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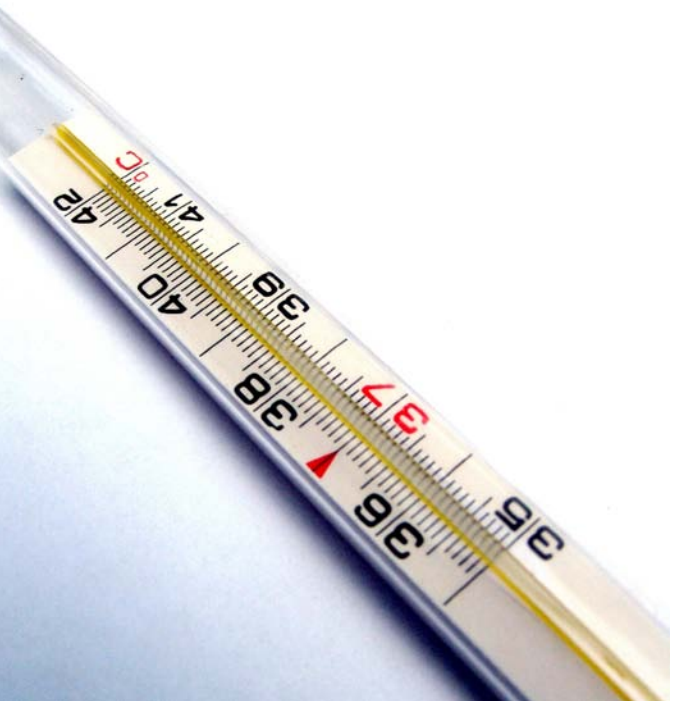
Assessing National Climate Policy

November 2008-February 2009



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Preface

Simon Billett and Niel Bowerman

Current research and analysis on national climate policy is highly fragmented. Most research focuses on specific sectors or geographical regions, and, consequently, there are few examples of broader comparative assessments of climate policy across countries. At present there is a lack of macro-scale assessments of what kinds of policies are being implemented by national governments and how these are influencing the national economies of the major GHG emitting countries.

This report, the first of four Climatico Assessment Reports through 2009, attempts to fill this gap. The report contains separate assessments of climate policy in twelve of the major GHG emitting countries (see contents page), covering government policy on mitigation, adaptation, technology transfer, and land use policies[1]. The assessments cover the policy developments between 1st November 2008 and 20th February 2009. Apart from describing the various policy initiatives being developed and implemented, the report also provides a critical meta-analysis of what kinds of policies are working, where they are being implemented, and why they are successful

The report is organised as follows. Chapter 1 provides an introduction to the major factors shaping national-level climate policy over the past three months and discusses the broader trends in the countries assessed. The subsequent three sections provide individual country assessments grouped in three regions—Europe, North America, and Asia-Pacific.

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[1] *The report for China (Chapter 11) is a special report focused on energy and climate change.*

Editorial: What climate policies are being developed? Where and why?

Author: Simon Billett

Introduction

Development of national-level climate policy between November 2008 and February 2009 has been steady and substantive. Almost all countries assessed have enacted new policies during this time. Interestingly, the outcomes of the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP-14) in December 2008 seems to have played very little role in this development: countries' policies have generally emerged in a steady flow during the period of assessment, suggesting that climate policy is not just an issue addressed by governments in October and November before a UNFCCC COP.

Many of the policy actions are in the early stages of policy development, such as the introduction of new legislation or parliamentary approval of it. Very little effort has been made on advancing the operationalisation or implementation of policy, particularly in the USA, Canada, Japan, and Australia. This is in part explained by the time-intensive nature of reaching political consensus and drafting climate policy in many countries. Therefore, it would be premature to expect widespread implementation of newly developed climate policy at this stage. However, our subsequent quarterly assessments later this year will be able to use preliminary data on implementation to gauge government commitment to their policies.

Geographically, progress among developed countries has been most rapid in North America, Japan and Australia. Again, this reflects the comparative policy deficit that has existed within these countries. Rather than overtaking the countries with more progressive climate policy, they are narrowing the gap. A notable exception is Canada, which remains largely dormant at the national scale (Pieper and Fellingham, Chapter 6).

Among the developing countries, there has been unparalleled advancement in policy. Both Mexico and China have introduced policies to reduce energy intensity and encourage technology transfer. While both countries remain clear that mitigation will not stifle development, both appear to now accept that mitigation and adaptation policies are necessary to prevent and cope with climate change. India, and to

some extent Indonesia, remain less willing to act without firm post-2012 commitments from Annex I countries.

Policy landscape

This chapter attempts to provide a comparative assessment of national climate policies. It focuses on various 'policy areas' to chart the changes that have occurred across the countries assessed in this report. By doing this, it provides an analysis of emerging trends in government climate policy (summarised in Box 1). Special consideration is also given to the impact of the financial crisis in Box 2.

Box 1: Key Points

- Market mechanisms—for domestic mitigation and international transfer—remain the major growth area in national climate policy, and are now the favoured model for reducing CO_2 emissions in most countries.
- The financial crisis is allowing a mainstreaming of climate change into recovery packages, accelerating otherwise difficult shifts to low carbon growth in developed countries. However, the same crisis is causing a major slow down in projects that do not contribute to financial recovery (see Box 2).
- A significant funding gap is appearing for adaptation, as developing country are unable to rely on international transfer mechanisms to meet their financing needs.
- Forestry remains excluded from almost all national climate change policy, largely because of the lack of financial resources to incentivise reducing deforestation.

Government Regulation

The introduction of direct laws—or 'hard policy'—on climate change has been sporadic in most countries. USA, Japan, Australia, and Mexico have introduced emissions targets since November 2008. As might be expected, setting long-term emission targets is the most common approach, with a 50 percent cut by 2050 now fairly well accepted among developed countries. In addition, Mexico has also signed up to this target voluntarily, a significant development which goes beyond the mitigation targets set by other large developing countries..[2] (Galindo and Karaisl, Chapter 8).

In terms of interim targets (for 2020-2025), there have also been notable developments since November 2008. The EU and Australia have both affirmed their targets, but have made a proportion of their cuts conditional on actions by other developed countries. This allows countries to overcome the risk of 'going it

[2] *Poznan: an analysis of outcomes, Climatico Analysis, http://www.climaticoanalysis.org/press-releases/Climatico_Poznan-Debriefing_13thDec2008.pdf Date of Access: 1 March 2009.*

alone' while also exerting pressure on other countries to act[3]. At this stage, the targets set by Japan, US, and Canada remain less clear; all have indicated an intention to reduce emissions, but have yet to define by how much. For each, the major barriers are related to financial and economic concerns, and as of now, there is little sign that these barriers will be overcome during 2009 (see Chapters 6, 7, and 13).

At a sector-specific level, regulation has also grown. US regulation of automobile efficiency, for example, has now been ordered by executive decree. However, such policies remain either not implemented or are simply reaffirmations of previous legislation. Indeed, the law governing US automobile efficiency was actually passed in December 2007 (Andrews, Brandt and McManus, Chapter 7). This re-introduction of existing policy also describes much of the European Union's (EU) December 2008 climate package, which was actually outlined in early 2008 (Elis, Chapter 3).

Within the more established renewable energy regulation frameworks of the UK and Germany, there is some variation in success. The 'Renewables Obligation' system in the UK has encountered some problems with double counting and unintended costs for consumers (Sarwar and Robbins, Chapter 2); the German 'feed-in tariff' system, however, is having more success (Teichmueller, Chapter 5). This appears to be an example of the advantages of using a 'carrot' rather than a 'stick' in a liberalised energy market.

In developing countries, regulation remains the major tool for governments, although its coverage is rather patchy. Policies range from tax incentives to federal mandates; indeed, in Mexico, the federal government is involved in legal suits against states that have failed to deal with major sources of emissions (Galindo and Karaisl, Chapter 8).

Public Funding

Direct government action for lower carbon development has markedly increased since November 2008 through 'green stimulus' packages. The USA is most firmly wedded to this development pathway, proposing making recovery packages conditional on efficiency drives and increasing funding for low-emitting public infrastructure (Andrews, Brandt, McManus, Chapter 7).

In parallel, however, many direct climate mitigation funds are being reduced. Both Mexico and Indonesia reduced the prominence of climate change funds in their annual budgets at the start of 2009. As explored in Box 2, these two parallel trends suggest that climate funding may be increasing in developed countries through stimulus funding but decreasing in developing countries where government financial resources are much smaller and the response to recession is spending cuts rather than increasing public funding.

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[3] *Billet, S. 'The Game Continues', Climatico Analysis, http://www.climaticoanalysis.org/post/the-game-continues-australias-climate-change-plan/ Date of Access: 1 March 2009.*

Market Mechanisms

Many governments have announced plans or begun trial phases for the development of domestic carbon markets. This 'soft regulation' allows governments to incentivise action through flexibility for companies. Unlike 'hard regulation', emissions trading systems do not dictate which companies or sectors that should reduce emissions, but allow the polluters to find the most cost efficient methods and areas of climate change mitigation by trading pollution permits. As a whole, this provides governments with much more flexibility in how targets are met.

Domestic mechanisms

A number of developed countries have now announced domestic market systems. Japan, Australia, and the EU all placed firm policies on the table going forward for the functioning of their cap-and-trade systems (see Chapters 3, 12, and 13). In addition to this commitment period, the UK has an established trading system for renewable energy credits among energy generators, while the US is planning a cap-and-trade system in the near future.

However, while the use of domestic market mechanisms has increased in the new raft of climate policies assessed, there continue to be significant exemptions and exceptions built in. The cap-and-trade systems within Japan and Australia both have 'temporary' exemptions for industrial groups, although the length of these exemptions remains vague in both cases (see Chapters 12 and 13). As Dontenville (Chapter 13) notes for Australia, 'the way the scheme is designed probably allows too many exemptions and not enough incentives.' Within the EU Emissions Trading System (EU ETS), significant exceptions have been built into the phase to 2020 for heavy industry[4] to alleviate the pressure that financial crisis has placed on the manufacturing sector of the economy.

Despite the growth of domestic carbon markets, the flexibility they afford governments has maybe given more-than-expected relief for the highest emitters. If cap-and-trade are to be as effective as they are popular for national governments in mitigating climate change, then these issues will need to be addressed.

> Addendum 1 March 2009:
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> Mexican government—the only developing country government to do so—has also mooted the idea of a domestic cap-and-trade system within Mexico. Details were extremely vague as of 28 February 2009, but more information is planned to be included in the Mexican Special Programme for Climate Change (Galindo and Karaisl, Chapter 8).

[4] *EU 20/20/20 Deal, Climatico Analysis, http://www.climaticoanalysis.org/post/eu-202020-climate-change-deal-early-mover/ Date of Access: 1 March 2009.*

International mechanisms

While domestic market mechanisms are largely emerging as the policy preference of developed countries, international market mechanisms are undoubtedly the preference of developing countries.

The Clean Development Mechanism (CDM) remains the focus of almost every developing country's mitigation policy. India, China, and Indonesia all continue to base much of their climate policy on attracting CDM investment, while Mexico—which had restricted investment—has now altered laws to more fully allow private (non-state) energy generation on the national grid (see Galindo and Karaisl, Chapter 8).

The USA does not appear to have altered its largely negative position on the CDM, with a Congressional report questioning its developmental impact (Andrews, Brandt and McManus, Chapter 7). The financial crisis is also reducing the number of projects being developed, with direct evidence of projects stalling in Mexico and Indonesia (see Box 2).

Rhetoric and action on plans for Reducing Emissions through avoided Deforestation and Degradation (REDD) is lacking at present, largely because of the uncertainty around the international negotiations. It is fair to say that Indonesia and Mexico are the only countries assessed that are preparing models for domestic management of such a system, with even these being preliminary studies. Hence, the policy context at the national level is not entirely favourable for the international negotiations on a draft text scheduled to take place in June 2009. There is a risk of a 'catch-22' situation in which national governments await action at the international forums, while those forums await feasibility studies and plans from national governments. This would risk the creation of a REDD deal not adequately underpinned by national capacity.

Forestry and Land Use

Forestry as a whole remains excluded from almost all national climate change policy, largely because of the lack of existing to financial incentives and pricing of ecosystem services. In developed countries, the situation is stagnant: Australia, for example, has excluded forestry and agriculture from its domestic cap-and-trade system, while the EU continues to not allow afforestation/reforestation (A/R) credits from existing CDM projects in its ETS (Dontenville, Chapter 13; Elis, Chapter 3). Dommett and Ali (Indonesia, Chapter 10) also point to the methodological barriers in developing A/R projects in Indonesia, particularly in terms of determining a baseline and preventing leakage. The problem is also evident at the forestry product demand side: Japan, a major buyer of Indonesian timber, has made no reference to reducing imports or moving toward a certification scheme that would sustain forests as a carbon sink.

In developing countries the situation is slightly better. Mexico and India have both created national plans that focus on forests as a carbon sink. However, for both, realising necessary funds and implementing projects is proving slow and complex, not least because of land-tenure issues. More generally, national assessments suggest that the complexities involved in applying for CDM projects under existing methodologies are a major barrier (see Chapters 8, 9, 10).

At present, it is clear that national and international provisions for forests are insufficient in both scope and implementation.

Adaptation

While COP-14 saw the final operationalisation of the UNFCCC's Adaptation Fund, actual domestic policy—including use of the Fund—remains extremely underdeveloped in developing countries. The main problem continues to be funding. The assessments in this report suggest that the lack of multilateral funding is a significant problem, which is reducing development and implementation of effective adaptation programmes (see Chapter 10).

There is also a significant lack of policy within developed countries, with little effort being put into either the development or implementation of any projects to adapt to climate change. It is not an exaggeration to suggest that global adaptation efforts are woefully insufficient in the context of likely climate change that will result from the mitigation policy presented in this report.

Capacity Problems

Limitations to government capacity to design and implement effective climate policy remain a major barrier in middle income countries. One problem common across many of these countries' reports is the problem of federal-state jurisdictional boundaries. While in Mexico this is proving problematic for implementing renewable energy policy[5], in India variation between states is creating a patchwork of policy development, where the richer states are able to develop policies for mitigation and adaptation while poorer states are not (Galindo and Karaisl, Chapter 8; Sridhar and Viswanathan, Chapter 9).

Public apathy has also been a traditional barrier to implementation of climate policy: the dual unpopularity of economic restructuring and household-level change has deterred many political parties across the world from engaging in climate policy. However, there is some evidence that this has begun to change during the last three months in both Annex I and non-Annex I countries alike.

In Australia the devastating forest fires in January and February 2009 appear to have boosted support for Prime Minister Rudd's claim that climate change is a significant threat to Australia (Dontenville, Chapter 13). In China, recent polling suggests that there is growing public pressure on the government to tackle the increasing aridity of central areas as well as glacial retreat (Owen and Deng, Chapter 11). As well as responding to environmental change, public opinion also appears to be shifting as a result of the 're-packaging' of the climate change debate—most notably in the USA. The implementation of the 'green growth' manifesto by President Obama has—Andrews, Brandt, and McManus (Chapter 7) suggest—helped galvanise support for low carbon development.

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[5] *Galindo, M. 'The Three Tier Challenge', Climatico Analysis, http://www.climaticoanalysis.org/post/the-three-tier-challenge-renewable-energy-policy-negotiation-in-mexico/ Date of Access: 1 March 2009.*

Shifts in public attitudes toward climate change have been significant, then, with some of the most notable changes occurring in traditionally climate change-hostile nations. In a longer-term policy view, such changes seem to be a positive context for future climate policy development.

Box 2: The Impact of the Financial Crisis

Financial limitations were already a major barrier to national climate policies, and the financial crisis has exacerbated them. For the CDM, the rapid selling of CERs by Annex I-based companies to generate cash has caused a significant fall in the secondary CER price, and, consequently, a fall in investment in pipeline projects. Indonesia (Dommett and Ali, Chapter 10) appears to be particularly impacted by this with all pipeline projects unlikely to continue at present.

In terms of national policy, the picture is more complex. On one hand, reduced government finances are having a discernable negative impact on direct mitigation policy; India (Sridhar and Viswanathan, Chapter 9), for example, has largely dropped climate change from its annual budget (released in February 2009), marking a reduction in financial commitment from previous years. Mexico (Galindo and Karaisl, Chapter 8) too has cut federal funding for renewables by 60% in 2009. Within developed country policies too heavy industry has been granted various combinations of exemptions within the EU, Japan and Australia on the basis of the financial crisis.

However, on the other hand, climate change does appear to be undergoing something of a reincarnation, now comprising a significant element of several countries' economic stimulus packages. This is most notable in the USA (Chapter 7). It is significant that a 'mainstreaming' of climate mitigation within economic and development policy as 'green growth' is allowing traditionally less progressive Annex I countries to 'catch-up' with the policies in the more progressive. Such mainstreaming follows the coupling of mitigation and development through the CDM in non-Annex I countries.

While the recession is undoubtedly slowing CDM investment in developing countries and precipitating large exemptions to heavy industry in Annex I countries, it is allowing for a significant shift in developed country recovery policy. The question remains, then, whether the recession is only allowing mitigation that is consistent with growth, rather than tackling all existing emissions in installed industrial and domestic capacity.

Conclusions

This period is undoubtedly been one of the most active in terms of the development of national climate policy, despite the financial crisis and relatively lacklustre UNFCCC COP. Most developed countries are now employing a combination of 'hard' regulatory policy and 'soft' *domestic* market mechanisms; developing

countries are focused on 'hard' regulation and *international* market mechanisms. It is fair to say that market mechanisms at the domestic level are now taking the lead policy focus in many developed countries.

A number of serious gaps remain—most notably forestry and adaptation. At present these areas are all but excluded from almost all national policies, and where they are included implementation remains very low. Despite these gaps, it is possible conclude that all national governments assessed are now acting on climate change. Some of the least compromising countries at the international level are those that have moved most at a national level during the period of assessment, with the potential exception of India and Canada. As potentially insatiable expectations grow around the international climate regime, it is positive to note that at the national level some substantial action is now at least underway.

EUROPE

United Kingdom

Analysts: Nyla Sarwar and Samia Robbins

Key Points

1. The UK became the world's first economy to adopt a legally binding framework to reduce GHG emissions by 80% by 2050 (against 1990 levels).
2. The Committee on Climate Change (CCC) is an independent body that advises government on the level of the carbon budgets and will ensure transparency and accountability to Parliament on the UK's CO_2 targets.
3. There are some inconsistencies in the Government's commitment to reduce GHGs, reflected by the decision to approve a third runway at Heathrow. However, significant investment in the green economy through a financial stimulus package is expected in a double-pronged attack to save the economy and the environment.

