on the economic costs of climate change, expected around mid-2008. However, it deviated from the US position in supporting the principle of 'science-based' targets. Moreover, three days before the final dramatic plenary, Prime Minister Rudd offered a not-so-veiled criticism of the US in a speech that declared that 'all developed countries outside the Kyoto Protocol' must 'embrace comparable efforts' (Wilkinson 2007). By the final day of the conference, neither Australia nor any other of the US's

traditional allies showed any overt support for the US's hold out position on the text of the Action Plan.

In lieu of specific interim targets, the final compromise in the Action Plan was an agreement to reach a decision by COP 15 on a 'a long-term global goal for emissions reductions' in accordance with the objectives and principles of the Convention (paragraph 1(a)), along with a paragraph in the preamble recognising that 'deep cuts' in emissions were required to achieve the UNFCCC's ultimate objective. Paragraph 11 of the Action Plan also declares that the negotiation process shall be informed by 'the best available scientific information' along with experience implementing the Kyoto Protocol, and insights from business, research communities and civil society. In a mini-victory against the US, the preamble also footnoted the specific pages in the IPCC's *Working Group III to the Fourth Assessment Report*, which enabled the IPCC's range of 25-40% to re-enter the text via the back-door (IPCC 2007, 39, 90 and 776).

The compromise on the contentious issue of the balance of responsibility between developed and developing countries was contained in paragraph 1b(i) and 1b(ii) (dubbed by the Australians as 'the banana paragraphs' after B1 and B2). Sub-paragraph (b)(i) fell short of spelling out any specific targets for developed countries, but declared that they must address enhanced mitigation action including 'measurable, reportable and verifiable nationally appropriate mitigation commitments, including quantified emission limitation and reduction objectives, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances'. Sub-paragraph (b)(ii) declared that developing countries would also be required to pursue 'enhanced, reportable and verifiable nationally appropriate mitigation commitments' but without any mention of quantified emission limitation and reduction objectives. This sub-paragraph also included support and financing of technology and capacity building – all crucial provisions for developing countries.

Other key points of agreement in the Action Plan include support for reducing emissions from deforestation in developing countries (which had not been included in the Kyoto Protocol), international cooperation to support adaptation (focusing particularly on the enhanced vulnerability of developing countries), technology development and transfer and enhanced action on financial resources and investment. Indeed, it was these latter provisions regarding North to South assistance that sparked some of the high drama on the final day as developing countries became increasingly frustrated with the US's focus on forcing new commitments on developing countries at the expense of addressing developed country leadership responsibilities according to the principles of the UNFCCC.⁶ US defiance of its leadership responsibilities prompted a succession of critical speeches towards the US, culminating in a speech by Kevin Conrad from Papua New Guinea arguing that if the US did not wish to lead then it should get out of the way (Khor 2007; Warren 2007).⁷ It was in the wake of the applause following this intervention that Paula Dobriansky, leader of the US delegation, announced that the US would join the consensus.

Waiting for the Next US President

However, the celebrations by many country delegations and environmental NGOs that followed the US's face-saving capitulation must be understood in the context of the pessimism that had mounted in the gruelling, closing days of the conference. For many environmental NGOs, the compromises in the Bali Action Plan failed to meet the larger challenge of climate change. The flexible language in the Action Plan, which enabled the US to join the Bali consensus, artfully papered over key divisions concerning developed country targets and developing country commitments that surfaced during the tough negotiations and are likely to resurface for so long as the Bush administration remains in office. The Kyoto Protocol gained international legitimacy as a very modest first step towards tackling the challenge of climate change, despite the nonparticipation of the US (Eckersley 2007). However, the success of the treaty for the next commitment period depends on the participation of the major emitters from the developed and developing

world, and above all, the US and China. It is anticipated, or at least hoped, that a new US administration will break or at least soften some of the old deadlocks once it takes office in early 2009.