Introduction

The UK has been ambitious in its attempts to mitigate climate change, adopting GHG emissions reduction targets of 80% by 2050, which has been made a legally binding commitment by the recently approved Climate Change Act in November 2008. The Act also saw the creation of the Committee on Climate Change (CCC), a new independent, expert body to advise Government on the level of carbon budgets and where cost-effective savings could be made.[6] The CCC has recommended an interim target of at least 34% by 2020.[7]

The Energy Act was introduced in November 2008, and is designed to reflect the availability of new technologies (such as carbon capture and storage), ensuring protection for the UK energy supply, and the environment.[8]

[6] *Climate Change Act 2008 – key provisions/milestones, DEFRA, (London), 1 December 2008. Date of Access: 1 March 2009.* http://www.defra.gov.uk/ENVIRONMENT/climatechange/uk/legislation/provisions.htm

[7] *Building a low-carbon economy, Committee on Climate Change, December 2008. Date of Access: 2 March 2009.* http://hmccc.s3.amazonaws.com/pdf/7993-Climate%20Change-ExecSumm-WEB-BMK.pdf

[8] *Energy Act 2008, BERR, (London). Date of Access: 1 March 2008.* http://www.berr.gov.uk/whatwedo/energy/act/page40931.html

The Energy Act, alongside the Planning Act and Climate Change Act, will ensure UK legislation supports and incentivises the long-term delivery of the energy and climate change strategies. The act will strengthen the regulatory framework to increase private investments in offshore gas supply infrastructure, Carbon Capture Storage (CCS) and renewable technologies (through a tighter Renewable Obligation); improving the reliability of supply and decarbonising the electricity supply through increased diversity of the UK energy electricity mix.

The Act also introduced a feed-in tariff for low carbon technologies up to 5MW and a *Renewable Heat Incentive* (expected to be banded similarly to the Renewable Obligation) to support the generation of renewable heat, from large industrial sites to individual households.

Assessment of Country Action on:

1. Greenhouse gas mitigation targets (long and short term)

The Climate Change Bill was introduced into Parliament on 14 November 2007 and became law on 26th November 2008.[9] The Government's two stated motivations in bringing the legislation were;

- To improve carbon management and help the transition towards a low carbon economy in the UK
- To demonstrate strong UK leadership internationally.10

The Act is the world's first to set legally binding targets to cut GHGs by at least 80% by 2050 (against a 1990 baseline) through action in the UK and abroad.[11] This requires a cut from the current 10tCO_2/capita to 2tCO_2 /capita. An interim target to reduce CO_2 emissions by at least 34% by 2020 (against a 1990 baseline) has also been recommended by the Climate Change Committee, rising to 42% if a global agreement is reached within the UNFCCC.[12]

The Act is designed to adopt a carbon budgeting system, with the aim to cap emissions over 5-year periods, with 3 budgets set at a time, to pave the way to 2050. The first 3 carbon budgets, to be set by 1

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[9] *Climate Change Act, DEFRA, (London), 2 December 2008. Date of Access: 1 March 2009.* http://www.defra.gov.uk/ENVIRONMENT/climatechange/uk/legislation/

[10] *Climate Change Act 2008 – key provisions/milestones, DEFRA, (London), 1 December 2008. Date of Access: 1 March 2009.* http://www.defra.gov.uk/ENVIRONMENT/climatechange/uk/legislation/provisions.htm

[11] *Climate Change Act, DEFRA, (London), 2 December 2008. Date of Access: 1 March 2009.* http://www.defra.gov.uk/ENVIRONMENT/climatechange/uk/legislation/

[12] *Building a low-carbon economy, Committee on Climate Change, December 2008. Date of Access: 2 March 2009.* http://hmccc.s3.amazonaws.com/pdf/7993-Climate%20Change-ExecSumm-WEB-BMK.pdf

June 2009, will run from 2008-12, 2013-17 and 2018-22. The Government must report to Parliament on its policies and proposals to meet the budgets as soon as is practical after they have been set.[13]

The Committee on Climate Change (CCC), established on 1st December 2008 will act as an independent body[14] and advise Government on the level of carbon budgets and where cost effective savings could be made. The Committee will submit annual reports to Parliament on the UK's progress towards targets and budgets to which the Government must respond, thereby ensuring transparency and accountability on an annual basis.[15]

Under the Act, the government is also required to issue guidance to UK companies on how they should report their GHG emissions, and the reported targets must also be reviewed by 1st December 2010. Furthermore, the government must also use powers under the Companies Act to mandate reporting by 6th April 2012, or explain to Parliament why it has not done so. An annual report on the efficiency and sustainability of the Government estate will be published and therefore requires Government to lead by example.[16]

The CCC is expecting to develop better accounting principles to allow international aviation and shipping emissions to also be included into Act. The government will be required to report to Parliament by 31 December 2012 if these emissions are not included by then.[17]

The existing *Carbon Emissions Reduction Target* scheme to electricity generators will also be extended to include a Community Energy Savings Programme, (as announced by the Prime Minister on 11 September 2008), and powers to do this have been included in the Act.[18]

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[13] *Climate Change Act 2008 – key provisions/milestones, DEFRA, (London), 1 December 2008. Date of Access: 1 March 2009.* http://www.defra.gov.uk/ENVIRONMENT/climatechange/uk/legislation/provisions.htm

[14] *Obama's Order Is Likely to Tighten Auto Standards, JOHN M. BRODER and PETER BAKER, New York Times, 25 January 2009. Date of Access: 28 February 2009.* http://www.nytimes.com/2009/01/26/us/politics/26calif.html?_r=1&partner=rssnyt&emc=rss

[15] *Climate Change Act 2008 – key provisions/milestones, DEFRA, (London), 1 December 2008. Date of Access: 1 March 2009.* http://www.defra.gov.uk/ENVIRONMENT/climatechange/uk/legislation/provisions.htm

[16] *Climate Change Act 2008 – key provisions/milestones, DEFRA, (London), 1 December 2008. Date of Access: 1 March 2009.* http://www.defra.gov.uk/ENVIRONMENT/climatechange/uk/legislation/provisions.htm

[17] *The Climate Change Committee. Date of Access: 2 March 2009. http://www.theccc.org*

[18] *The Climate Change Committee. Date of Access: 2 March 2009. http://www.theccc.org*

2. Land Use, Land Use Change and Forestry

The CCC also recommends cuts in emissions in agriculture, which accounts for 7% of the UK's emissions.[19] A potential of 15 million tonnes CO_2 could be cut from reducing use of fertiliser, with further emissions reductions if people eat less carbon intensive meat and dairy products.[20]

The Department of Energy and Climate Change has released a press notice on 3rd February 2009 UK GHG's estimates for 2007, which points out that methane emissions (excluding those from natural resources) were 53% below 1990 levels, and that the main source of methane in 2007 were landfill sites, contributing 41% of the total, and agriculture, contributing 38% of the total.[21]

3. Finance and market incentivisation policies

A number of policies exist to incentivise low carbon development - including the Renewables Obligation, the Low Carbon Buildings Programme, the Carbon Reduction Commitment[22] and the Environmental Transformation Fund[23] to name a few. The Energy Act 2000 introduced a number of further schemes to incentivise low carbon energy. The Department for Energy and Climate Change (DECC) is currently undertaking a number of consultations to understand opportunities in other areas, including tidal opportunities from a Severn barrage, a strategy for heat and energy saving and a study on the location of future offshore energy development.

40% of the UK's emissions are associated with buildings,[24] and a number of initiatives have been targeted at this sector, by both public and private organisations, for example:

- The UK is in the third round of the Community Sustainable Energy Programme (CSEP) capital grants scheme; which provides £9 million for micro generation projects has experienced a 25% increase in the number of applications.25

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[19] Important role of Agriculture and land-based sector in tackling climate change, Committee on Climate Change, (London), 2 December 2008. Date of Access: 1 March 2009. http://www.theccc.org.uk/news/press-releases/important-role-of-agriculture-and-land-based-sector-in-tackling-climate-change

[20] In brief: What the report recommends, Juliette Jowit, Guardian, 1 December 2008. Date of Access: 1 March 2009. http://www.guardian.co.uk/environment/2008/dec/01/carbon-emissions-climate-change-report

[21] e-Digest Statistics about: Climate Change, DECC, 3 February 2009. Date of Access: 1 March 2009. http://www.defra.gov.uk/ENVIRONMENT/statistics/globatmos/

[22] Climate change: What we are doing in the UK, 1 December 2008. Date of Access: 1 March 2009. http://www.defra.gov.uk/environment/climatechange/uk/index.htm

[23] Fund for low carbon technologies: the Environmental Transformation Fund, 21 February 2008. Date of Access: 1 March 2009. http://www.defra.gov.uk/ENVIRONMENT/climatechange/uk/energy/fund/

[24] Low Carbon Buildings, The Carbon Trust. Date of Access: 2 March 2009. http://www.carbontrust.co.uk/technology/technologyaccelerator/lcba.htm

[25] Community Sustainable Energy Programme. http://www.communitysustainable.org.uk/

- Energy Performance Certificates (EPC's) are required for all commercial buildings on construction, sale or rent from 1st October and by that date all qualifying public buildings must have a Display Energy Certificate on display. *1st October is also the date from which dwellings offered for rent will require an EPC.*[26]

- The draft Planning Policy Statement (PPS) on eco-towns precisely defines what constitutes an eco-town; what environmental, social, and economic standards these developments should achieve; and how eco-towns relate to the planning system. Published for consultation on 4 November 2008 with a closing date: 6 March 2009.[27]

4. International technology transfer (inc.CDM)

With regard to the use of international credits under the Climate Change Act, the government is required to ensure that it will strike a balance between activities designed to reduce emissions, at a domestic, European and international level (through mechanisms such as the CDM), with the CCC ensuring its 'balance' for each carbon budget set. The Act was also amended to require a limit to be set on the purchase of credits for each budgetary period.

The Climate Change Act 2008 intends to reduce barriers for the introduction of supplementary market mechanisms and policies – including the introduction of domestic emissions trading schemes more efficiently through secondary legislation; measures on biofuels; powers to introduce pilot financial incentive schemes in England for household waste; powers to require a minimum charge for single-use carrier bags (excluding Scotland).

5. Adaptation

The Climate Change Act 2008 requires public bodies and statutory undertakers to carry out their own risk assessment on 'adaptation' measures adopted, with the formation of an Adaptation Sub-Committee designed to independently advise and scrutinize the Government's adaptation work.

The Minister for Energy and Climate Change, Ed Milliband has announced the commitment to the Adaptation Fund by the end of 2008 (post COP-14 in Poznan) as well as national targets and contributions to the EU's climate package. The funds are yet to be clarified.

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[26] *Building research consultancy training and certification services from the BRE group. Date of Access: 2 March 2009.* http://www.bre.co.uk/index.jsp

[27] *UK Air Transport Policy 'Based on disputed evidence, and could undermine climate policy decisions', Sustainable Development Commission, 20 May 2008. Date of Access: 2 March 2009.* http://www.sd-commission.org.uk/presslist.php?id=77

Impacts of political decisions on Climate Change

'Green' Stimulus Package

The UK's plans for introducing a green stimulus package with the objective of stimulating the economy whilst developing more renewable technologies and creating jobs and skills in the "green" economy is yet to be confirmed.

Heathrow's Third Runway

In contrast with the Climate Change Act, a controversial decision made by the Government was the approval of a third runway at Heathrow airport. At full capacity, an additional runway (completed by 2020) would become the biggest single source of CO_2 emissions in the country; estimated to emit 27mtCO_2 per year - equivalent to the emissions of 57 of the least polluting countries in the world combined.[28]

The new runway will add an estimated 400 flights a day, increasing annual passenger numbers through the airport from 66 million to around 82 million.[29]

The UK Government is justifying the expansion on future economic growth, and introduced a package of environmental conditions to appease the opposition to the decision. It may be the role of the CCC to investigate the impact of its construction in future months.[30]

This expansion to Heathrow conflicts with the government's policy to commit a legally binding 80% target for emissions reduction by 2050, and the details of the final deal are at present, uncertain.[31]

Conclusion

The introduction of the Climate Change Act as a legal requirement represents the main change to the UK policy framework over the last few months.

With the independent regulatory body, the CCC monitoring the UK government's performance, the policies stated to minimise the impact of CO2 in future years are set to be regulated and monitored closely in line with the recommended 5 yearly assessment.

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[28] *Heathrow's expansion will go ahead but what will happen to climate change targets? Nyla Sarwar, Climatico, 15 January 2009. Date of Access: 2 March 2009.* http://www.climaticoanalysis.org/post/heathrow's-expansion-gets-the-go-ahead-but-what-happened-to-climate-change-targets/

[29] *Go-ahead for new Heathrow runway, BBC News, 15 January 2009. Date of Access: 2 March 2009.* http://news.bbc.co.uk/1/hi/uk_politics/7829676.stm

[30] *Go-ahead for new Heathrow runway, BBC News, 15 January 2009. Date of Access: 2 March 2009.* http://news.bbc.co.uk/1/hi/uk_politics/7829676.stm

[31] *Transport Policy 'Based on disputed evidence, and could undermine climate policy decisions', Sustainable Development Commission, 20 May 2008. Date of Access: 2 March 2009.* http://www.sd-commission.org.uk/presslist.php?id=77

However, uncertainties surrounding the finance invested into the adaptation fund, talks of a green stimulus package (yet to be launched), and consistently failing to meet targets in the Renewable Obligation highlight that further commitment from the UK government is needed. Some schemes are working successfully, such as the Community Sustainable Energy Programme (CSEP), the introduction of the Energy Performance Certificates (EPC's) and the recently launched draft Planning Policy Statement (PPS), and the introduction of measures in the Energy and Planning Acts should act to further incentivise investments in low carbon technology.

It is fair to say that the UK is committed to driving the reduction of GHG's through its Climate Change Act, and is subsequently allocating budgets to deliver this.

European Union

Author: Dafydd Elis

Key Points

1. The EU has put in place a binding target to cutting CO_2 emissions by 20% by 2020, which will be increased to 30% if a comprehensive global deal is reached later this year.
2. The EU has implemented significant policy mechanisms to induce further development of low-carbon technologies.
3. Up to half the emissions reductions delivered through the EU Emissions Trading Scheme will be through offsets from Joint Implementation and the Clean Development Mechanism.

Introduction

For almost two years, Europe's climate change policy discussions have been centred on a set of legislative proposals known officially as the 'Climate Action and Renewable Energy Package'. These are often referred to informally as the 20/20/20 Package. The 20/20/20 measures consist of a 20% reduction in carbon dioxide emissions by 2020; a commitment to meeting 20% of Europe's total energy demand from renewable sources by 2020; and a 20% improvement in energy efficiency by 2020.[32]

The broad outline of these measures was originally agreed by EU leaders at a meeting of the European Council in March 2007, based on proposals made by the European Commission.[33] Since then, there has been continued debate between member states at all levels of the EU decision-making apparatus about the detail of the proposals.[34]

During the final two months of 2008, the pace of the internal negotiations over the legislative package intensified. The international climate negotiation timetable was a significant factor in creating this sense of urgency: there was a strong desire within the EU to show both unity and leadership at the COP/MOP in Poznań.[35] France, which held the EU's rotating Presidency for the second half of 2008, also fought hard to

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[32] *20-20-20 by 2020, Jose Manuel Baroso. Date of Access: 28 February 2009. http://ec.europa.eu/commission_barroso/president/pdf/article_20080123_en.pdf*

[33] *Europe Takes the Lead in Fighting Climate Change, Carsten Volkery, (Brussels), 9 March 2007. Date of Access: 28 February 2009. http://www.spiegel.de/international/0,1518,470926,00.html*

[34] *For example: Italy threatens to derail climate change action, AFP, (Brussels), 17 October 2008. Date of Access: 28 February 2009. http://www.canberratimes.com.au/news/local/news/general/italy-threatens-to-derail-climate-change-action/1336106.aspx*

[35] *EU vows to push for progress at UN climate change conference in Poznan, Xinhua, (Brussels), 28 November 2008. Date of Access: 28 February 2009. http://news.xinhuanet.com/english/2008-11/28/content_10428419.htm*

secure agreement between EU Member States as it was eager to gain the political credit that would result from achieving a successful deal under its leadership.

The result was an agreement over the measures between EU leaders at a European Council meeting on 12 December 2008.[36] Inevitably, the agreement represented a compromise between what can loosely be described as some countries' desire to take strong action on climate change mitigation and others' concerns about economic growth and competitiveness.

Assessment of EU action

Greenhouse gas mitigation targets

Central to the 20/20/20 Package is the binding commitment to cut carbon dioxide emissions to 20% below 1990 levels by the year 2020. The main mechanism that will be used to achieve these cuts is the EU Emissions Trading Scheme (EU ETS). The third phase of the EU ETS will operate from 2013 to 2020, with the annual cap on carbon emissions being tightened annually in order to achieve the required reduction by 2020.[37] One of the key compromises made in December was to grant free allowances to some industries and electricity generators beyond 2013.[38] Separately from the discussions over the 20/20/20 Package, a Directive entered into force in February 2009 that will expand the EU ETS to include aviation form 2012.[39]

Europe does not have formal, long-term carbon reductions goals beyond this date, although the Commission expects deep cuts to be made beyond 2020[40], and the European Parliament has called for a commitment to a reduction of up to 80% by 2050[41].

Finance and market incentivisation policies

Europe has committed a diverse mixture of funding sources to achieving its 2020 climate goals.

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[36] *European Union Welcomes Historic Climate Change Deal, Business Wire, 12 December 2008. Date of Access 28 February 2009.* http://www.forbes.com/feeds/businesswire/2008/12/12/businesswire117779208.html

[37] *Questions and Answers on the Commission's proposal to revise the EU Emissions Trading System, Europa Press Release, 23 January 2008. Date of Access: 28 February 2009.* http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/35&format=HTML&aged=0&language=EN&guiLanguage=en

[38] *EU Emissions Trading Scheme, EurActive.com. Published: 22 January 2007, Updated: 16 January 2009, Date of Access: 28 February 2009.* http://www.euractiv.com/en/climate-change/eu-emissions-trading-scheme/article-133629

[39] *Airlines prepare for EU carbon trading scheme, EurActive.com, 2 February 2009. Date of Access: 28 February 2009.* http://www.euractiv.com/en/transport/airlines-prepare-eu-carbon-trading-scheme/article-179059

[40] *20 20 by 2020: Europe's climate change opportunity, Commission of the European Communities, 21 January 2008. Date of Access: 28 February 2009.* http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0030:FIN:EN:PDF

[41] *EU urged to reconsider strategic energy goals, EurActive.com, 22 January 2009. Date of Access: 28 February 2009.* http://www.euractiv.com/en/energy/eu-urged-reconsider-strategic-energy-goals/article-178733

The cost of cuts under the EU ETS will ultimately be met by consumers, as industries affected by the Scheme pass on the costs of emissions allowances on in the price of their products.