The ground for a significant shift in US climate change policy is already underway at the municipal, state and national levels. The November 2006 Congressional elections, which delivered control of the Senate to the Democrats, have precipitated a new wave of ‘cap-and-trade’ climate change bills, which signal growing acceptance of a national emissions reduction target. Many US states have already negotiated emissions trading schemes (in the North-East, California and, more recently, the Mid-West) and many US Mayors have joined an initiative to push for a more concerted national policy. California’s Governor Arnold Schwarzenegger has enacted *The Global Warming Solution Act 2006*, which seeks to reduce California’s GHG emissions to 1990 levels by 2020. Leading US corporations (including General Electric, BP and Alcoa) have formed a coalition with four major US environmental organisations, known as the US Climate Action Partnership, which has called for cuts in national aggregate carbon emissions of 10 to 30 percent over the next 15 years (USCAP 2007). Even Church groups have joined the call for climate action, including a campaign by the Evangelical Environmental Network called ‘What Would Jesus Drive?’⁸

Despite these developments, climate change has not emerged as a major issue in the 2008 Presidential campaign, although the two leading Democrat Presidential candidates – Hilary Clinton and Barack Obama – have both backed a national cap-and-trade scheme and supported radical cuts in US emissions of 80% by 2050. Senator John McCain is the only Republican Presidential candidate to show any support for a proactive climate change policy, with his pledge for a 60% cut in emissions by 2050.⁹ Yet it is still not clear whether a US Senate will muster the necessary two-thirds majority to support ratification of the Kyoto Protocol or a successor treaty with strong developed country targets for the next commitment period in the recommended IPCC range in the absence of meaningful commitments by major developing countries. This is likely to remain a sticking point.

Since the first COP in Berlin, the G77, led by China (and supported by the European Union), has resolutely argued that developing countries should not be expected to undertake any mandatory emissions reductions in the first commitment period. At the second COP in Geneva, developing countries insisted that the Annex 1 countries should fulfil their commitments *before* the developing countries would consider undertaking any commitments (Hoffmann 2005, 175). By the time of third COP at Kyoto, the China-led G77 position had hardened to the point of rejecting any language in the Protocol that referred even to *voluntary* commitments by developing countries to limit their emissions. Against this background, the Bali meeting represents a modest breakthrough insofar as developing countries have committed to mitigation measures for the first time. However, these commitments remain undefined, do not extend to targets and are dependent on technology transfer and financing in ‘a measurable, reportable and verifiable manner’.

The Bush administration’s strategy of saying to China ‘after you’ has been a recipe for stalemate. Yet nor can China follow this tactic with the US indefinitely, given China’s greater relative vulnerability to the impacts of climate change. The US must recognise that the success of China’s mitigation efforts will depend on continued leadership and assistance by developed countries.

Australia as China-US Broker?

Much has been made of Prime Minister Rudd’s fluency in Mandarin and his role as a potential broker between the US and China. Australia has strong trading relations with China and it shares with China (and other developing countries) a greater vulnerability to the risks of climate change than the US or Europe. Yet Australia also belongs to the group of developed countries (including the US, Canada and Japan) that have failed to curb their emissions growth (factoring out emissions from land clearing). Despite these mutual sympathies, Australia is in no credible position to attempt to coax either the US or China into accepting targets

until such time as it decides its own national target, which is unlikely to be before it has reflected on the Garnaut Report. By this time, the US Presidential race will be in full swing and the Bush administration in care-taker mode. Yet the Rudd government's postponement of a decision on Australia's target might foreclose the possibility of Australia playing an early, proactive role in influencing the thorny question of targets in the international negotiations.

Former Prime Minister John Howard had attempted, in his own voluntarist fashion, to bring together China and the US through his strong support of nonbinding partnerships with major emerging emitters in the developing world, such as the Asia Pacific Partnership on Clean Development and Climate 2006, which he defended as a superior alternative to the Kyoto Protocol. Yet while this partnership encompasses major emerging emitters such as China and India, along with the US, Australia, Japan, South Korea (and, more recently, Canada), it lacks targets, timetables and adequate incentives, places no price on carbon and is chronically underfunded (Christoff and Eckersley 2007).

The Rudd government appears to have grasped the fact that firm targets, timetables and incentives are the only reliable means by which to reduce global aggregate emissions to safe levels in a timely manner.¹⁰ It also has popular support for concerted action during its honeymoon period. A Newspoll commissioned by Greenpeace released during the Bali negotiations shows 86% of Australians want emissions to decrease in the Rudd Labor government's first term and 77% support a capping or phasing out of coal fired power (Newspoll 2007).