The commitment to sourcing 20% of Europe's energy demand from renewable sources by 2020 also represents a considerable investment in low-carbon technology and infrastructure. This money will need to be found by individual Member States, each of which has committed to an individual target for renewables deployment in 2020, based mainly on their current level of renewable energy and their GDP. The cost of meeting the renewable targets is expected to be several hundred billion Euros over the next decade[42]. This cost will be met by a combination of consumers and taxpayers, depending on the specific policies adopted by individual Member States.

The EU has also dedicated a significant amount of funding from its economic stimulus measures to low-carbon technologies, including offshore wind farms.[43] Offshore wind will play an essential role in meeting the 2020 renewables target, but even before the financial crisis it was battling against rapidly-rising capital costs and the sector will undoubtedly welcome an additional injection of finance.

Carbon capture and storage (CCS) has also benefited from the stimulus package, with €1.25bn allocated to support the construction of five pilot plants.[44] This was the second economic boost for CCS in recent months. It was agreed in December that the revenue from the sale of 300 million emissions allowances from the third phase of the EU ETS would be channelled towards twelve CCS large-scale demonstration plants that the EU intends to build in the next decade.[45]

The EU has also engaged in market creation through technical command-and-control measures. This includes a decision taken in December[46] to phase out the sale of incandescent light bulbs across Europe, beginning in September 2009. Removing the supply of traditional bulbs will accelerate the adoption of low-energy light bulbs, with a resulting decrease in the amount of energy used for lighting in Europe. This is the latest in a series of several measures aimed at assisting the EU to increase its energy efficiency to meet its non-binding target of a 20% improvement by 2020.

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42 *Based on estimates such as Pöyry Energy Consulting,* 'Compliance Costs for meeting the 20% Renewable Energy Target in 2020', March 2008. *Date of Access: 28 February 2009.*
http://renewableconsultation.berr.gov.uk/download?filename=compliance-costs-for-meeting-the-20-renewable

43 *E.U. Announces $2.3 Billion Low Carbon Stimulus, Tom Young, (London), 3 February 2009. Date of Access: 28 February 2009.* http://www.greenbiz.com/news/2009/02/03/eu-announces-23-billion-low-carbon-stimulus

44 *EU to spend €1.25 billion on CCS, Carbon Capture Journal, 29 January 2009. Date of Access: 28 February 2009.* http://www.carboncapturejournal.com/displaynews.php?NewsID=331&PHPSESSID=0b8da40a0285e3dc0135ed1ff9be7e76&PHPSESSID=0b8da40a0285e3dc0135ed1ff9be7e76

45 *European Parliament votes to support EU funding for first CCS demonstration plants, Bellona.org, 7 October 2008. Date of Access: 28 February 2009.* http://www.bellona.org/articles/articles_2008/EU_CCS_VOTEYES

46 *Member States approve the phasing-out of incandescent bulbs by 2012, Europa Press Release, 8 December 2008. Date of Access: 28 February 2009.* http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/1909&format=HTML&aged=0&language=en&guiLanguage=en

International technology transfer (including CDM)

The use of emissions credits from third countries (Joint Implementation [JI] and the Clean Development Mechanism [CDM] projects) will be allowed during the third phase of the EU ETS, up to a limit of 50% of the total emissions reductions over the period. The EU has also committed to a 30% emissions cut by 2020 subject to the achievement of a successful global deal at Copenhagen.[47] Additional credits from the CDM, JI or other international offsetting mechanisms could be allowed under into the EU ETS if this occurs[48].

Adaptation

There have been no significant recent developments to the EU's climate change adaptation policy.

Land Use, Land Use Change and Forestry

There has been no significant change in the EU's policy towards LULUCF: the 20/20/20 Package excluded LULUCF credits from the EU ETS, citing concerns about permanence, monitoring, and predictability in the EU ETS.[49]

Conclusions

In a sense, the deal reached over the 20/20/20 Package in December 2008 was no surprise. The outline of the legislation had been agreed almost two years previously, and many of the details of the policies had already emerged during the negotiation process.

The package in its final form reflects a mixture of ambition and pragmatism. This in turn results from Europe's mixed objectives of achieving domestic emissions reductions, investing in low-carbon energy technologies, maintaining economic growth, and providing leadership and an incentive for other countries to co-operate in international efforts to mitigate climate change.

Nonetheless, the achievements made by Europe over the past three months warrant merit. The 20/20/20 package contains the largest binding commitment to an emission cut made by any major economy, and is backed by substantial economic resources that will be deployed across Europe over the next decade.

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[47] *Can the EU lead on Global Warming? Spiegel Online International, 29 January 2009. Date of Access: 28 February 2009. http://www.spiegel.de/international/europe/0,1518,604297,00.html*

[48] *Questions and Answers on the revised EU Emissions Trading System, Europa Press Release, (Brussels), 17 December 2008. Date of Access: 28 February 2009. http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/796&format=HTML&aged=0&language=EN&guiLanguage=en*

[49] *Questions and Answers on the Commission's proposal to revise the EU Emissions Trading System, Europa Press Release, (Brussels), 23 January 2008. Date of Access: 28 February 2009. http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/35*

France

Author: Jean-Benoit Fournier

Key points

1. France's attention has been on the EU presidency where Sarkozy passed the ambitious Energy and Climate Change Package.
2. Little domestic policy has come out of France of late.
3. CDM efforts have been put on the backburner.

Introduction

This assessment period began with UNFCCC Poznań meeting. The main outcomes from this meeting were summarised in Climatico's report "PozńaDebriefing: An Analysis of Outcomes" [50]. As many analysts predicted, this meeting cultivated few clear propositions on the nature of the future international UNFCCC regime.

For France, this assessment period roughly occurs during the last months of the French Presidency of the EU. French President Nicolas Sarkozy has obviously been focusing his efforts on the EU Presidency, and so while little has been done domestically over the past four months, Sarkozy spearheaded the EU's efforts to pass its ambitious Energy and Climate Change Package (ECCP).

Greenhouse gas emission targets

As an EU member country, and even more so as an ardent proponent of the ECCP, France is bound to the specified goals set by the package, namely raising the EU's share of renewables to 20% by 2020; creating a transport fuel mix with 10% biofuels by 2020; tapping the energy efficiency potential with a target to save 20% of the EU's total primary energy consumption by 2020; aiming towards "a low CO_2 fossil fuel future"; and developing a European Strategic Energy Technology Plan to focus R&D efforts on low carbon technologies.[51] Further information on these targets can be found in Chapter 3.

In several statements, President Sarkozy has repeated his ambition to meet these goals. However, endogenous pressure to transform these goals into actual policy has remained frustrated by the cumbersome legislative process. The French EU Presidency had the perverse effect of slowing down the

[50] *Poznań Debriefing – An Analysis of Outcomes, Climatico, 13 December 2008. Date of Access: 2 March 2009.* http://www.climaticoanalysis.org/press-releases/Climatico_Poznan-Debriefing_13thDec2008.pdf

[51] *Energy and climate change: Towards an integrated EU policy, EurActive.com 2 February 2009. Date of Access; 2 March 2009.* http://www.euractiv.com/en/energy/energy-climate-change-integrated-eu-policy/article-160957

usual rhythm of adoption of laws and directives. Of particular importance for the French President is the 20% share of renewable energy in the energy portfolio of the country. This is a main axis of action in the EU energy strategy, which aims at reducing fossil fuel dependency and oil prices shocks on economic activity.

As for the finance and market incentivisation policies, there has been no new policies or financial mechanisms implemented during this assessment period. The *bonus-malus* system for car acquisition is still in place and working well[52]. This system provides financial incentives for the acquisition of fuel-efficient vehicles (*bonus*) and for financial *dis*incentives for the purchasing of inefficient automobiles (*malus*)[53].

International Technology Transfer

As technology transfer occurs mainly through the Clean Development Mechanism, Climatico has extracted data from the CDM Registry[54] on which CDM projects France has supported. Two new CDM projects have been registered (one in China, the other in Chile) while five others have been introduced to the CDM pipeline (either as "requesting review", "under review" or "requesting registration"). Relative to other Annex 1 countries, this is a very modest performance. Germany, Sweden, the United Kingdom and Northern Ireland, as well as Canada and Spain have all registered more projects yielding more emission reductions.

Since the private sector remains the owner of the majority of patents, it is difficult for a state to actively seek to transfer its technology to developing countries. It can however do so by facilitating joint ventures. No significant policy aimed at facilitating joint ventures in clean energy technologies or facilitating technology transfer in the goal of pursuing climate change mitigation has been found for this assessment period.

Adaptation

The ONERC, the National Observatory on the Effects of Climate Change (*Observatoire National sur les Effets des Changements Climatiques*), has been largely responsible for France's adaptation efforts. Two years ago,

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[52] *France's New Old Way of Limiting CO2, William Diem, New York Times 'Wheels' Blog, 18 December 2007. Date of Access; 2 March 2009.* http://wheels.blogs.nytimes.com/2007/12/18/frances-new-old-way-of-limiting-co2/

[53] *"Bonus/Malus" – France encourages drivers to buy greener cars, French Embassy. Date of Access; 2 March 2009.* http://www.ambafrance-uk.org/Bonus-Malus-France-encourages.html

[54] *CDM Project Activities, UNFCCC. Date of Access; 2 March 2009.* http://cdm.unfccc.int/Projects

a climate change adaptation strategy was adopted[55]. While there is no evidence of large-scale, national adaptation-oriented laws having been enacted, an initiative called ViTeCC aims at implementing the strategy at the territorial level[56].

Through the "Union for the Mediterranean", launched in July but consolidated in the past few months, France also seeks to develop strategic partnerships with the nations surrounding the sea in order to share, *inter alia,* information about climatic data and hydrological data.

Land Use, Land Use Change and Forestry

The main elements pertaining to land use, land use change and forestry are included in the Grenelle Legislative Packages, stemming from the now famous "*Grenelle de l'environnement*" forum, an ambitious public consultation exercise on the environment. The Grenelle outcomes, which included concerns about forestry, are now going through the legislative process. Enthusiasm about the Grenelle is now slightly eroding as its substance is somewhat diluted by the exigencies of the legislative process.[57]

No new budgets, laws or statements were found in relation with the specific question of land use, land use change and forestry.

Conclusion

While France has seen little to no domestic action, this is largely understandable in the context of France's Presidency of the European Union, which oversaw the final negotiation stages of the EU's most ambitious climate change legislation yet.

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[55] *Stratégie nationale d'adaptation au changement climatique, Observatorie National Sur Les Effets Du Réchauffement Climatique. Date of Access; 2 March 2009.* http://www.conferenzacambiamenticlimatici2007.it/site/_Files/documentazione/Francia_Adattamento.pdf

[56] *Villes, Territoires et Changement Climatique. Club ViTeCC. Date of Access; 2 March 2009.* http://www.energie-cites.eu/IMG/pdf/plaquette_club_vitecc_2008-2.pdf

[57] *L'étude du projet de loi Grenelle 1 par le Sénat est terminée, Actu-Environnement.com, 9 February 2009. Date of Access; 2 March 2009.* http://www.actu-environnement.com/ae/news/fin_grenelle1_senat_6687.php4

Germany

Author: Fabian Teichmüller

Key Points:

1. The political dynamics of German climate policy have been impacted by the financial crisis
2. The financial stimulus was not extensively focused on climate change
3. There has been a commitment to renewable energy generation and technology transfer

Introduction

Before the financial crisis hit Germany, the country had been at the forefront of international efforts to tackle climate change. The Grand Coalition passed an integrated climate change and energy policy in 2007, and the environmental ministry started a €400m per year initiative for emissions-reduction in 2008[58]. At the same time, German renewables and environmental technology industries have been growing strongly. At the Poznan Conference of the Parties (COP) and domestically, Chancellor Merkel has reiterated her commitments towards tackling climate change, arguing that Europe should take a leadership role in order to ensure both technological advantages and economic growth[59]. Germany is also on track to meet its Kyoto obligations, even though this is to a large extent due to the 'wallfall profits' of unification, through the closure of heavily polluting Eastern German industries[60]. Nevertheless, since the financial crisis hit core German industries, the political dynamics of climate policy have changed. With federal elections in November, protecting jobs in the threatened automotive, steel, and chemical industries has seemingly been at odds with climate initiatives.

Greenhouse gas mitigation targets (long- and short-term)

On 1 December 2008, in preparation for the Poznan COP, Angela Merkel declared the German government's intention of a 20 percent reduction of CO_2 emissions by 2020, with a possibility of negotiating a 30 percent reduction with other major emitters[61].

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58 Kurzinfo Klimaschutzinitiative, June 2008, Date of Access: 1 March 2009. http://www.bmu.de/klimaschutzinitiative/kurzinfo/doc/41711.php

59 Merkel fordert Vorreiterrolle der EU beim Klimaschutz, Spiegel Online, 1 March 2007. Date of Access: 1 March 2009. http://www.spiegel.de/politik/deutschland/0,1518,469318,00.html

60 Warum die Welt einen neuen Klimapakt braucht, Von Bernhard Pötter, 11 December 2008. Date of Access: 1 March 2008. http://www.spiegel.de/wissenschaft/natur/0,1518,595603,00.html

61 Merkel fordert Vorreiterrolle der EU beim Klimaschutz, Spiegel Online, 1 March 2007. Date of Access: 1 March 2009. http://www.spiegel.de/politik/deutschland/0,1518,469318,00.html

With German industry being heavily impacted by the financial crisis, she nevertheless pointed to the need to preserve economic growth as her foremost priority. The government has since faced criticism that it has changed its negotiation stance in EU agreements in order to favour industry, taking policy decisions that are incompatible with German emissions reduction commitments[62], particularly with regards to the building of new coal-fired power stations and softened emissions targets for the automobile industry[63].

In energy policy, the environmental ministry has published an energy roadmap, outlining energy policy to 2020. The roadmap includes an increase in renewable electricity production to 30 percent of overall generation, a commitment not to renegotiate the exit from nuclear energy and a stronger focus on energy efficiency measures[64]. With renewable energy now providing 15 percent of electricity[65] with a high rate of growth, these targets seem achievable.

Finance and market incentivisation policies

With the financial crisis dominating German politics, deciding on the form of the financial stimulus package had crucial importance for financial climate policies. On 13 December 2008, at the close of the Poznan COP meeting, environment minister Sigmar Gabriel said that the financial crisis was an argument for, not against, stringent action on climate change, and that inaction would turn out to be more costly than the crisis itself[66]. On 28 November 2008, he demanded a European offensive for states to spend .5 percent of GDP on climate policies such as building offshore wind farms, investment in domestic energy savings, and renovating public buildings[67]. In the end, the stimulus package that passed the second chamber of parliament on 20 February 2009[68] was broader in its design, combining tax-giveaways with investment in public infrastructure and two measures with direct impact on climate policy—a car tax change to make CO^2 emissions the basis of calculations, and a 'wrecking bonus' of 2500 € for anyone who traded an old car in for a new one. The climate impact of these measures is mixed. Renovating public buildings will be done

62 *Merkel und der Klimaschutz, 8 December 2008. Date of Access: 1 March 2009.* http://www.blogspan.net/presse/lausitzer-rundschau-merkel-und-der-klimaschutz-erstaunlicher-wandel/mitteilung/14914/

63 *Bund zu Weltklimagipfel in Poznan: Industrienationen müssen mehr für den Klimaschutz tun, 23 November 2008. Date of Access: 1 March 2009.* http://www.blogspan.net/presse/bund-zu-weltklimagipfel-in-poznan-industrienationen-mssen-mehr-fr-den-klimaschutz-tun-bund-delegiertenversammlung-fordert-den-klimaschutz-nicht-gewinninteressen-zu-opfern/mitteilung/9341/

64 *Klimafreundliche, sichere und preisgünstige Energieversorgung ohne Atomstrom, 12 February 2009. Date of Access: 1 March 2009.* http://www.bmu.de/pressemitteilungen/aktuelle_pressemitteilungen/pm/43125.php

65 *Biomasse hat Wasserkraft inzwischen überholt, 27 January 2009. Date of Access: 1 March 2009.* http://www.umweltruf.de/news/111/news0.php3?nummer=22440

66 *Gabriel: Finanzkrise ist Argument für konsequenten Klimaschutz, 13 December 2008. Date of Access: 1 March 2009.* http://www.bmu.de/pressemitteilungen/aktuelle_pressemitteilungen/pm/42801.php

67 *Bundesumweltminister Gabriel(SPD): "Ich spreche von einer Investitionsoffensive in Europas Zukunft", 28 Novemer 2008. Date of Access: 1 March 2009.* http://www.blogspan.net/presse/der-tagesspiegel-bundesumweltminister-gabrielspd-ich-spreche-von-einer-investitionsoffensive-in-europas-zukunft/mitteilung/11880/

68 *Bundesrat stimmt Konjunkturpaket II zu, 20 February 2009. Date of Access: 1 March 2009.* http://www.focus.de/politik/weitere-meldungen/deutschland-bundesrat-stimmt-konjunkturpaket-ii-zu_aid_373274.html

in accordance to tough energy efficiency standards but public investment will also go to building roads. The CO^2-based car-tax has not yet passed the Bundesrat, and is mainly cost-neutral. The wrecking bonus was opposed by Angela Merkel in her function as environment minister in 1995 and its impact on climate change is uncertain, as it creates incentives only to return small cars[69].

International technology transfer (inc. the CDM)

With the renewable energy and environmental technology industries having sustained a boom period, employing 1.8 million people[70], German exports in this area have increased substantially, although thus far mainly through selling finished products. On 26 January 2009, the International Renewable Energy Agency (IRENA) was founded in Bonn, sponsored mainly by Germany, Spain, and Denmark. Its role is to promote renewable energy use with a special view to encouraging access to this technology for poorer states[71]. In line with international agreements, Germany also spends 25 percent of revenues from the EU ETS on adaptation and technology transfer measures to developing and transition countries[72].

Adaptation

The Cabinet passed its first adaptation strategy on 17 December 2008[73]. This initiates a consultation process with domestic and international actors focused on evaluating possible future changes with a view concrete action by 2011.