One of the biggest flaws of the Kyoto negotiations was the failure to develop a fair formula for the allocation of emission targets. Developing countries were partly to blame for this. In refusing to even broach the subject of targets at Kyoto they were unable to shape a debate about a fair and transparent formula that might serve their future environment and development needs (Najam, Huq and Sokona 2003). The upshot was that the developed country targets were negotiated on the basis of

political expediency, with each country (or bloc, in the case of the European Union) deciding for themselves what they felt they could manage.

The IPCC's recommended target range of 25-40% for developed countries leaves open the question of how targets within this range should be allocated to specific developed countries. There is nothing in the Action Plan to prevent the same kind of haggling that occurred at Kyoto, and no provision that might indicate when developing countries might commit to targets.

Yet there is a range of target proposals that are consistent with the Convention's principles that are likely to appeal to developed countries. One oft-debated model is Contraction and Convergence, pioneered by Aubrey Meyer of the London Global Commons Institute (Meyer 2000). Under this model, world aggregate emissions must contract to a safe level (say by 80-90%) within an appropriate time (say 2050) in accordance with scientific recommendations, and each country's per capita emissions must eventually converge to that safe level. This effectively gives each citizen of the world the right to pollute up to a certain safe level. Countries with high per capita emissions must contract, while countries with very low per capita emissions would be given room to grow. The adjustment would be facilitated by global emissions trading that would provide a net resource transfer from the high per capita emitters to low per capita emitters. However, many developed countries are likely to balk at the cost of this scheme, which also depends on agreement on a timely rate of emissions contraction by developed countries and measures to prevent the trading of 'subsistence emissions' in developing countries.

As an alternative, Australia could support the 25-40% range recommended by the IPCC and propose principles for allocation within this range based on the UNFCCC's principles of equity, responsibility and capacity. This proposal could be linked with a scheme for voluntary targets for developing countries. Such a scheme might exempt developing countries from sanctions if they under-achieve but provide

significant rewards if they are met, with the option of selling their carbon credits if they over-achieve. This could be backed by a formula for the graduation of developed countries to Annex 1, also based on historical responsibility and capacity or simply GDP. One such scheme is EcoEquity's Greenhouse Development Rights.¹¹ This model provides a threshold for 'graduation' to Annex I that safeguards the rights of those living in poverty to reach a dignified level of sustainable human development. On this model, Singapore and South Korea would graduate to Annex I, while other developing countries would remain exempt until they reach the trigger.

Conclusion

None of the above proposals will appeal to the Bush administration but they may appeal to the next US administration (especially a Democrat one). In the meantime, Australia is likely to gain diplomatic traction with China by pushing for more concerted technology transfer measures and more significant funding for the incremental costs of mitigation measures and for adaptation to climate change by developing countries, perhaps following the model of the multilateral fund established under the Montreal Protocol.

Finally, Australia should also seek the integration of mitigation and adaptation measures wherever possible, and ensure that climate policy forms part of a whole-of-government sustainability policy. Domestically, to drive home the costs of inaction, the Rudd government could emphasise the importance of protecting the 'three R's': the Reef, Rivers and Rural Australia, all of which are under serious threat from climate change and are basic to Australia's economic prosperity, environmental well-being and national identity. Whereas the Howard government construed serious action on climate change as a fundamental threat to the national interest, the Rudd Labor government has the opportunity to reshape the meaning of the national interest to encompass long-range and global environmental concerns that provide the basis for lasting prosperity.

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NOTES

¹ Only three countries negotiated an increase in emissions: Iceland (10%), Australia (8%), and Norway (1%).

² Article 3.7 of the Kyoto Protocol provides ‘Those parties included in Annex I for whom land-use change and forestry constitute a net source of greenhouse gas emissions in 1990 shall include in their 1990 emissions base year or period the aggregate anthropogenic carbon dioxide equivalent emissions by sources minus removals by sinks in 1990 from land-use change for the purposes of calculating their assigned amount’. Australia is the only country that benefits from this clause, owing to the significant slow-down in the rate of land-clearing in Queensland after the baseline year (which was known at the time of the 1997 Kyoto negotiations).

³ However, the bill also seeks to reduce US emissions to 80% of 1990 levels by 2050. See <http://www.house.gov/waxman/safecclimate/> (retrieved 16 January 2008).

⁴ These principles are contained in Articles 3(1), 4(8) and 4(9) of the UNFCCC.

⁵ This loose alliance of non-EU countries has also included Iceland, New Zealand, Norway, the Russian Federation, and Ukraine.)

⁶ India has proposed that developed country assistance for technology transfer to developing countries be ‘measurable, reportable and verifiable’, which elicited a strong rejection from Paula Dobriansky, the Head of the US delegation.

⁷ This statement referred back to a press briefing earlier in the week by James Connaughton, a key member of the US delegation and head of the President’s Council on Environmental Quality, to the effect that the US would lead but it required others to follow.

⁸ See the Evangelical Environmental Network and Creation Care Magazine Homepage, available at <http://www.whatwouldjesusdrive.org/> (accessed 16 January 2008).

⁹ See the League of Conservation Voters’ 2008 Presidential Primaries Voter Guide, available at <http://www.lcv.org/newsroom/press-releases/lcv-releases-2008-presidential-primaries-voter-guide.html> (retrieved 16 January 2008).

¹⁰ The former Howard government had reluctantly conceded this at the national level, but not the international level.

¹¹ See <http://www.ecoequity.org/>

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Planning for a “no regrets” post-Kyoto world

Dr Michael Heazle

The Bali negotiations on the framework to replace the Kyoto Protocol when it expires in 2012 have been roundly applauded as a success, but in reality no major commitments were made. The Roadmap’s biggest achievement was an agreement among its participants to try and negotiate a replacement for Kyoto over the next couple of years along with agreement on some basic guidelines and principles for doing so. But the prospects for a comprehensive, binding, and above all effective agreement will be severely weakened if governments continue down the same road as the Kyoto Protocol by continuing to focus primarily on cutting emissions instead of eliminating what produces them. Furthermore, governments in developed states need to take the lead in both the formulation and implementation of climate change policy at home and move beyond their almost slavish faith in the ability of market mechanisms and business to provide emission reductions and make fossil fuels cleaner. In this essay I argue that the Kyoto model should be replaced by an international treaty that reflects a real and determined commitment by governments to develop alternative energy sources aimed at replacing fossil fuels in the short to medium term. By doing so we will not only hedge our bets against the potential effects of climate change and our responses to it, we will also be building an enduring legacy for future generations.

Reducing Emissions: Uncertain Benefits, Certain Costs

The policy dilemma that governments face in charting a course beyond the Kyoto Protocol’s 2012 expiration, is essentially a choice between i) accepting economic and political pain today by making substantial emission reductions in the hope that doing so will significantly reduce the unknown costs of global warming in the future; ii) adopting a mostly business as usual approach in the hope that the scientists predicting worse case scenarios have got it wrong (for example, the Howard

government's Asia Pacific Partnership initiative); or, iii) finding an alternative approach that hedges our bets against the many uncertainties we face over various future outcomes. The stakes are high, as are the associated uncertainties. But because the stakes are so high, it is imperative that we do not make the error of confusing consensus with certainty or scepticism with politically motivated contrarianism in the course of debating appropriate policy responses to climate change. A clue to how we might avoid such mistakes is provided by Bertrand Russell's support for a middle position on scepticism. In *Sceptical Essays* (1935), he wrote that:

‘even when the experts all agree, they may well be mistaken. All experts would have rejected Einstein’s view as to the magnitude of the deflection of light by gravitation twenty years ago, yet it proved to be right. Nevertheless the opinion of experts, when it is *unanimous*, must be accepted by non-experts as more likely to be right than the opposite opinion¹² [my emphasis].’

The problem, of course, is that expert opinion is very seldom unanimous as the various ongoing global warming debates demonstrate. Indeed, the more important the issue and the greater the political and economic costs involved, the less likely unanimity becomes. The best that can be hoped for with specialist advice then, whether it be scientific or otherwise, is a simple majority consensus, which is a good deal less comforting than unanimous opinion when important decisions need to be made. In this situation, Russell advised ‘that when they [the experts] are not agreed, no opinion can be regarded as certain by a non-expert’.¹³

Contrary to media claims and the public assertions of some scientists, uncertainties over the causes and especially the potential impacts of climate change are plentiful and cannot be dismissed in any serious treatment of the contemporary global climate change debate. Supporters of the mainstream, human-induced global warming view are able to cite climate change facts that are largely uncontested, such as increased greenhouse gas (GHG) levels in the atmosphere and a general warming trend in global temperatures over the last 150 years – a period

of warming weather some scientists have argued is not surprising since it begins at the end of a mini-ice age period that began in the 1300s. Furthermore, there is broad agreement and very strong evidence to support both the observed warming trend and the assertion that carbon dioxide levels in the atmosphere are now higher than pre-industrial levels.