Land Use, Land Use Change and Forestry

At an international meeting on 12 December 2008, environmental minister Sigmar Gabriel announced the German contributions to forestry protection. Germany will support the 'Forest Carbon Partnership Facility (FCPF) with €40m, support developing countries with rainforests in capacity building through the environmental ministries climate protection initiative, and contribute over €33m to finance demonstration projects in partner countries[74].

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69 Reif für den Schrott, 17 Janurary 2009. Date of Access: 1 March 2009. http://www.suedkurier.de/news/wirtschaft/wirtschaft/Wirtschaft;art410950,3596834

70 Gabriel: Umweltschutz wird als Wirtschaftsfaktor immer wichtiger, 16 January 2009. Date of Access: 1 March 2009. http://www.bmu.de/pressemitteilungen/aktuelle_pressemitteilungen/pm/42925.php

71 Ein Meilenstein für eine zukunftsfähige Energieversorgung, 26 Janurary 2009. http://www.bmz.de/de/presse/aktuelleMeldungen/2009/januar/20090123_irena/index.html

72 Gabriel: Finanzkrise ist Argument für konsequenten Klimaschutz, (Berlin), 13 December 2008. http://www.bmu.de/pressemitteilungen/aktuelle_pressemitteilungen/pm/42801.php

73 Deutschland stellt sich auf die Folgen des Klimawandels ein, (Berlin), 17 December 2008. Date of Access: 1 March 2009. http://www.bmu.de/pressemitteilungen/aktuelle_pressemitteilungen/pm/42828.php

74 Signal für mehr Waldschutz im internationalen Klimaschutz, (Berlin), 12 December 2008. Date of Access: 1 March 2009. http://www.bmu.de/pressemitteilungen/aktuelle_pressemitteilungen/pm/42789.php

Domestically, resistance by the CSU, part of the governing Grand Coalition, stopped efforts to consolidate disparate environmental and planning regulation into an environment act[75]. The law was intended to enable more efficient planning, but also to protect and strengthen existing environmental standards.

Conclusion

Overall, Germany is still among the leaders in announcing and implementing climate policy. Nevertheless, the financial crisis has fostered a growing discord between rhetoric and policies implemented. While the fiscal stimulus is held up as having a positive impact on climate policy, in reality it represents a wasted opportunity. Tax incentives are too broad, investment not focussed enough, and the wrecking bonus and car taxation changes are not likely to induce emission savings. Though attention has been paid to adaptation and international cooperation, the proposed actions in this area are not of a scale to lead to wide-scale technology transfer of renewable and environmental technology. Without more stringent action to reduce the use of fossil fuels in energy generation, and without a stronger focus on reducing transport emissions, Germany is in danger of losing sight of its own emissions-reduction targets.

75 Gabriel gegen Kuhhandel zum Wasser- und Naturschutzrecht, (Berlin), 19 February 2009. Date of Access: 1 March 2009. http://www.bmu.de/pressemitteilungen/aktuelle_pressemitteilungen/pm/43207.php

NORTH AMERICA

Canada

Analysts: Derek Pieper and Christopher Fellingham

Key Points

1. Canadian climate change policy and related actions have changed very little during the past four months.
2. Canada is not on track to meet either its Kyoto target or its domestic 2020 target.
3. Canada's decentralised political system and the subsequent trade-offs between Federal and Provincial interests will continue to present significant obstacles for the effective implementation of climate change policy in Canada.

Introduction

Over the course of the least 7 years Canada's approach to climate change policy has undergone substantial changes. Canada's first climate change plan, including measures to reduce green house gas emissions, was passed in November 2002. This was followed in December 2002, by Canada's formal ratification of the Kyoto Protocol resulting in a legally binding greenhouse gas emissions reduction target of 6% below 1990 levels by the period 2008-2012[76].

However, following the Conservative Party's victory in the 2006 federal election substantial changes have been made to Canadian climate change programs. The previous government (in power from 1993 to 2006) had announced plans to reach the Kyoto target of 6% GHG reductions from 1990 levels. However, Canada's current government under Prime Minister Stephen Harper has rejected Canada's Kyoto target, arguing that emissions have risen too steeply to allow for cost-effective reductions. In 2006 Canada's emissions were 22% above 1990 levels (excluding emissions from land use, land use change and forestry)[77].

[76] *Climate Change: Federal Action, The Pembina Institute. Date of Access: 2 March 2008.* http://climate.pembina.org/issues/federal-action

[77] *Evaluation of the Government of Canada's Greenhouse Gas Reduction Policies, Prepared for the Climate Change Performance Index 2009, Mathew Bramley and Clare Demerse, November 2008. Date of Access: 2 March 2008.* http://pubs.pembina.org/reports/questionaire-ccpi-2009-final.pdf

Canada's current climate policy is largely driven by the '*Turning the Corner*' plan released by the federal government in April 2007[78]. This plan focuses mostly on reductions in GHG emissions from heavy industry, while other investments and initiatives focus on adaptation, investments in renewable energy technology, biofuels, and energy efficiency programs.

Greenhouse gas mitigation targets

Canada's current greenhouse gas mitigation targets are described in the federal government '*Turning the Corner*' plan released April 2007 and updated in 2008. The short-term target for GHG mitigation in Canada is a 20% emissions reduction from 2006 levels by 2020[79]. This short-term target implies that Canada will reach its Kyoto reduction target for the 2008-2012 period sometime after 2020[80]. Long-term targets for Canada are 60-70% emissions reductions from 2006 levels by 2050.

Canada's emission reduction targets for industrial sources have been criticised because they are based on intensity of production measures that will allow for absolute emissions growth[81]. Regulated industries in Canada will be required to reduce emission intensity per unit of production by 18% in 2010 (from 2006 emissions intensity levels). Following these initial reductions, existing facilities will have to reduce emissions intensity by an additional 2% annually. A further potentially mitigating factor in the achievement of reductions is that firms will be allowed to reach compliance by paying into a technology fund, which will deliver uncertain emissions reductions at an uncertain future date[82].

In addition to GHG mitigation targets the Canadian government has announced a target for 90% of electricity needs to be met by non-emitting sources, including hydro, nuclear, 'clean coal', or wind power by 2020[83] but no clear plan has been released indicating how this target will be reached.

Finance and Market incentive Policies

Some market based policies are included in measures announced by the Canadian government to help industrial emitters reach their compliance targets for emissions reductions including domestic trading of

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[78] *Turning the Corner: Canada's plan to reduce greenhouse gas emissions and air pollution, Environment Canada. Date of Access: 2 March 2009.* http://www.ec.gc.ca/climat-climate/default.asp?lang=En&n=A3CB096D-1

[79] *The current Canadian government has opted to use a 2006 baseline for GHG emissions levels instead of the 1990 baseline used as a benchmark for Canadian Kyoto obligations under the UNFCCC.*

[80] *Longer-Term Targets, The Pembina Institute. Date of Access: 2 March 2009.* http://climate.pembina.org/issues/longer-term-targets

[81] *Analysis of the Government of Canada's April 2007 Greenhouse Gas Policy Announcement, The Pembina Institute. Date of Access: 2 March 2009.* http://climate.pembina.org/pub/1464

[82] *Evaluation of the Government of Canada's Greenhouse Gas Reduction Policies, Prepared for the Climate Change Performance Index 2009, Mathew Bramley and Clare Demerse, November 2008. Date of Access: 2 March 2008.* http://pubs.pembina.org/reports/questionaire-ccpi-2009-final.pdf

[83] *Canada's Action Plan, Environment Canada, 9 February 2009.* http://www.ec.gc.ca/climat-climate/default.asp?lang=En&n=D80B0B3A-1

carbon credits and access to domestic offsets. These policies are scheduled to be implemented in time for the compliance period for industrial emitters but significant details remain to be announced. Canadian Environment Minister Jim Prentice has recently reaffirmed the Canadian Government's interest in pursuing a North America-wide cap and trade system to regulate GHGs[84].

International technology transfer

Canada's 2007 regulatory framework for industrial GHG emissions allows for the use of credits from the Kyoto Protocol's Clean Development Mechanism (CDM) to be used towards meeting Canadian domestic regulations. In an attempt to ensure that the majority of emissions reductions occur within Canada, the federal government has stipulated that each firm is limited to using CDM credits for up to 10% of their total regulatory obligations[85]. The Canadian government allows for all CDM project credits to be accepted for compliance except those generated from temporary forest sink projects.

Adaptation

The Canadian government has made some investments in both domestic and international climate change adaptation efforts recently, including $100 million announced in October 2008 at the *Sommet de la Francophonie* dedicated to international climate change adaptation in those countries most vulnerable, particularly in Africa, the Caribbean, and the South Pacific. Previously, the Canadian government invested $85.9 million in December 2007 to go towards domestic adaptation measures including a project to assess health impacts related to climate change in northern/Inuit populations[86].

Land use, land use change and forestry

Increasingly economic development such as logging and energy demands have threatened the Canada's boreal forest's role as a carbon sink. Further threats include forest fires and insect predation, resulting in highly variable inter-annual fluctuations in carbon emissions from the LULUCF category. The impact of these factors in any given year determines whether Canada's forests are either a source or a sink of carbon making accounting of emissions difficult[87]. While the Federal Government has made little movement in their conservation, key provinces such as Ontario have passed legislation promoting conservation and

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[84] *Conservatives on climate change, TheStar.com, 30 January 2009.* http://www.thestar.com/comment/article/579484

[85] *Turning the Corner: Regulatory Framework for Industrial Greenhouse Gas Emissions, Environment Canada, 14 August 2008. Date of Access: 2 March 2009* http://www.ec.gc.ca/doc/virage-corner/2008-03/541_eng.htm#further

[86] *Adapting to Unavoidable Climate Change, Environment Canada, 13 February 2009. Date of Access: 2 March 2009.* http://www.ec.gc.ca/climat-climate/default.asp?lang=En&n=CE02D925-1

[87] *Canada: Information on Options for Land Use, Land Use Change and Forestry Accounting, 15 March 2008. Date of Access: 2 March 2009.* https://unfccc.int/files/kyoto_protocol/application/pdf/canada.pdf

sustainable development[88]. Canada is also a supporter of the controversial proposal for generating credits from harvested wood products[89].

Conclusion

Canadian climate change policy and related actions have changed very little during the assessment period covered by this report (November 1, 2008 to February 20, 2009). Addressing the current economic crisis has become the primary focus of the Canadian federal government, while 'green economy' stimulus incentives have not been implemented in Canada as part of economic recovery packages as much as in other jurisdictions such as the United States[90]. Implementation of national climate policies in Canada is particularly complicated by the existence of highly decentralised political structures. While the federal government has authority over national environmental regulations, Canadian provinces also exert control over their own regional environmental policies which has led to a 'patchwork' of policies across the country ranging from carbon pricing in British Columbia (via a carbon tax) to intensity-based targets in Alberta, and sub-national agreements between provinces (Quebec and Ontario) on various climate policy initiatives. Given current policies and programs, Canada will not meet its Kyoto obligations for the 2008-2012 compliance period and will likely have to scale up its activities significantly in order to meet its near term targets for 2020.

[88] *Ontario Fights Climate Change By Protecting Carbon-Absorbing Forests. 14 July 2008. Date of Access: 2 March 2009.* http://www.premier.gov.on.ca/news/Product.asp?ProductID=2358

[89] *Forestry in the UN Climate Negotiations: a Primer, 350.org, 4 August 2008. Date of Access: 2 March 2009.* http://www.350.org/en/about/blogs/forestry-un-climate-negotiations-primer

[90] *Backgrounder: Canada vs. U.S. Investments in Renewables and Energy Efficiency, Tim Weis and Matthew Bramley, The Pembina Institute, 19 February 2009. Date of Access: 2 March 2009.* http://climate.pembina.org/pub/1786

USA

USA

Analysts: Paige Andrews, Ruth Brandt, Kelly McManus

Key Points:

1. The Obama administration has shown a dramatic change from the Bush administration's climate policies within a month of taking office.
2. The United States have set a global example by signing an economic stimulus bill, with a strong focus on green development and climate change mitigation.
3. Not enough attention is being paid in the United States to both Adaptation and LULUCF.

Introduction

At the beginning of the period covered by this report, the United States held elections for the presidency that resulted in the Democratic Party, led by Barack Obama, returning to power. Even before taking office, Obama had assembled a team which indicated his strong commitment to combating climate change. From Nobel laureate Steven Chu as Energy Secretary to veteran environmentalist Lisa Jackson as head of the Environment Protection Agency (EPA), and even creating the new position of 'energy czar'[91].

In the month that passed since the new administration took office, US climate policy has taken a strong turn and where denial and stalling were the norm, now scientific approach and a sense of urgency are the standard.

Greenhouse gas mitigation targets

In a stark break from Bush's unwillingness to set ambitious long term goals, President Obama has declared on several occasions his aim of reducing GHG emissions to 80% below 1990 levels by 2050. This goal is stated in the president's Energy & Environment Agenda, together with more short term goals such as obtaining 10% and 25% of US electricity from renewable sources by 2012 and 2025, respectively, and weatherizing one million homes per year.[92] Obama's *Energy & Environment Agenda* also includes dipping into the strategic petroleum reserves and promoting domestic production of oil and natural gas; but these are only short term goals, designed to answer immediate energy needs, especially those caused by the big increase in oil prices last year. Nevertheless, it is as yet unclear as to how this short-term boost in fossil fuel

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[91] *The official title is "Energy Coordinator": http://www.time.com/time/specials/packages/article/0,28804,1863062_1863058_1866567,00.html Date of access: 28 February 2009.*

[92] *The Agenda : Energy and Environment. Date of access: 16 February 2009. http://www.whitehouse.gov/agenda/energy_and_environment/*

use may impact on US mitigation efforts, not only through fuel use but also through potential land use changes in the mid-west for fuel extraction.

While the previous administration has made several last minute rulings that would have seriously hampered mitigation efforts[93] [94] [95], the new administration has taken various steps to reverse them[96] [97] and other rulings from the Bush presidency,[98] and has declared new initiatives that will further reduce GHG emissions. These initiatives include a memo instructing the Department of Energy to develop higher energy efficiency standards for household appliances[99]; an order from the Minister of Interior to the U.S. Geological Survey to assemble a report about offshore energy sources, including renewables[100]; and the Departments of Energy (DOE) and Agriculture (USDA) announcing funding for research and development of biofuels, focusing on second generation biofuels[101].

A further, a more significant initiative, is a presidential memo instructing the Transportation Department to finalise regulations requiring the auto-industry to increase fuel efficiency standards to comply with the 2007 law (requiring that the average fuel efficiency of automobiles in the US be 35 miles per gallon)[102] [103]. Further, in terms of direct regulation, the federal government has allowed California and thirteen other

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[93] *Request for Comments on the Draft Proposed 5-Year Outer Continental Shelf (OCS) Oil and Gas Leasing Program for 2010-2015. Date of access: 19 February 2009. http://edocket.access.gpo.gov/2009/E9-1062.htm*

[94] *Salazar cancels Bush-era energy leases in Utah. 5 February 2009. Accessed 17 2009. http://www.latimes.com/news/nationworld/nation/la-na-oil-leases5-2009feb05,0,1011948.story*

[95] *EPA's Interpretation of Regulations that Determine Pollutants Covered By Federal Prevention of Significant Deterioration (PSD) Permit Program. Date of access: 19 February 2009. http://www.epa.gov/nsr/documents/psd_interpretive_memo_12.18.08.pdf*

[96] *Obama administration seeks more input on offshore drilling. Date of access: 10 February 2009. http://www.reuters.com/article/environmentNews/idUSTRE5196K020090210*

[97] *EPA May Reverse Bush, Limit Carbon Emissions From Coal-Fired Plants. Date of access: 16 February 2009. http://www.washingtonpost.com/wp-dyn/content/article/2009/02/17/AR2009021701302.html*

[98] *EPA Revisits California Waiver Decision. Date of access: 27 January 2009. http://www.nytimes.com/2009/01/26/us/politics/26calif.html?partner=rssnyt&emc=rss*

[99] *Obama flicks switch on household appliance efficiency standards. Date of access: 15 February 2009. http://www.businessgreen.com/business-green/news/2235951/obama-flicks-switch-household.*

[100] *Salazar Broadens Offshore Energy to Wind, Waves, Currents. Date of access: 10 February 2009. http://www.ens-newswire.com/ens/feb2009/2009-02-10-091.asp*

[101] *USDA, DOE Announce Up to $25 Million in Funding for Biomass Research and Development Initiative. Date of access: 19 February 2009. http://www.energy.gov/news2009/6900.htm*

[102] *Obama's Order Is Likely to Tighten Auto Standards. Date of access: 27 January 2009. http://www.nytimes.com/2009/01/26/us/politics/26calif.html?partner=rssnyt&emc=rss*

[103] *http://www.bbc.co.uk/worldservice/learningenglish/newsenglish/witn/2007/12/071214_us_energy.shtml Date of Access: 28 February 2009.*

states to directly regulate tailpipe emissions from automobiles[104]. This direct regulation is the first to accelerate the speed of energy efficiency reform at such a wide scale.

Finance and market incentivisation policies

With the signing of the American Recovery and Reinvestment Act on February 17th 2009, the US has significantly increased financial and market incentives for the reduction of GHG emissions through energy efficiency programs. The economic stimulus legislation contains both tax credits and investments supporting energy efficiency, clean energy and the creation of green jobs for Americans.

This legislation provides US$20 billion in tax incentives for energy efficiency and renewable energy for 10 years. The tax incentives include an extension of the production tax credit (PTC) for three years. The PTC applies to electricity derived from wind, biomass, small irrigation, geothermal, hydropower, landfill gas, waste-to-energy, and marine renewable facilities. This legislation will also provide tax credits for hybrid vehicle purchases, extend and expand tax credits for energy-efficient improvements to existing homes, establishes a manufacturing investment tax credit for advanced energy facility investments, and provides grant money for building new renewable energy facilities up to 30% of the cost. Additionally, this money will provide State and local governments with clean renewable energy bonds.[105]

The package also provides over US$40 billion in energy investments.[106] Investments in energy include the creation of a Smart Grid Investment Program to improve the nation's electricity grid and investment in advanced vehicle batteries and battery systems. The bill will provide money for the weatherization of modest-income homes and retrofitting low-income and public housing to increase energy efficiency[107]. Up to US$500 million of loan guarantees for renewable energy and electric power transmission systems can be allocated to the development of biofuels to reduce greenhouse gas emissions[108]. In addition, funds are allocated for research and development for energy efficiency and renewable energy[109].

What is not clear at this stage is the success of these policies. US policy remains largely at a legislative stage at present, with little on which to gauge impact.