However, the *extent* to which these facts are causally related, as opposed to *whether* they are related, is in dispute as is, therefore, the Intergovernmental Panel on Climate Change (IPCC) assertion that it is ‘likely’ that increasing global temperatures are the result of human activity.¹⁴ Controversies such as the long running and increasingly acrimonious ‘hockey stick’ graph debate¹⁵ (a graph used to great effect by the IPCC in its 2001 report to support its finding that higher greenhouse gas levels are causing higher temperatures), for example, serve to demonstrate that claims of a scientific consensus on even global warming’s current causes are problematic. Doubts over the current warming trend’s exact causes, however, pale in contrast to the inscrutability of what the future impacts of a warming climate actually will be. What, for example, is acceptance or rejection of the various global warming scenarios (the IPCC has produced some forty ‘scenarios’, not ‘predictions’), which range from minor to catastrophic climate change consequences, based upon? More importantly, how does our confidence in such scenarios actually occurring stack up against the costs of taking precautions today against the possible (but unknown) costs of global warming tomorrow?

And therein lies the rub: even if *everyone* accepted human induced ‘global warming’ as the most compelling explanation for what is happening today, we would be no closer to understanding what global warming means in terms of what will happen tomorrow. And even if the IPCC were able to narrow its currently broad range of future temperature increases and predict future consequences with a “high degree” of certainty, the ‘science’ of climate change would still be unable to tell policy makers what they *should do* about it in terms of effective policy. The business of determining policy responses to climate change impacts,

for mitigation and adaptation strategies alike, is an entirely political process that must manage competing values, choices, and preferences. And although the IPCC leadership often appears to think otherwise, policy advocacy is beyond the realm of scientific expertise. While most physical scientists no doubt believe their task to be about uncovering the realities of the natural world, policy is about the reality of what is acceptable and therefore achievable in the political world.

The extent to which climate-related impacts on human society are entirely, or even mostly, the result of greenhouse gas increases caused by human activity may never be entirely clear. The role of natural climate variation, the impact of aerosols, water vapour, clouds, and sun spots, in addition to the causes and effects of naturally generated methane, to name but a few areas of concern, have all raised questions that scientists and their climate models remain unable to unequivocally answer or account for. The central policy question then should not be all about who has got it right; we should also be thinking about how we can develop a strategy that best manages the risks involved with getting the causes and potential effects of climate change wrong, at least until we are in a position to more confidently discuss what is or isn't going to happen.¹⁶

Another emerging problem is that even if we do accept the current consensus on the causes and possible impacts of global warming, there is little agreement among those who otherwise generally concur with the human induced global warming theory over the kinds of carbon emission reductions needed to reduce future increases in temperature; some warming and GHG retention rate estimates and impact assessments indicate that nothing short of major short term reductions will be effective. One such study appeared in *New Scientist* in February 2005,¹⁷ with the report adding that the European Union's target of limiting global warming to 2 degrees Celsius 'now appears wildly optimistic'. The study claims that if GHGs are to reach 'safe levels', current global emissions need to fall to between 30-50% of 1990 levels by 2050 (the Kyoto Protocol aims to reduce the collective GHG emissions of industrialised countries by 5.2% compared to 1990 levels by 2012). If

such studies are reliable (and again, who knows?), the economic and political costs of trying to avoid the worst of global warming are looking more and more likely to be so great as to be unacceptable to all but the most devout environmentalists; most people in either developed or developing societies quite simply could not or would not tolerate the serious economic effects that major, short term emission reductions would involve. And given the myriad uncertainties that characterise our understanding of the global climate and the effects of our interaction with it,¹⁸ it is difficult to argue that people, especially in developing countries, should nonetheless accept significant economic cost and hardship today – despite the Stern Report’s relatively optimistic assessment on this point¹⁹ – in order to limit only one of the many variables that may or may not be behind climate change.