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[104] http://www.nytimes.com/2009/01/26/us/politics/26calif.html?_r=1&partner=rssnyt&emc=rss *Date of Access: 28 February 2009.*

[105] *U.S. House of Representatives Committee on Ways and Means. (2009, 2 12). Summary of Ways and Means Provisions. Retrieved 2 16, 2009, from http://waysandmeans.house.gov/media/pdf/111/arra.pdf*

[106] *United States Congress. (2009, February 12). PPM116 Stimulus Conference Package. Retrieved 2 15, 2009, from Politico: http://www.politico.com/static/PPM116_stimulus_conference_package.html*

[107] *U.S. House Appropriations Committee. (2009, 2 12). Press Summary 02_12_09. Retrieved 2 15, 2009, from Gristmill: The environmental news blog: http://appropriations.house.gov/pdf/PressSummary02-12-09.pdf*

[108] *U.S. House of Representatives. (2009, 2 12). Economic Recovery Summary. Retrieved 2 17, 2009, from http://energycommerce.house.gov/Press_111/20090212/economiceecoverysummary.pdf*

[109] *United States Congress. (2009, February 12). PPM116 Stimulus Conference Package. Retrieved 2 15, 2009, from Politico: http://www.politico.com/static/PPM116_stimulus_conference_package.html*

International Technology Transfer

The dearth of new developments in international technology transfer over the past several months is not unexpected, given the Presidential transition as well as the diminishing economic conditions of the United States.

However, the U.S. government continues to fund a handful of international technology transfer programs and partnerships for clean energy and sustainable development, through USAID[110] and the Asia-Pacific Partnership on Clean Development and Climate[111]. In addition, the U.S. has a number of bi-lateral agreements with developed and developing nations on energy cooperation[112].

The US is undoubtedly lagging behind other developed countries in the area of technology transfer, and this is largely due to its exclusion for the UNFCCC Kyoto Protocol's CDM. However, at the request of Congress, the U.S. Government Accountability Office (US GAO), completed a study on International Climate Change Programs in November, 2008. In the subsequent report[113], the GAO concluded that the CDM's effects on reducing emissions are uncertain and its effectiveness in promoting sustainable development is limited. The report also states that the CDM goals might be better attained through a means other than the existing mechanism.

Adaptation

Despite warnings that institutions and regulations need to be adapted to forecasted climate change[114], nothing has been done in that respect on a federal level in the past three months, though some federal departments and agencies have published adaptation reports before the period covered by this report. [115]

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[110] *USAID continues to facilitate international technology transfer through two programs: EcoLinks, The Eurasian-American Partnership for Environmentally Sustainable Economies, a USAID initiative that promotes market-based solutions to urban and industrial environmental problems in Central and Eastern Europe and Eurasia, and the Latin America/Caribbean Environment Program (LACEP), which offers technical technical support to 14 industries in ten countries in the LAC region to institutionalize the principles of cleaner production and environmental management systems. Economic Growth and Trade: Technology Transfer, US Agency for International Development (US AID). Accessed 17 Feb 2009.* http://www.usaid.gov/our_work/economic_growth_and_trade/tech-transfer/index.html

[111] *Asia-Pacific Partnership on Clean Development and Climate. Accessed 17 Feb 2009.* http://www.asiapacificpartnership.org/

[112] *The US Department of Energy, Office of Fossil Energy has bilateral agreements with 17 nations, as well as a number of multilateral agreements related to energy development. International Activities Related to Fossil Energy Programs and Topics. U.S. Department of Energy. Accessed 17 Feb 2009.* http://fossil.energy.gov/international/International_Partners/International_Partners.html

[113] *International Climate Change Programs: Lessons Learned from the European Union's Emissions Trading Scheme and the Kyoto Protocol's Clean Development Mechanism. U.S. Government Accountability Office. 18 November 2008. Accessed 17 Fev 2009.* http://www.gao.gov/products/GAO-09-151

[114] *The Climate Crisis and the Adaptation Myth* http://www.environment.yale.edu/publication-series/climate_change/5790/the-climate-crisis-and-the-adaptation-myth/ *Date of Access: 14 February 2009.*

A few actions can be seen on a state level, notably in California, where for example Governor Schwarzenegger ordered on November 14 a report about preparing for the rise in sea level. The report is to be published by the end of 2010.[116] Most other states have not begun to consider adaptation strategies at all. Exceptions are Alaska, California, Florida, Maryland, Oregon, and Washington which have adaptation planning efforts in progress and six others which have included adaptation in their Climate Action Plans.[117]

Land Use, Land Use Change and Forestry

U.S. activities regarding LULUCF have remained relatively silent over the last several months. The transition from the Bush administration to the Obama administration has been marked by 'eleventh hour' decisions regarding land use by the former and their subsequent reversals by the latter. During February 2009, the new Secretary of the Interior Kenneth Salazar cancelled 77 leases for oil and gas development covering over 100,000 acres (40,500 ha) in Utah, but the justification has been on the basis of environmental sensitivity and cultural heritage rather than avoided deforestation or carbon sequestration[118].

It is at present unclear what the land use implications of the federal government's short-term fossil fuel energy expansion (mentioned above) will be.

Conclusion

The first month of the Obama Administration has been a period of laying foundations for change and the transitional period between the Bush and Obama administrations will be appreciated as the moment American response to the threat of climate change deviated from the "business as usual" path and took a

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[115] *For example - Integrating Climate Change into the Transportation Planning Process: Climate Change Adaptation in Transportation Planning. Date of access: 14 February 2009. http://www.fhwa.dot.gov/hep/climatechange/chapter_seven.htm*

[116] *Gov. Schwarzenegger Issues Executive Order Directing State Agencies to Plan for Sea Level Rise and Climate Impacts. Date of access: 14 February 2009. http://gov.ca.gov/press-release/11035/*

[117] *Adaptation Planning - What U.S. States and Localities are Doing. Pew Center on Global Climate Change. Date of access: 13 February 2009. http://www.pewclimate.org/docUploads/State_Adapation_Planning_04_23_08%20_2_.pdf*

[118] *Salazar cancels Bush-era energy leases in Utah. Nicholas Riccardi and Jim Tankersley. 5 February 2009. Accessed 17 2009. http://www.latimes.com/news/nationworld/nation/la-na-oil-leases5-2009feb05,0,1011948.story*

positive direction. Rather than using the financial crisis as an excuse to avoid action, Obama has used it as an opportunity to promote mitigating actions and both the House of Representatives and the Senate have shown support for these actions.

Mexico

Authors: Maria del Mar Galindo and Marie Karaisl

Key Issues

1. Mexico announced voluntary, long-term emissions targets at COP-14[119], but whether the economic and political capital necessary for such a reduction exists currently is doubtful.

2. While adaptation policies are advancing, implementation remains a key problem, especially for water supply issues: climate change will impact on already scarce water supplies[120], yet policy remains costly and largely ineffective.

3. Despite recent energy reform[121], the use of more expensive renewable energies will remain a contentious issue due to constitutional mandates, which call on federalised energy bodies to produce electricity at the lowest possible price for Mexican citizens.

Introduction

Mexico was the first non-Annex I country to set an emissions target at COP-14 in Poznan: it pledged to reduce its emissions by 50% of 2002 levels by 2050[122]. Preparations for this announcement and plans to implement policies that will allow Mexico to achieve its target have been the main focus of policy in the period from October 2008 to February 2009.

President Calderón Hinojosa's government has shown a willingness to engage with climate change issues since it took power in 2006[123], tackling emissions cuts[124] and use of renewable energies[125], as well as

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[119] *Schroeder, Heike. "Mexico Announces 2050 GHG Target", Climatico, (Oxford, UK), 11 December 2008. Date of Access: 15 February 2009. http://www.climaticoanalysis.org/post/poznan-day-11-mexico-announces-2050-ghg-target/*

[120] *Rea, Daniela. "Advierten riesgo por falta de agua", Reforma (Mexico City), 18 November 2008.*

[121] *Iniciativa Reforma Energética, PEMEX, (Mexico City). http://www.pemex.com/index.cfm?action=content&sectionID=135&catID=11780*

[122] *Schroeder, op. cit.*

[123] *Gómez, Natalia and Jiménez, Sergio Javier, "Calderón presenta plan contra cambio climático," El Universal, (Mexico City), 26 May 2007. Date of Access: 15 February 2009. http://www.eluniversal.com.mx/nacion/151275.htm;*

[124] *Programa GEI México, SEMARNAT (Ministry of the Environment and Natural Resources), Mexico City. Date of Access: 15 February 2009. http://www.semarnat.gob.mx/queessemarnat/politica_ambiental/cambioclimatico/Pages/geimexico.aspx*

[125] *Mata Sandoval, Juan Cristobal et al. (eds), Renewable Energies for Sustainable Development in Mexico, SENER (Ministry of Energy) and Deutsche Gesellschaft für Technische Zusammenarbeit, Mexico City, 2006. Date of Access: 15 February 2009. www.conae.gob.mx/work/sites/CONAE/resources/LocalContent/4830/2/ERM06.pdf*

taking minor steps towards providing financial incentives[126]. It has made water-provision infrastructure[127] and deforestation[128] important issues on the agenda.

The federal government will announce its Special Climate Change Programme later in March 2009[129], and has called on all Mexican federal states to design State Climate Change strategies. Only Veracruz state has announced its strategy so far[130].

Congress passed a law in late October[131] calling for the expanded use of renewable energies and for greater engagement with international mechanisms such as the CDM. Implementation could prove problematic due of the fact that the main energy providers in Mexico (Mexican Petroleum, or Pemex, and the Federal Electricity Commission, or CFE) are nationalised and constitutionally bound to provide energy at the lowest possible price; use of more expensive renewables would violate this mandate.

Greenhouse Gas Mitigation Targets (Long- and Short-Term)

The Mexican government prepared for its COP-14 emissions-cuts announcement by setting shorter-term targets within the country: all levels of Mexican government appear to be taking concerted action in order to reduce GHG emissions, but the financial, institutional, and social barriers that exist to this are significant.

The Metropolitan Environmental Commission warned in late October that Mexico, the world's tenth largest GHG emitter could become the seventh largest emitter by 2012 if significant emissions cuts did not take place[132]. Georgina Kessel, Minister for Energy, announced in late November that the federal government had set a 2012 target to produce 26% of electricity using renewable sources, and to produce 7,000

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[126] *Hipoteca Verde, INFONAVIT (National Fund for Workers' Housing Institute), Mexico City. Date of Access: 15 February 2009.* http://portal.infonavit.org.mx/wps/portal/OFERENTES%20DE%20VIVIENDA/Cual%20es%20tu%20actividad/Desarrollar%20vivienda/hipoteca%20verde/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP0os3hnd0cPE3MfAwMLfwsLAyM_1wAXIxNvg0BHY_2CbEdFAEr0L9w!/?WCM_PORTLET=PC_7_CGAH47L000PE902ND4JPCL0C92_WCM&WCM_GLOBAL_CONTEXT=/wps/wcm/connect/infonavit/contenidos_infonavit/seccion_oferentes_vivienda/sa_05_01_00/sa_05_01_02/05_01_02_01

[127] *Karaisl, Marie. "Water Crisis and Climate Change in Mexico", Climatico, (Oxford, UK). 21 January 2009. Date of Access: 15 February 2009.* http://www.climaticoanalysis.org/post/water-crisis-and-climate-change-in-mexico-2/

[128] *ProÁrbol: ¿Qué es?, CONAFOR, (National Forestry Commission), Mexico City. Date of Access: 15 February 2009.* http://www.conafor.gob.mx/index.php?option=com_content&task=blogcategory&id=24&Itemid=350

[129] *Barrios, Ruth. "Presentará Calderón programa para combatir cambio climático", El Sol de México, (Mexico City), 27 February 2009. Date of Access: 27 February 2009.* http://www.oem.com.mx/elsoldemexico/notas/n1064684.htm

[130] *Presenta Veracruz su plan estatal de Cambio Climático, SEMARNAT, Mexico City, 25 November 2008. Date of Access: 18 February 2009.* http://www.semarnat.gob.mx/saladeprensa/boletindeprensa/Pages/Bol%202008.aspx

[131] *Ley Para el Aprovechamiento de Energías Renovables y el Financiamiento de la Transición Energética, SENER (Ministry of Energy), Mexico City, 28 October 2009. Date of Access: 15 February 2009.* http://www.energia.gob.mx/webSener/res/0/dof/LEY%20PARA%20EL%20APROVECHAMIENTO%20DE%20ENERGIAS%20RENOVABLES.pdf

[132] *Morales, Lorena. "Perfilan Estrategia Ambiental," Reforma (Mexico City), 10 December 2008.*

megawatts of electricity using renewables in the next ten years[133]. The Ministry of the Environment and Natural Resources (SEMARNAT) has called on businesses to include GHG emissions in their cost analyses, and the administration as a whole pledged to reduce GHG emissions by 105 million tonnes by 2012[134].

In late January 2009, however, government officials claimed that these targets would be adversely affected as the result of the global economic crisis, which would force the CFE to cut 60% of its funding for renewable energy projects in 2009 (originally USD $5billion dollars)[135]. This is likely to be one of many financial obstacles that the administration will face on this issue.

This said, federal and state governments have continued to develop hydroelectric, solar, wind, and geothermal projects since October 2008[136]. Sonora state's governor announced in mid-November 2008 a new alternative energy project that will utilise seaweed and solar energy[137]; central Mexico state began piloting wind energy programmes in January 2009.

A warning from the Centre for Sustainable Transport that Mexico could triple its transport emissions by 2030[138] appeared to be taken seriously by Mexico City's government, which has begun to build a "Zero Emissions Corridor"[139] of green roadways and bought a new fleet of Euro 3 and Euro 4 buses for metropolitan transport[140].

Negotiations are underway to close "Bordo Poniente" (West Border), the world's second-largest landfill and the country's largest methane emitter, but also the sole source of income for hundreds of pepenadores, or rubbish-pickers in Mexico City[141]. The Ministry of the Environment has called on Mexico City governor

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[133] *Kessel, Georgina. Speech at Globe International Legislative Forum, SENER (Ministry of Energy). Mexico City, 22 November 2008. Date of Access: 15 February 2009. http://www.energia.gob.mx/webSener/portal/index.jsp?id=460*

[134] *Alatorre, Adriana. "Fija SENER como meta 26% de energía limpia," Reforma (Mexico City) 23 November 2008.*

[135] *Corzo, Hugo. "Prevé CFE recortar proyectos por crisis", Reforma, (Mexico City), 29 January 2009.*

[136] *Energías Renovables, SENER (Ministry of Energy), Mexico City. Date of Access: 15 February 2009. http://www.sener.gob.mx/webSener/portal/index.jsp?id=171*

[137] *El Gobernador Bours presentó en los Ángeles los hechos que ponen a Sonora a la vanguardia en protección ambiental en México, Government of Sonora, Hermosillo. Date of Access: 15 February 2009. http://www.sonora.gob.mx/noticias/templates/template_principal.asp?articleid=5589&zoneid=3*

[138] *Rosen, Cecilia. "Proyectan Reducir Emisiones", Reforma, (Mexico City), 30 October 2008. See also Centre for Sustainable Transport Publications: http://www.ctsmexico.org/publications.htm*

[139] *Ciudad Sustentable para el Desarrollo. Mexico City Government, Mexico City. Date of Access: 15 February 2009. http://www.df.gob.mx/wb/gdf/ciudad_sustentable_para_el_desarrollo*

[140] *Gómez Flores, Laura. "Comenzará a operar el 17 línea del Metrobús Tacubaya-Tepalcates: Arganis", La Jornada, (Mexico City), 10 December 2008. Date of Access: 15 February 2009. http://www.jornada.unam.mx/2008/12/10/index.php?section=capital&article=048n1cap*

[141] *"Dialogan gobierno federal y GDF sobre Bordo Poniente", Excelsior, (Mexico City), 4 February 2009. Date of Access: 15 February 2009.*

Marcelo Ebrard to take action on this closure, as per federal environmental rulings. This is one of over 400 waste-disposal cases that the Office of the Federal Prosecutor for Environmental Protection (Profepa) has underway[142], suggesting many municipal governments are failing to follow federal rulings on environmental and climate change issues.

Though Mexico's government is clearly taking steps to meet the country's long-term emissions targets, financial, political, and socio-economic issues will continue to represent significant barriers for progress on this issue.

Finance and Market Incentivisation Policies

The Mexican government is yet to introduce broad-ranging incentivisation policies, particularly for businesses. Some small steps have been taken, but it appears that it will be a long time before a culture of finance and market incentivisation in terms of climate change exists in the country.

Earlier in 2008, the Mexican government had put the "Casa Verde" (Green House) programme, which provided lower-rate mortgages for low-income workers wishing to purchase houses with electricity- and water-saving systems, into place[143]. In late December 2008, Fovissste (the Housing Fund of the national Social Security Institute) announced that it would expand this programme to include mortgage and finance incentives for developers, and that it would increase the number of credits it would provide to potential homeowners in 2009[144]. The effect of these incentives may increase in coming years, when it is estimated that over 20million new houses will be built in the country.

Along similar lines, the national government launched an Energy Efficiency Plan in early November, which will provide financial incentives of up to 50% of the total price of new refrigerators and air-conditioning units for users who are willing to replace their machines with more energy-effective machines[145]. These incentives offer significant discounts (up to 50%) but on a relatively small, individual, scale.

A lack of Mexican industries dealing with climate change adaptation or mitigation issues has meant that Mexican companies have not benefited from private international financial support targeting these issues; the president of the Schroders Climate Change Fund, Mexico, declared in November 2008 that the fund (with a USD $230million dollar budget) had been unable to find appropriate companies to invest in within

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http://www.exonline.com.mx/diario/noticia/comunidad/politicacapitalina/dialogan_gobierno_federal_y_gdf_sobre_el_bordo_poniente/496579

[142] *Investigación de Infracciones Administrativas, Profepa (Office of the Federal Prosecutor for Environmental Protection), Mexico City.* http://www.profepa.gob.mx/profepa

[143] *Ramirez, Karla. "Apoyan Sofoles créditos verdes", Reforma, (Mexico City), 29 August 2008.*

[144] *Ramirez, Karla. "Alista Fovissste hipoteca verde", Reforma, (Mexico City), 29 December 2008.*

[145] *Apoyos, Programa de Sustitución de Equipos Electrodomésticos para el Ahorro de Energía, SENER (Ministry of Energy), Mexico City. Date of Access: 15 February 2009.* http://www.sener.gob.mx/webSener/pse/apoyos.html

Mexico[146]. The Inter-American Development Bank will provide a loan of over USD $1.5billion dollars in 2009[147], destined for support of climate change policy programmes in Mexico, but though this will help bolster government programmes, it is unlikely that it will translate into incentives for businesses, as a result of this lack of relevant industry.

The Ministry of the Environment and Natural Resources (SEMARNAT) indicated in February 2009 that the government might include a proposal for a cap-and-trade system in the federal Special Climate Change Programme to be released in March 2009, but the specifics of this system—and the feasibility of its implementation—remain very unclear[148].

International Technology Transfer

Mexico has not taken significant advantage of international technology transfer instruments such as the Clean Development Mechanism. Though some CDM projects are underway, clustered mostly in the country's industrial north and in the Tehuantepec Isthmus region[149], the number of projects (111 as of March 1 2009) is limited for a country of Mexico's size[150].

The largest obstacle to technology transfer projects in Mexico is the fact that the country's main energy providers are nationalised or federal, and have a constitutional mandate to provide electricity at the lowest possible cost[151]. This has blocked projects that use more expensive alternative energies in the past, but October 2008's Renewable Energy Law suggests that the Mexican federal government is eager to explore the use of renewables as an option, and to take "further" advantage of international technology transfer

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[146] *Ramirez, Karla. "Busca 'Fondo Verde' captar inversionistas", Reforma, (Mexico City), 4 November 2008.*

[147] *Mexico, Inter-American Development Bank, Washington, D.C. Date of Access: 15 February 2009. http://www.iadb.org/countries/home.cfm?id_country=ME&language=English*

[148] *Dasso, Renzo, "Govt looking to implement nationwide cap-and-trade market—Mexico", Business News Americas, 12 February 2009. Date of Access: 1 March 2009.*

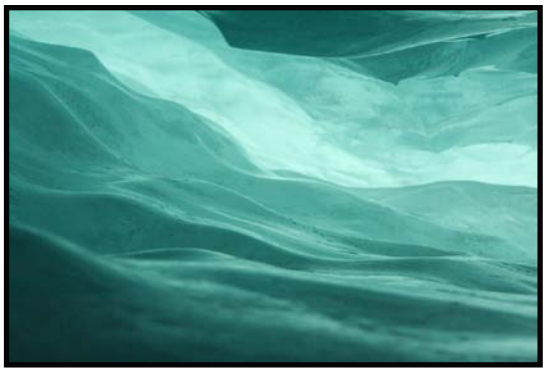
[149] *Galindo, Maria del Mar. "The Three-Tier Challenge: Renewable Energy Policy Negotiation In Mexico", Climatico, (Oxford, UK), 26 January 2009. Date of Access: 15 February 2009. http://www.climaticoanalysis.org/post/the-three-tier-challenge-renewable-energy-policy-negotiation-in-mexico/*

[150] *Registered Project Activites by Host Party, UNFCCC, Bonn. Date of Access: 1 March 2009.*

[151] *Karaisl, Marie. "Is Mexico's Law for Renewable Energy Generation Unconstitutional?" Climatico, (Oxford, UK). 29 January 2009. Date of Access: February 15 2009. http://www.climaticoanalysis.org/post/is-mexico%E2%80%99s-law-for-renewable-energy-generation-unconstitutional/*

mechanisms "such as the CDM"[152]. This law has been controversial and hotly debated since its publication[153].

Members of the Fourth Congress of Sustainable Transport in Mexico City suggested that it was difficult to get approval for CDM projects in the transport sector, which is responsible for 18% of Mexico's GHG emissions, due to the "complexity" of the CDM application framework[154].



The Specific Programme for Development of Sustainable Housing will be the first CDM project targeting housing in Mexico; it will be run by Ecosecurities and will allow for sales of carbon credits in 2012[155].

Large companies such as Cemex (Mexican Cement), based in the country's more developed north, have been able to gain access to CDM projects due to greater turnovers. Cemex has partnered with two Spanish CDM companies—Iberdrola and Acciona Energía—to implement two large wind-energy projects in the country[156]. Smaller companies do not have this same access; technology transfer is therefore spread unevenly across regions and sectors.

Ecosecurities' director for Mexico and Central America reported in February 2009 that the financial crisis would mean that some proposed CDM projects would not now be implemented, and that the global fall of prices of carbon credits would affect projects in Mexico adversely[157].

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[152] *Ley Para el Aprovechamiento de Energías Renovables y el Financiamiento de la Transición Energética, SENER (Ministry of Energy), Mexico City, 28 October 2009. Date of Access: 15 February 2009. http://www.energia.gob.mx/webSener/res/0/dof/LEY%20PARA%20EL%20APROVECHAMIENTO%20DE%20ENERGIAS%20RENOVABLES.pdf*

[153] *Rojas Nieto, José Antonio. "Riesgos de la reforma energética", La Jornada, (Mexico City), 7 December 2008. Date of Access: 15 February 2009. http://www.jornada.unam.mx/2008/12/07/index.php?section=economia&article=028a1eco*

[154] *Rosen, Cecilia. "Proyectan Reducir Emisiones," Reforma, (Mexico City), 30 October 2008. See also: Lechuga, Claudia, "Financing Challenges for Clean Development Mechanisms in Mexico", Mobilidad Amable, 2008, Mexico City: Centro de Transporte Sustentable (http://www.congresotransportesustentable.org/revista.html).*

[155] *Quadri de la Torre, Javier. La Vivienda en México y el Mercado de Carbono. Ecosecurities y Conafovi (National Housing Commission), Mexico City, 2008. Date of Access: 15 February 2009. www.conafovi.gob.mx/jornadas_desarrollo/jueves19junio/EcoSecurities_Vivienda_MERCADO_CARBONO.pdf*

[156] *"Iberdrola and Cemez breeze into La Ventosa", Green Momentum, 22 January 2009. Date of Access: 15 February 2009. http://www.greenmomentum.com/wb3/wb/gm/gm_content?id_content=1153*

[157] *Echeverri, José. "Consume crisis bonos de carbono," Reforma, (Mexico City), 12 February 2009.*

Adaptation

Mexico reiterated the significant risks resulting from climatic changes that the country faces. The Minister of the Environment,[158] the director of CONAGUA[159] as well as the Minister of Agricultural Reform[160] pointed to the general and specific problems of future food and water security and the resulting economic costs.

The federal government initiated the development of Climate Change Action plans at state level in 2007[161]. The state of Veracruz was the first to finalise and present its plan on November 25; 11 other states are currently developing their plans.[162]

The government is placing strong emphasis on the improvement of water supply infrastructure, fixing obsolete pipes and wells, and installing wastewater treatment plans,[163] as first steps to hedge against the predicted decreases in precipitation.

Mexico has recognized the importance of ecosystems such as forests and marine, to mitigate natural disasters, and is strengthening its capacity to protect its seas, coasts[164] and coral reefs.[165]

Considering the scale of the problem, outcomes are limited: researchers of Mexico's Commission for Science and Technology recently pointed to insufficient resources to monitor climate change

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[158] *Advierten Secuelas por cambio climático, Reforma, (Xalapa), 25 November 2008. Date of Access: 18 February 2009. http://www.reforma.com/nacional/articulo/473/944964/*

[159] *Agua y Calentamiento Global, Diario de México, (México City), 28 November 2008. Date of Access: 18 February 2009. http://www.semarnat.gob.mx/saladeprensa/sistesisdeprensanacional/Pages/S%C3%ADntesis28denoviembrede2008.aspx*

[160] *El cambio climático y la seguridad alimentaria, prioridad de las instituciones relacionadas con el campo, afirma el titular de la SRA, Presidencia Nacional, Mexico City, 11 November 2009. Date of Access: 18 February 2009. http://quetzalcoatl.presidencia.gob.mx/prensa/comunicados/?contenido=40063*

[161] *Apoyo decidido de la Federación a los estados, para que todos cuenten con su plan de acción climática, SEMARNAT, Mexico City, 23 November 2008. Date of Access: 18 February 2009. http://www.semarnat.gob.mx/saladeprensa/boletindeprensa/Pages/Bol%202008%20213.aspx*

[162] *Presenta Veracruz su plan estatal de Cambio Climático, SEMARNAT, Mexico City, 25 November 2008. Date of Access: 18 February 2009. http://www.semarnat.gob.mx/saladeprensa/boletindeprensa/Pages/Bol%202008.aspx*

[163] *Contrata Conagua más de 100 asesores, Reforma, (Mexico City), 21 January 2009. Date of Access: 18 February 2009. http://www.reforma.com/nacional/articulo/481/960418/*

[164] *Quedó instalada la Comisión Intersecretarial para el manejo sustentable de mares y costas, SEMARNAT, Mexico City, 1 December 2009. Date of Access: 18 February 2009. http://www.semarnat.gob.mx/saladeprensa/boletindeprensa/Pages/Bol%202008%20219.aspx*

[165] *Fortalecerá México sus trabajos por la conservación de los arrecifes del planeta, SEMARNAT, Mexico City, 21 December 2008. Date of Access: 18 February 2009. http://www.semarnat.gob.mx/saladeprensa/boletindeprensa/Pages/Comunicado%20CONANP.aspx.*

impacts;[166]only 11 states out of 32 are actively working on their Climate Action plan; and the government's large scale supply side measures to improve water management are considered costly and ineffective,[167] especially if the extreme degrees of overexploitation[168] and water contamination[169] are not brought under control.

Land Use, Land Use Change, and Forestry

Demonstrating political will, SEMARNAT has published the Draft National Strategy for Sustainable Land Management (Estrategia Nacional de Manejo Sustentable de Tierras) for public review [170] and the National Commission for Knowledge and Use of Biodiversity (CONABIO) announced to finalize the National Strategy for the Conservation of Vegetation (Estrategia Nacional para la Conservación Vegetal) in 2009.[171]

The National Forest Commission has created a Fund for Biodiversity (*Fondo Patrimonial de Biodiversidad*) equipped with currently USD 10 million to work against deforestation.[172] CONAFOR in cooperation with UNDP and the Rain Forest Alliance are currently developing a project to create a market for certified forest products and services to incentivise sustainable forest management.[173] The National Commission of Protected Areas (Conanp) is planning to establish 12 new Natural Protected Areas in 2009, recognising their importance in mitigating climate change and its impacts.[174]

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[166] *Cambio Climatico, SEMARNAT Síntesis de Prensa Nacional, Mexico City, 22 November 2008. Date of Access: 18 February 2009.* http://www.semarnat.gob.mx/saladeprensa/sistesisdeprensanacional/Pages/S%C3%ADntesis21denoviembrede2008.aspx.

[167] *Alatorre, Adriana, "Critican las megaobras hidráulicas",* Reforma*, (Mexico City), 7 November 2008.*

[168] *Atender la problemática de sobreexplotación de acuíferos, uno de los retos más importantes del país: CONAGUA. Planeta Azul, (Mexico City), 11 November 2008. Date of Access: 18 February 2009.* http://www.planetaazul.com.mx/www/2008/11/11/sobreexplotados-173-acuiferos-conagua/

[169] *Contaminación de las aguas superficiales, SEMARNAT Síntesis de Prensa Nacional, Mexico City, 24 November 2008. Date of Access: 18 February 2009.* http://www.semarnat.gob.mx/saladeprensa/sistesisdeprensanacional/Pages/S%C3%ADntesis24denoviembrede2008.aspx

[170] *Convocatoria Estrategia Nacional de Manejo Sustentable de Tierras, SEMARNAT, Mexico City, 4 February 2009. Date of Access: 18 February 2009.* http://www.semarnat.gob.mx/queessemarnat/consultaspublicas/Pages/EstrategiaNacionaldeManejoSustentabledeTierras.aspx.

[171] *Buscan conservación vegetal en México, Presidencia Nacional (Office of the Presidency), Mexico City, 21 December 2008. Date of Access: 18 February 2009.* http://www.presidencia.gob.mx/prensa/ultimasnoticias/?contenido=41095.

[172] *"México conservará biodiversidad mediante Fondo Patrimonial: Conafor", Milenio, (Guadalajara), 6 January 2009. Date of Access: 18 February 2009.* http://www.milenio.com/node/142779.

[173] *"Buscarán impulsar productividad forestal en México durante 2009", Notimex, (Guadalajara), 6 November 2008. Date of Access: 18 February 209.* http://www.ceja.org.mx/noticia.php?id_article=2993

[174] *"Decretarán 12 áreas naturales protegidas", Notimex, (Mexico City), 4 January 2009. Date of Access: 18 February 2009.* http://www.exonline.com.mx/XStatic/excelsior/template/content.aspx?se=nota&id=463095.

SEMARNAT's budget for 2009[175] increases expenditures for the reforestation programme ProArbol, and allocates money to a new Programme to Restore and Conserve Forest Zones (Programa de Restauración y Conservación de Polígonos Forestales de Alta Biodiversidad).

Continued incidents of illegal logging and urban development have demonstrated the difficulty to effectively enforce Mexico's system of forest and land use regulations; yet, at least there is some progress in discovering and penalizing some of these violations.

Yet, ProArbol's reforestation efforts –financially the most important element- have come under heavy criticism: while SEMARNAT praises the success of the programme,[176] the programme has been accused of corruption and mismanagement of funds,[177] and ineffectiveness on the ground.[178]

Conclusion

Mexico's current administration is clearly interested in projecting an image of climate change consciousness on the international arena, and the number of projects associated with climate change mitigation and adaptation currently underway suggests that this commitment is genuine.

If current initiatives are kept in place and implemented successfully, Mexico looks set to lower GHG emissions, though it is unlikely that it will achieve its 50% target under current conditions.

Mexico is hampered not by a lack of interest in climate change issues but by financial constraints, which are considerable, as well as by a fractured political arena in which some issues—such as those affecting individuals with low-income housing, or those relating to the privatisation of the country's petroleum industry—can become highly politicised, blocking action. The financial crisis has already resulted in cuts to both renewable energy projects and CDM-funded initiatives, and looks set to affect the country further as it heads into the second and third quarters of 2009.

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[175] *Política del Gasto del Poder Ejecutivo, Secretaría de Hacienda, (Mexican Treasury), Mexico City, 2009. Date of Access: 18 February 2009. http://www.apartados.hacienda.gob.mx/presupuesto/temas/ppef/2009/temas/expo_motivos/em001.pdf.*

[176] *A través de Proárbol se garantiza la conservación y el desarrollo sustentable de los bosques mexicanos, SEMARNAT, Mexico City, 1 December 2008. Date of Access: 18 February 2009. http://portal.semarnat.gob.mx/saladeprensa/boletindeprensa/Pages/Boletin%20%202008%20%20240.aspx.*

[177] *"Piden diputados castigar corrupción en ProÁrbol", El Universal, (Mexico City.), 14 January 2009. Date of Access: 18 February 2009. http://www.el-universal.com.mx/notas/569191.html.*

[178] *Greenpeace denuncia a funcionarios por ProÁrbol,* El Universal*, (Mexico City 18 February 2009. Date of Access: 18 February 2009. http://www.eluniversal.com.mx/nacion/165830.html.*

ASIA-PACIFIC

India

Analysts: Radhika Viswanathan and Aparna Sridhar

Key points:

1. Climate policy is largely focused on energy security and environmental safeguards. Government policy is limited to that which contributes to continued development progress in economic and social goals.

2. Upcoming national elections in May 2009 have left current government officials reluctant to pursue aggressive—and potentially unpopular—policies following the National Action Plan on Climate Change launch in July 2008.

3. Technology transfer plays an important because of India's desire to shift to a secure energy portfolio of renewable energy and energy efficiency.

Introduction

During the past few years, the Indian Government has made an aggressive push towards constructing national climate policies[179,180]. However, the implementation of many of these policies—especially the National Action Plan on Climate Change (NAPCC)—remains limited, as government ministries have been unable to get passed political and developmental barriers. Part of the problem also lies in the fact that a number of key ministries (such as the Water Ministry) come under the purview of state rather than the federal government. The disparity in development and economic growth between Indian states also results in differing standards of environmental commitment. While some states have enforced renewable energy targets and are attempting to exploit their renewable resources, other states lag behind. Some

[179] *For example, there has been a continuation of Ministries-led programs aimed at improving energy efficiency alongside promotion of renewable energy (e.g. Bachat Yogana Lamp program[179], energy efficient appliance labeling[179]). In addition, last summer, Prime Minister Manmohan Singh launched India's National Action Plan on Climate Change (NAPCC)*

[180] *National Action Plan on Climate Change. Press Bureau of India. 28 August 2008. Date of Access: 15 February 2009. http://pib.nic.in/release/rel_print_page.asp?relid=41277*

states have taken state level initiatives in climate change policy – Himachal Pradesh has announced studies towards the formulation of a state level climate change policy[181].

The hesitation in implementation can also be attributed to 2009 being an election year for India, as Indian parties begin campaign politics more oriented towards platform issues: class equality, foreign policy and economic growth[182].

The emphasis on equality and growth also sets the tone for much of India's climate policies: energy security, continued development agendas, and international cooperation in technology transfers and financing. In addition, with achieving sustained economic growth high on India's agenda, the global economic downturn, predicted to slow down India's GDP growth rate this year, is likely to challenge budgetary commitments to climate policy initiatives[183]. The interim Budget announced in late February made little mention of climate change policy[184].

Greenhouse gas mitigation targets

India has consistently emphasized the importance of integrating climate change policy with the country's need for rapid economic growth and development, arguing that as a developing country, sustained development is vital if India is to be able build capacities to counter the effects of climate change and reduce its overall vulnerability[185]. In this light, the NAPCC seeks to reduce its greenhouse gas emissions not through setting targets but by prioritizing renewable energy and reducing India's dependency on fossil fuels. Even though some states already enforce higher renewable energy targets, the Indian Central Electricity Regulatory Commission that monitors power, mandated in December 2008 that all power providers source 5% of their power from renewable sources[186]. The state of Gujarat recently signed a number of MoUs to set up renewable energy plants[187]. Recently, the Ministry of New and Renewable

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[181] *'WB to help Himachal prepare environmental masterplan' The Indian Express. 6th Jan 2009. Date of access: 29th January 2009* http://www.expressindia.com/latest-news/wb-to-help-himachal-prepare-environment-masterplan/406951/

[182] *Indian politics said to make climate a tough sell. The Economic Times. 8 October 2008. Date of Access: 20 January 2009.* http://economictimes.indiatimes.com/Earth/Global_Warming/Indian_politics_said_to_make_climate_a_tough_sell/articleshow/3576351.cms

[183] *Economic crisis may lead to drop in GDP growth rate: ILO. The Hindu. 18 February 2009. Date of Access: 19 February 2009.* http://www.hindu.com/thehindu/holnus/001200902181917.htm

[184] *Government of India Budget (Interim) 2009-2010. Date of Access: 18 February 2009.* http://indiabudget.nic.in/ub2009-10(I)/ubmain.htm

[185] *National Action Plan on Climate Change. Press Bureau of India. Date of access: 13 February 2009, http://pmindia.nic.in/Pg01-52.pdf*

[186] *'5% energy to come from renewable sources from 2009-2010', Times of India. 31 December 2008. Date of access 15 February 2009* http://timesofindia.indiatimes.com/Pune/5_energy_to_come_from_renewable_sources_from_2009-10/articleshow/3915658.cms

[187] *'Astonfield to pump in rs 3600 crore for solar project in Gujarat', Business Standard. 5 February 2009. Date of access: 13t February 2009* http://www.business-standard.com/india/news/astonfield-to-pump-in-rs-3600-crore-for-solar-project-in-gujarat/02/42/347978/

Energy launched an ambitious project, under the NAPCC's Solar Mission and Mission for Energy Efficiency, to set up 60 solar cities in India that will source at least 10% of their energy needs from renewable sources and will be energy efficient[188]. The first city in this project, Nagpur, aims to achieve its solar city status by 2012.