An Alternative Roadmap

A far more appropriate response to climate change, therefore, and the threats it may or may not involve, is to directly address the suspected cause, fossil fuel use, rather than the effect it produces: increasing GHG emissions. Thus, policy should aim to replace fossil fuels with a more diverse and cleaner array of renewable energy sources as quickly as possible, as opposed to trying to figure out ways to limit fossil fuel use and make it cleaner, which is the main goal of current mitigation thinking. Doing so not only would greatly reduce human GHG emissions but would also, with a relatively high degree of certainty, provide a host of additional benefits that could still be enjoyed even if our current assessments of global warming’s causes and the severity of its impacts turn out to be wrong.

Adopting such an approach, often referred to as a ‘no regrets’ approach to risk and uncertainty, is entirely compatible with the decisions taken for the Bali Roadmap and would require all of the same provisions concerning technology transfer, funding, and monitoring. Moreover, making the phase out and replacement of fossil fuels the main goal of mitigation would produce additional benefits by making the monitoring of compliance and transfers far less complex. A strategy for drastically

reducing oil and coal reliance over the next twenty years, for example, would require replacing them with readily available, and cleaner, short term alternatives like natural gas, but would also provide immediate opportunities for other, longer term alternatives already in use such as hydro-electric, wind, geo-thermal, and solar while boosting their development. Nuclear power could remain as an additional option, but only where absolutely necessary due to the huge investment (and risks) involved with building, running, and dismantling reactors, given their relatively short operating life.

Indeed, the possibility that GHG emissions are the major cause of global warming – as ‘likely’ as this may or may not be – should stand as only one of several other equally compelling reasons for pursuing an accelerated shift way from fossil fuel reliance. Aside from the obvious environmental and health impacts of fossil fuel use, oil in particular poses major challenges for developing and developed economies alike. In addition to the economic burden imposed by escalating oil prices, some examples of the risks and problems posed by its future scarcity include higher levels of exposure among developing economies to energy price rises (as the fall of the Suharto government demonstrated following the 1997 Asian financial crisis); increasing energy competition between states; financial and political support for dictatorial/authoritarian, and often hugely dysfunctional regimes in resource rich states as has occurred with China’s ‘aid for energy deals’ in Burma, Sudan, and elsewhere; and, further nuclear proliferation and weakening of the Non Proliferation Treaty.

Thus, it is a mistake to be focusing on emission reductions, as the Kyoto Protocol and most of the global warming debate do, since there are far too many uncertainties and risks, known or unknown, involved for us to act with any reasonable degree of confidence in identifying and then selecting the risks we prefer to face or avoid. Supporters of the mainstream global warming view often argue that future generations will never forgive us if we fail to act against the future consequences. That is no doubt true, but this argument assumes that we know what the consequences are (which we don’t) and also neglects the possibility

that drastic action today – on the basis of little more than *untestable* assumptions about the future – may also have consequences that our great grandchildren will find equally difficult to forgive, such as development failures and worsening poverty, the neglect of other pressing environmental and social issues, and a heightened risk of military conflict.

Critics of the Kyoto Protocol, and the less than ‘politically neutral’ advice of the IPCC, have got it right when they argue that its strategies are undermined by i) too many questionable assumptions in relation to the likely costs involved; and ii) division, among even those who support the global warming consensus, over how effective, if at all, the Protocol’s reductions would be even if full international co-operation and implementation were possible (which it isn’t). Prominent among such critics, unfortunately, are those who have preferred to use the Kyoto Protocol’s shortcomings and division over its future course as a political foil for having no climate change strategy rather than as grounds for developing an effective alternative.

At the inaugural meeting of the six member Asia Pacific Partnership group (AP6) in January 2006, the Kyoto Protocol’s two biggest and most powerful critics at the time, US President George W. Bush and then Australian Prime Minister John Howard, talked up the importance of developing renewable energy sources as a way of combating global warming threats without incurring potentially crippling economic penalties. As is so often the case, however, their actions failed to do their words justice. Prime Minister Howard, for example, also made it quite clear that the Australian government remained committed to fossil fuels, calling them ‘an enduring reality for our lifetime and beyond’.