While such measures are undoubtedly reducing potential CO_2 emissions, it remains unclear what level of CO_2 reductions the projects are achieving. As Indian emissions continue to rise, it is likely that renewable energy projects are promoted more on the basis of energy security and local, self-sufficient development, rather than climate change mitigation.

International technology transfer

International technology transfer is an important component of the NAPCC, featuring strongly in increasing India's energy efficiency and management and renewable energy capacities. India is aggressively pursuing partnerships with international public and private actors. In February 2009, India signed a £6m agreement with the United Kingdom towards research into water, energy and agricultural security including sustainable bio-energy initiatives.[189] International technology transfer in India is closely associated with CDM mechanisms, and in this respect Germany has emerged as a leading CDM partner as well as a key partner in renewable energy technology transfer and in automotive energy efficiency to promote 'concerns of sustainable automobility'[190].

Finance and market incentivisation policies

Indian government officials have been steadfast in their demands to strengthen UNFCCC CDM schemes during this assessment period. The CDM has been viewed as instrumental to introducing financial and market approaches to India's climate policies and sought after by Indian industries and government bodies[191]. States, such as Himachal Pradesh and Bihar, have focused on developing climate policies and projects that utilize CDM funds and opportunities and establishment of carbon credit markets[192]. As a result, India tops the current table of nations with the most CDM projects [193].

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[188] *Nagpur selected first model solar city in the country. Ministry of New and Renewable Energy. 18 February 2009. Date of Access: 19 February 2009. http://mnes.nic.in/press-releases/press-release-18022009.pdf*

[189] *'Multi-million pound awards granted for UK India collaborations' The Hindu. 3 February 2009. Date of access:15 February 2009. http://www.hindu.com/thehindu/holnus/001200902031607.htm*

[190] *Indo-German joint declaration of intent on automotive sector. Press Bureau of India. Feb 06 2009. Date of access: 13 February 2009 http://pib.nic.in/release/release.asp?relid=47316*

[191] *C-credit prices may rise, benefitting Indian firms, Times of India, 7 January 2009. Date of Access: 20 January 2009. http://timesofindia.indiatimes.com/Business/India_Business/C-credit_prices_may_rise_benefitting_Indian_firms/articleshow/3943956.cms*

[192] *Himachal set to become India's 1st carbon free state. The Economic Times. 19 January 2009. Date of Access: 20 January 2009. http://economictimes.indiatimes.com/News/News_By_Industry/Himachal_set_to_become_Indias_1st_carbon-free_state/articleshow/4000331.cms*

Adaptation

In a UN report in 2008, India was labelled as a 'vulnerable hotspot' due to climate change[194]. Consequently, adaptation is stated as a priority in India's climate policy in the NAPCC. Much of the Government of India's approach to adaptation has been focused on its agriculture and forestry sector where there are high environmental and social risks. Key government growth and development projects like the NREGS (National Rural Employment Guarantee Scheme) have begun incorporating environmental projects (such as water conservation) into their schemes, bringing together basic rural development, environmental management, and contributing towards assuring India's energy security[195]. Much of the publicity and initiatives relating to climate adaptation in India have come from international partnerships[196] or national research institutions such as The Energy and Resources Institute (TERI)[197].

Land Use, Land Use Change and Forestry (LULUCF)

LULUCF issues are relevant in India with a growing population experiencing rapid urbanization and increased land pressure. Much of the Indian Government's focus on forestry issues is aimed at biodiversity and justice issues. In terms of implementation, states have taken the reigns in land use challenges. The Ministry of Environment and Forests' most recent national biodiversity action plan (November 2008) highlights the expansion of research and assessment on climate change vulnerability of critical habitats and desertification[198]. The Plan includes promotes best practices in sustainable agriculture, stronger knowledge networks to attain effective adaptation strategies, and implementation of watershed management in vulnerable areas.

Conclusion

Bihar about to enter carbon credit market. The Bihar Times. 12 February 2009. Date of Access: 15 February 2009. http://bihartimes.com/Newsbihar/2009/Feb/Newsbihar12Feb5.html

[193] Take the Lead. Yvo de Boer. The Times of India. 5 February 2009. Date of Access: 19 February. 2009. http://timesofindia.indiatimes.com/Editorial/TOP_ARTICLE__Take_The_Lead/articleshow/4076780.cms

[194] http://www.careclimatechange.org/careclimatechange.org/events__activities/new_report

[195] 'Rural job scheme also addressing climate change, says Rural Dev Secretary', The Hindu, 8 February 2009. Date of access: 13 February 2009 http://www.hindu.com/thehindu/holnus/002200902081252.htm

[196] Financial Support from developed countries to developing countries for low carbon and adaptation is necessary. Ministry of Environment and Forests. 5 February 2009. Date of Access: 16 February 2009. http://www.pib.nic.in/release/release.asp?relid=47293

[197] TERI to host Delhi Sustainable Development Summit (DSDS 2009). TERI. 22 January 2009. Date of Access: 13 February 2009. http://www.teriin.org/index.php?option=com_pressrelease&task=details&sid=127

[198] National Biodiversity Action Plan 2008. Ministry of Environment and Forests. November 2008. Date of Access: 13 February 2009. http://envfor.nic.in/divisions/csurv/Approved_NBAP.pdf

India

For this assessment period, the Government of India remained mostly silent except in areas of CDM and international technology transfer. The Government has shown interest in pursuing strategies that will strengthen its institutional capacity by seeking opportunities to strengthen international coordination, financing mechanisms, and adaptation goals.

On the whole, for the assessment period concerned, greenhouse gas mitigation targets have remained largely rhetoric since the Indian Government has publicly resisted any desire to form GHG targets both in the international and national arena. Instead, mitigation efforts follow renewable energy projects aimed at both promoting energy supply and security as well as reduced CO_2 emissions..

China and Energy

Analysts: Emma Owen and Lianchung Deng

Key points:

1. China is still reluctant to assume a cap on carbon emissions, adhering to the UN negotiated doctrine of 'common but differentiated responsibilities'

2. China is taking important steps to increase research and technology on renewable energy and is likely to meet its goal of a 20% reduction in energy intensity by 2020.

3. The US-China 'Roadmap' is a significant step in international action on climate change

Introduction

China, in its 11th 5-year plan[199], set targets to reduce national energy intensity—the measure of energy used per unit of GDP—by 20% in the five years between 2006 and the end of 2010, an average reduction of 4% per year. The latest figures[200], released on January 22nd, reveal energy intensity reductions of 1.8% in 2006, 3.7% in 2007, and 4.2% in 2008, surpassing the 4% annualized goal. It now looks likely that China will be able to reach its 20% goal by 2010.[201]

However, China appears unlikely to shift its position articulated at Poznan that it will not agree to quantified emission reduction quotas at Copenhagen.[202]

This assessment period has seen two key initiatives proposed which have placed China further into the spotlight on climate change and international co-operation. The first was the UN-China hosted High-Level Conference on Climate Change in November 2008[203], which culminated in the High-Level Statement on Technology Development and Technology Transfer. Secondly, and most significantly, a US-China 'Roadmap' was proposed in February 2009 for accelerated co-operation between the world's two biggest

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[199] *China approves five-year plan for environment protection, News.cn, Beijing, http://news.xinhuanet.com/english/2007-09/26/content_6797209.htm Date of Access: 24 February 2009.*

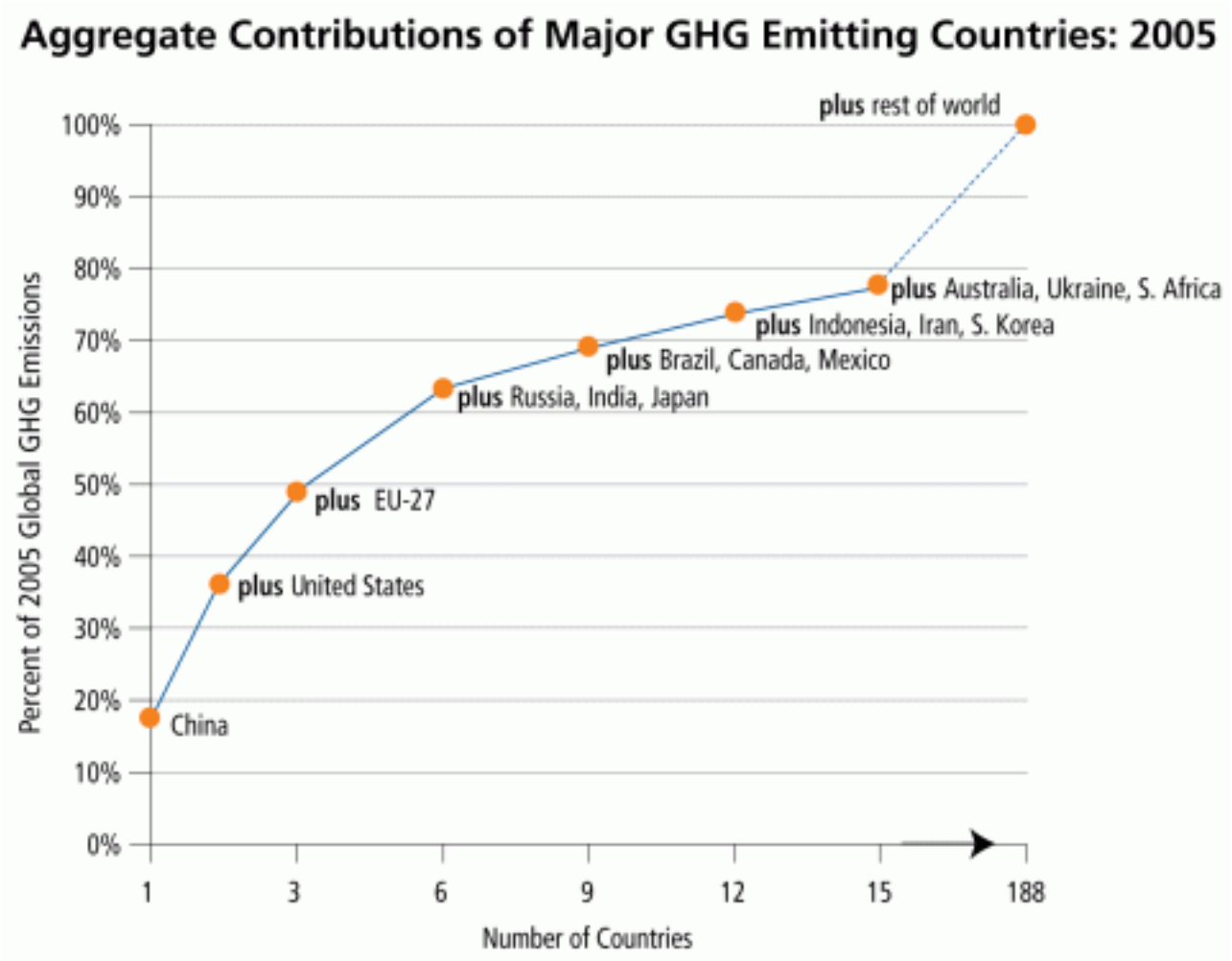
[200] *State Council Information Office, People's Republic of China, Beijing, http://www.scio.gov.cn/syyw/tbtt/200901/t257294.htm Date of Access: 24 February 2009.*

[201] *Measuring Climate Change Progress in China, World Resources Institute, 17 February 2009, http://www.wri.org/stories/2009/02/measuring-climate-change-progress-china Date of Access: 24 February 2009.*

[202] *Interview with Wen Jiabao, Financial Times, London, http://www.ft.com/cms/s/0/795d2bca-f0fe-11dd-8790-0000779fd2ac.html?nclick_check=1 Date of Access: 24 February 2009.*

[203] *Beijing High-Level Statement on Technology Development and Technology Transfer for Climate Change, 8 November 2008, http://www.ccchina.gov.cn/bjctc/en/index.asp Date of Access: 24 February 2009.*

emitters. This report examines the potential of these proposals and ultimately, the Government's prospects for further action on climate change.



Sources & Notes: WRI, CAIT (http://cait.wri.org). Percent contributions are for year 2005 GHG emissions only. Moving from left to right, countries are added in order of their absolute emissions, with the largest being added first. Figures exclude emissions from land-use change and forestry, and bunker fuels. Adapted from Figure 2.3 in Baumert et al. (2005).

International co-operation and technology transfer

At the UN COP-14 in Poznan, China reaffirmed that it would not commit itself to a binding target in the reduction of greenhouse gases. Instead, experts presented studies included in the post-2012 Chinese strategy on Climate Change undertaken through the UN/China Climate Change Partnership Framework

which focused on three aspects: the Carbon Budget; the proposal of an innovative mechanism for the technology transfer and development; and analysis of three energy-intensive sectors (power, cement, aluminium).

The Carbon Budget

The first study, related to the Carbon Budget discloses the Chinese search for a principle of "equity" among the individuals living in the planet, and acknowledging to each of them a due quantum of emissions, related to his/her basic needs. The concept follows the principle of "common but differentiated responsibility" in bearing the burden of climate change solution, and the one of "per-capita emissions", that is aimed at guaranteeing their development rights.

Mr Su Wei, Director General of the Department of Climate Change of NDRC and the Deputy Head of Chinese delegation in Poznan, declared that the principle of "common but differentiated responsibility" and equity are the two fundamental principles guiding international cooperation on climate change. The development space and right of developing countries must be assured. Developing countries need carbon space to their industrialization and urbanization. And Developed countries shall transfer environmentally friendly technologies to developing countries to help them to address climate change".[204]

Technology Transfer

The second study aims to identify a new mechanism to facilitate the technological transfer between developed and developing countries, through a new institutional arrangement under the UNFCCC, and a financial mechanism based on the Public-Private Partnership principle. The aim is to develop Public-Private Partnerships by linking public finance with carbon, capital, and technology markets. "The importance of technology transfer and related capacity building, especially for least developed countries" was highlighted in the Beijing High-Level Statement on Technology Development and Technology Transfer for Climate Change. [205]

China's commitment to technology development has already demonstrated considerable success, as a recent report from The Climate Group reveals.[206] It is the leading renewable energy producer in the world in terms of installed generating capacity, with the largest hydro-electric fleet and fifth largest wind power fleet in the world. In addition to the overarching 20% energy intensity reduction target and the 15% renewable energy target, a comprehensive set of complementary regulations have been developed

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[204] *China introduces its vision of low-carbon future, UNDP, 9 December 2009, http://content.undp.org/go/newsroom/2008/december/china-introduces-its-vision-of-low-carbon-future.en Date of Access: 24 February 2009.*

[205] *Beijing High-Level Statement on Technology Development and Technology Transfer for Climate Change, 8 November 2008, http://www.ccchina.gov.cn/bjctc/en/index.asp Date of Access: 24 February 2009.*

[206] *China's Clean Revolution, The Climate Group, http://www.theclimategroup.org/assets/resources/Chinas_Clean_Revolution.pdf Date of Access: 24 February 2009.*

covering almost every sector of China's economy, from fuel economy standards through building efficiency design codes to China's 2006 Renewable Energy Law in 2006, which subsidises wind and biopower projects. Most recently, on 17th February 2009, four Government Ministries jointly launched a pilot programme in 13 cities to promote alternative energy vehicles, particularly hybrid urban buses, with financial subsidies.

Focus on energy-intensive sectors

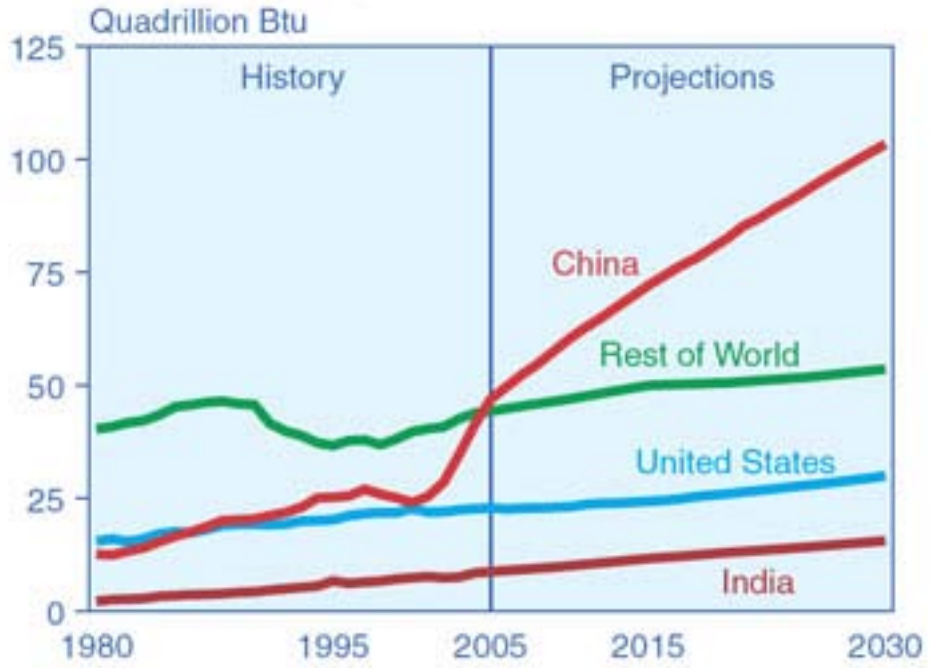
However, the most crucial component of China's climate strategy will be the third element: a focus on a sectoral analysis of power, cement and aluminium energy-intensive sectors, which are considered the backbone of the two-digit Chinese GDP growth over the last decades. According to Wei, in 2008, 14.38 GW installed capacity of small thermal power generation units were shut down with the elimination of 46.59 million tons of iron-smelting obsolete capacity, 37.47 million tons steelmaking capacity and 52 million tons of cement production capacity. More than 2,000 heavily polluting papermaking plants, chemical plants and printing and dyeing mills were ordered to close down, as were 11,200 small coal mines.[207]

But in the absence of policies or legislation that would limit the growth of coal use, the latest IEA World Energy Outlook report emphasises that more dramatic action will be required to curb China's future emissions. China is expected to dominate world coal consumption, followed by the United States and India with these three countries accounting for 90 percent of the projected increase from 2005 to 2030[208],

[207] *China introduces its vision of low-carbon future, UNDP, 9 December 2009, http://content.undp.org/go/newsroom/2008/december/china-introduces-its-vision-of-low-carbon-future.en Date of Access: 24 February 2009.*

[208] *International Energy Outlook (Chapter 1), Energy Information Administration, USA Government, June 2008, http://www.eia.doe.gov/oiaf/ieo/world.html Date of Access: 24 February 2009.*

Figure 13. Coal Consumption in Selected World Regions, 1980-2030



Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. **Projections:** EIA, World Energy Projections Plus (2008).