According to figures reported in *The Australian*,²⁰ of the A\$100 million dollars Howard dedicated to the partnership over five years, Australia would contribute a paltry A\$5 million dollars per year to developing renewable energy projects. This, according to a government AP6 press release,²¹ is in addition to the A\$200 million the Howard government claimed it already had invested in developing renewable energy (A\$500

million meanwhile has been ‘invested’ in so-called ‘low emission technologies’). For its part, the US government, which spends more than US\$350 billion on its military each year, committed a meagre US\$52 million from its 2007 budget, subject to approval by Congress (‘expected’ to grow to US\$260 million by 2011). Both the Howard and Bush governments essentially used the AP6 as a cover for dodging the global warming issue entirely by announcing their intention to hand the job of developing and implementing new energy technology over to the private sector. And like the Kyoto Protocol, the AP6 was largely a calculated exercise in symbolism over substance – a disguise for effectively doing little more than using climate change as a promotional opportunity for free market ideology and passing the policy buck.

The Rudd government, meanwhile, is yet to articulate a clear position on the future of fossil fuels in Australia, and is unlikely to do so anytime soon, given the political and economic weight of the coal and oil industries here. So far Labor has been strong on global warming rhetoric, but most of the statements came while still in opposition; we are yet to see any firm commitments and strategy, particular in relation to the further development of alternative energy sources, now that Mr Rudd is prime minister. The Bush administration, for its part, reluctantly got on board in Bali, which probably says more about the open-ended nature of the Bali Roadmap than it does about any change of heart in Washington, and like Australia the US position on future negotiations remains unclear.

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NOTES

¹Bertrand Russell, *Sceptical Essays* (London: Unwin, 1977), p. 12.

² Ibid.

³ See the 2007 ‘Summary for Policymakers’ from the Working Group I contribution to the *Fourth Assessment Report of The Intergovernmental Panel on Climate Change*, p. 9.

⁴ The ‘frontline’ of the hockey stick debate where many of the scientific claims and counter claims over the extent to which current warming is exceptional can be found on the following websites, *Realclimate.org* and *Climateaudit.org*. A balanced perspective on the hockey stick claims and other climate change debates can be found at *Prometheus* (<http://sciencepolicy.colorado.edu>); See also Fred Pearce, ‘Climate Change: Menace or Myth.’, *New Scientist*, February 12, 2005.

<http://environment.newscientist.com/channel/earth/climatechange/mg18524861.400>

⁵ Research published in *Nature* further illustrates the likelihood of *knowledge* suddenly morphing into questionable assumptions. Four Europe-based scientists now have concluded that, contrary to conventional scientific wisdom, large amounts of methane (an important GHG) are produced by living – instead of decaying as had previously been assumed – terrestrial vegetation, such as trees. As all good research should, this study both questions what we think we already know and raises new questions that we haven’t previously thought about. One of the questions it raises in the context of global warming is the usefulness of mitigating carbon emissions by using forests and reforestation projects as ‘carbon sinks’, one of the Kyoto Protocol’s major initiatives, since it is now possible that forests are contributing rather than only absorbing GHGs. See David C. Lowe, ‘A green source of surprise’, *Nature*, vol. 439, no. 12, January 12, 2006, pp. 148-49.

⁶ Jenny Hogan, ‘Only huge emission cuts will curb climate change’, *New Scientist.com*, February 3, 2005.

<http://www.newscientist.com/article.ns?id=dn6964&print=true>

⁷ Not to mention our inability to *know* what either the global climate or we might be doing in fifty or one hundred years time.

⁸ See for example, Roger Pielke Jnr, ‘Stern’s Cherry Picking on Disasters and Climate Change’, *Prometheus*, October 30, 2006,

http://sciencepolicy.colorado.edu/prometheus/archives/climate_change/000973sterns_cherry_pick.html

⁹ ‘Ferguson splits left on Kyoto’, *The Australian*, January 13, 2006, <http://www.theaustralian.news.com.au/printpage/0,5942,17808347,00.html>

¹⁰ Joint Australian Federal Government press Release, ‘Asia Pacific Partnership Sets New Path To Address Climate Change’, January 12, 2006,

http://www.pm.gov.au/news/media_releases/media_Release1743.html