Since China's position on an emissions cap (to be debated at the forthcoming COP in Copenhagen) remains a polite but firm 'NO', critics are now looking elsewhere for positive signs with potential unilateral or bilateral agreements. The recent report on a 'road map for US-China co-operation on climate policy' from the Asia Society and the Pew Centre on Global Climate Change[209], is one of several informal diplomatic initiatives that have been developed in anticipation of regime change in Washington DC and which are now vying for the new US administration's endorsement. With China and the U.S. together accounting for nearly 40% of the world's aggregate GHG emissions, such collaboration is indeed a positive step towards accelerated action on climate policy.

Priority areas of collaboration include:

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[209] *A Roadmap for U.S.-China Cooperation on Energy and Climate Change, The Pew Centre, February 2009* http://www.pewclimate.org/US-China *Date of Access: 24 February 2009.*

- Deploying Low-Emissions Coal Technologies, namely for the capture and sequestration of carbon emissions from coal-fired power plants in the likelihood that both the United states and China will continue to rely heavily on coal for many years to come.
- Improving Energy Efficiency and Conservation.
- Developing an Advanced Electric Grid capable of handling larger sources of low-carbon energy from intermittent, but renewable sources of power more cheaply and efficiently.
- Promoting Renewable Energy
- Quantifying Emissions and Financing Low-Carbon Technologies

Conclusion

With the US Secretary of state's recent visit to Beijing, this 'Roadmap' has been identified as *the* principle policy tool upon which US-China relations can be cemented. Finally, it seems that the two largest carbon emitters in the world are ready to collaborate in taking action on climate change.

Within China itself, a 2008 Climate Confidence Monitor[210] revealed that popular opinion was at odds with their government's position in international negotiation, as 62% of respondents said the country should reduce emissions by at least as much as other countries.[211] Furthermore, in spite of the recent financial context, China's business leaders are also calling for action on climate change, as demonstrated by an unprecedented climate change communiqué on 18th February of business leaders committed to reducing emissions from their business operations, to spurring research and innovation in clean energy technologies, and to becoming role models for low-carbon action.[212]

While the prospects for China's agreement on an emissions cap at Copenhagen remain weak, the last quarter has seen an unprecedented momentum building from within and outside China. China's action—both in domestic policy and negotiation with the US—indicate that the use of emissions intensity as a measure of GHG emission reductions in China rather than a fixed emissions target may be a compromise that is able to combine 'common but differentiated' approaches with Annex I demands for middle income country actions, and so brings all sides to the table. The question now is whether the rigid Chinese Government will finally bend to these increasing pressures.

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[210] HSBC Climate Confidence Monitor 2008 http://www.hsbc.com/1/2/sustainability/climate-confidence-monitor-2008 Date of Access: 24 February 2009.

[211] Brahic, C 'Climate change survey gives mandate for action', New Scientist, 28 November 2008, http://www.newscientist.com/article/dn16147-climate-change-survey-gives-mandate-for-action.html Date of Access: 24 February 2009.

[212] Chinese business leaders call for a global climate deal, The Climate Group, 18 February 2009, http://www.theclimategroup.org/news_and_events/chinese_business_leaders_call_for_a_global_climate_deal/ Date of Access: 24 February 2009.

Japan

Analyst: Takashi Sagara

Key Points

1. Japan has made a remarkable progress in finance and market incentivisation policies.
2. Increasing influences of industry in climate policy can be observed, with potential for such influences to become a significant limiting factor on national policy.
3. Negative attitudes of the Government toward strict mitigation targets continue.

Introduction

Because it hosted the 'Green' G8 summit in July 2008[213], Japan significantly advanced its climate policy during the second half of 2009 following its strong leadership in forging the commitment to 50% reductions in G8 GHG emissions by 2050. Consequently, at both national and international levels, the Government actively implemented a number of actions to reduce its own emissions--mainly promoting energy savings, national forest management and providing both financial and technological aids to developing countries internationally.

However, Japan has hesitated to introduce market-based mechanisms, such as an emissions trading scheme, because of strong industrial opposition toward them. Instead, the government has said that potential marketed-based mechanisms will be on a voluntary basis. Japan's actions suggest that industry may be becoming more averse to mitigation policies, and this may well continue into the future.

Greenhouse gas mitigation targets

On 12th February 2009, the governmental committee determining the national mid-term emissions goal submitted its interim report, proposing six possible options for GHG reductions by 2020[214]. Three plans were offered in the case in which other industrialized nations were required to reduce their GHG by 25% compared to the year 1990.

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[213] http://www.mofa.go.jp/policy/economy/summit/2008/index.html *Date of Access: 28 February 2009.*

[214] *Sankei Shinbun, 12 February 2009. Date of Access: 12 February 2009.*
http://headlines.yahoo.co.jp/hl?a=20090212-00000634-san-soci

Japanese models for mid-term targets:

1. Abatement costs should be equivalent to those in other Annex I nations and emissions reductions will then be those that follow from this level of investment.

2. Abatement costs per unit of GDP should be equivalent to those in other industrialized nations and emissions reductions will then be those that follow from this level of investment.

3. Japan should reduce GHG emissions by 25% like other industrialized states.

4. Japan should reduce GHG by the extension of current technologies.

5. Japan should spend almost the same amount of money in reducing GHG

as the EU and the US.

6. Japan should introduce the most advanced technologies for the reduction of GHG

by compulsory measures not voluntary efforts.

According to the trial calculations the reduction of GHG emissions against 1990 levels for each plan would be (1) decrease by 1% to 12%, (2) decrease by 16% to 17%, (3) decrease by 25%, (4) increase by 6%, (5) increase by 0% to 7% if Japan spends the same amount of money as the EU and increase by –2% to 7% if Japan spends the same amount of money as the US, (6) decrease by 4%.

The Government may choose one out of the six plans and announce its mid-term targets by June.[215] The February 2009 interim report unveiled that Japan was going to reduce GHG by 25% at best, but may even see them increase.

Finance and market incentivisation policies

On 21 October 2009, the Government initiated the experimental introduction of the Integrated Market for Emission Trading (IMEM). In this scheme, participating firms set their reduction targets, and can achieve these targets by trading emission allowances and credits, including CDM CERs[216] As a market cushion but also scheme promotion, the Government has started several projects to financially assist small and medium

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[215] *Address by H.E. Mr. Taro Aso, Prime Minister of Japan at the Informal Gathering of World Economic Leaders on "The Climate Change Puzzle: Assembling the Pieces", Ministry of Foreign Affairs Japan, 31 January 2009. Date of Access: 13 February 2009.*

http://www.mofa.go.jp/policy/economy/wef/2009/address2.html

[216] *Experimental introduction of an integrated domestic market for emissions trading, MoE, 21 October 2008, Date of Access: 13 February 2009.*

http://www.env.go.jp/en/earth/ets/idmets081021.pdf

enterprises in this scheme.[217][218] It is widely believed within Japan that the IMEM system represents the lowest common denominator between the industrial lobby XX and the Japanese government[219].

Further, on 14th November, the Ministry of Environment (MoE) created the Japan Verified Emission Reduction (J-VER) scheme in order to promote voluntary carbon offsetting activities.[220] In this scheme, individuals, companies and governments can voluntarily purchase J-VER credits (in order to offset their emissions by carrying out CO_2 absorption or reduction projects) within a harmonized domestic market.

In terms of energy policy, on 11th November 2008 the Government announced the expansion of financial assistance for public facilities installing solar energy equipments.[221] In this period, Japan initiated both IMEM and J-VER schemes as well as the expansion of financial assistance for introducing solar energy equipments.

International technology transfers

The Government has sought to facilitate international technological transfers mainly through the UNFCCC mechanisms (CDM and JI) rather than through bilateral agreements. For instance, on 19th November 2008, 26 new CDM/JI projects were approved by the Japanese DNA[222,223]. Further, on 28th November 2009, the Third Japan-China Energy-Saving and Environmental Protection Forum was convened. The forum aimed at creating opportunities for cooperation in energy-saving and environmental protection, especially through

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[217] *Concerning the enforcement of the verification and subsidy projects of CO2 emission reduction for SMEs, METI, 17 November 2008. Date of Access: 13 February 2009.*

http://www.meti.go.jp/press/20081117001/20081117001.pdf

[218] *Concerning the opening of acceptance of applications for the 'soft' support in the domestic CDM scheme, METI, 22 December 2008, Date of Access: 13 February 2009.*

http://www.meti.go.jp/press/20081222010/20081222010.pdf

[219] *Discussions on institutions of internationally applicable domestic emission trading, rather than emission trading of Economic Associations of Japan, should be initiated, Mie Asaoka of Kiko Network, 21 October 2008, Date of Access: 13 February 2009.*

[220] *Regulations for enforcement of Offset Credits (J-VER), MoE, 14 November 2008,*

[221] *The action plan for the expansion of introducing solar energy, METI, 11 November 2008, Date of Access: 13 February 2009.*

http://www.meti.go.jp/press/20081111001/20081111001-1.pdf

[222] *Concerning the results of the government approval examination for CDM/JI projects, METI, 19 November 2008, Date of Access: 13 February 2009.*

http://www.meti.go.jp/press/20081119002/20081119002-1.pdf

[223] *Reference 1, METI, 19 November 2008, Date ofAccess: 13 February 2009.*

http://www.meti.go.jp/press/20081119002/20081119002-2.pdf

technology transfer; at the meeting, the Japanese and Chinese Governments agreed on 19 projects to be enforced in 2009[224].

In this short period, a number of projects that were expected to contribute to international technological transfers were approved by the Government and Japan thus deserves +1 in this category.

Adaptation

Several ministries such as MoE,[225] the Ministry of Agriculture, Forestry and Fisheries (MAFF),[226] and the Ministry of Land, Infrastructure, Transport and Tourism (MLIT)[227], individually examined adaptation strategies, but no concrete action has been confirmed in this period.

Land use, land use change and forestry

Exiting Japanese policy aims to reduce GHG by 3.9% through forest management [228]. Since November 2008, the Government has actively promoted the forest management in various plans such as the National Movement for Promoting the Beautiful Forest Management[229]. However, this largely heritage-focused policy has not been supplemented by any climate-orientated LULUCF policies.

Conclusion

Overall, Japan has made progresses in climate policy, especially regarding finance and market incentivisation policies. However, both emissions trading and carbon offsetting schemes are based on

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[224] *Concerning the agreed items in cooperation between Japan and China at the* 3rd *Japan-China Energy-Saving and Environmental Protection Forum, METI and Agency for Natural Resources and Energy, 28 November 2008, Date of Access: 13 February 2009.*

http://www.meti.go.jp/press/20081128001/20081128001.pdf

[225] *The clever adaptation for climate change, MoE, 18 June 2008, Date of Access: 13 February 2009.*

http://www.env.go.jp/press/file_view.php?serial=11627&hou_id=9853

[226] *Reference 1: Concerning the adaptation strategies for and influences of global warming, MAFF, 25 April 2007, Date of Access: 13 February 2009.*

http://www.maff.go.jp/j/kanbo/kankyo/seisaku/s_ondanka/honbu/pdf/03_data04.pdf

[227] *Concerning the adaptation strategies for climate change caused by global warming in terms of water disasters, MLIT, 19 June 2008, Date of Access: 13 February 2009.*

http://www.mlit.go.jp/report/press/river03_hh_000050.html

[228] *Concerning the forest absorption strategies and the tax system for global warming, the study group concerning support for the public to promote the CO2 absorption strategies for the global warming prevention, 21 April 2003, Date of Access: 13 February 2009.*

http://www.rinya.maff.go.jp/puresu/h15-4gatu/0421siryou.pdf

[229] *The National Movement for Promoting the Beautiful Forest Management, Forestry Agency, Date of Access: 13 February 2009.*

http://www.rinya.maff.go.jp/utsukushiimoridukuri.html

voluntary activities of participants; their impacts may well be significantly less than a compulsory system[230]. Nevertheless, Japan's policy action can still be positively assessed as these new actions could be considered as an important first step leading to the future expansion of policy tools utilising market.

In terms of national targets, the six plans concerning GHG reduction targets by 2020 might well negatively influence Japan's future climate policy. Japan is going to set mid-term targets of 25% *at best*, with the possibility of 0%. Furthermore, there is a chance that Japan will decide to increase GHG emissions. The focus of the interim report was a strong demand that mid-term targets should not put a greater burden on domestic economic activities. When considering Japan's targets the Government's attitude towards strict mid-term targets can no longer be judged as positive. In this period, though Japan still progressed in its climate policy, both increasing influences of the industry can be observed.

[230] *Discussions on institutions of internationally applicable domestic emission trading, rather than emission trading of Economic Associations of Japan, should be initiated, Mie Asaoka of Kiko Network, 21 October 2008, Date of Access: 13 February 2009.* http://www.kikonet.org/iken/kokunai/archive/pr20081021.pdf

Australia

Analyst: Adeline Dontenville

Key points:

1. Serious environmental and human damage during February 2009 has raised the domestic profile of climate change.

2. The carbon trading scheme is widely criticised and seems too much in favour of polluting industries and excludes LULUCF emissions.

3. Adaptation in Australia is in its infancy and much remains to be done

Introduction

Having one of the driest climates on earth and being a major emitter of GHGs means that Australia's interest in climate change is in a most prominent position. The White Paper published on Australia's Low Pollution Future and released in the wake of COP-14 represents a sign to the international community that Australia is finally acknowledging the dangers of climate change and is willing to take action to reduce carbon pollution. The Paper outlines three major priorities for the Australian government: carbon pollution reduction, adaptation and active participation in global efforts to tackle climate change[231]. When he ratified the Kyoto Protocol, Prime Minister Kevin Rudd, described climate change as the greatest threat facing humanity. The deadly heat waves, fires and floods which have devastated the country during February 2009 certainly represent proof of Rudd's words for many Australians. This may well translate into a significant domestic strengthening of Australia's climate policy.

Greenhouse gas mitigation targets

Australia's future commitments to mitigation targets are outlined in the December 2008 White Paper. The Government remains committed to meeting its long-term target of a 60% reduction in GHG emissions from 2000 levels by 2050. It also commits to a medium-term national target to reduce Australia's GHG emissions by between 5 per cent and 15 per cent below 2000 levels (4 to 14 per cent below 1990 levels) by the end 2020. The bottom of this range (5 per cent below 2000 levels) represents an unconditional minimum commitment to reduce emissions by 2020, irrespective of the actions by other nations. The top of this range (15 per cent below 2000 levels) represents a commitment to reduce emissions in the highly uncertain context of a global agreement between all developed countries to take on comparable reductions to that of Australia. The 5 per cent target, criticised by environmentalists, would probably leave

[231] *White Paper Carbon Pollution Reduction Scheme : Australia's Low Pollution Future, 15 December 2008. Accessed 15/02/09* http://www.climatechange.gov.au/whitepaper/summary/index.html

Australia with a very high per capita emission of greenhouse gases, regardless of what action Australian households and businesses take to reduce their carbon footprint[232].

Australia's particular national circumstances (projected population growth of around 45% between 1990 and 2020) are the main governmental argument justifying such a limited commitment. Indeed, when related to per capita emissions, Australia's target range translates to a 31-41% reduction, while in the EU the target range translates into a 24-34% reduction in emissions per European over the same period (given that population is projected to be stable)[233].

Finance and market incentivisation policies

The Government's plan is to commence the Carbon Pollution Reduction Scheme on 1 July 2010. It employs a 'cap and trade' emissions trading mechanism to limit GHG emissions, covering around 75% of Australia's emissions and involving mandatory obligations for around 1000 entities. The Scheme will cover all six greenhouse gases that are specified under the Kyoto Protocol[234]. The scheme will not cover emissions from agriculture and deforestation[235].

A mechanism of emissions-intensive, trade-exposed (EITE) industry assistance will support a large number of eligible industries, but the rate of assistance per unit of output will be gradually reduced over time. Moreover, a 'once and for all' assistance will be provided to the most emissions-intensive coal-fired generators as they are unlikely to be able to pass on the full costs of the permits they must buy.

The way the scheme is designed probably allows too many exemptions and not enough incentives. The steel, cement and aluminium industries are likely to be eligible to have 90% of their carbon emissions covered by free permits. The liquid natural gas and petrol refining industries are likely to get 60% free coverage[236]. The scope of compensation allocated to polluting companies associated with a rather low carbon reduction target in case of international disagreement at COP-15 would ruin any individuals' efforts and investments in energy efficiency.

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[232] *Australian Institute, Fixing the floor in the ETS, November 2008*

[233] *What is the rest of the world doing on climate change? December 2008. Accessed 19/02/09.* http://www.climatechange.gov.au/whitepaper/factsheets/pubs/009-what-the-rest-of-the-world-is-doing-on-climate-change.pdf

[234] *Carbon dioxide (CO2), Methane (CH4), Nitrous oxide (N20), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur hexafluoride (SF6)*

[235] *White Paper Carbon Pollution Reduction Scheme : Australia's Low Pollution Future, 15 December 2008. Accessed 15/02/09* http://www.climatechange.gov.au/whitepaper/summary/index.html

[236] *SMH, Industry to get $9 M carbon cushion, 19 February 2009. Accessed 20 February 2009* http://www.smh.com.au/environment/global-warming/industry-to-get-9b-carbon-cushion-20090218-8bgr.html

International technology transfer

Australia is involved in a range of multilateral initiatives on technology and policy to mitigate greenhouse gas emissions, including the Methane to Markets Partnership, the Carbon Sequestration Leadership Forum, the International Partnership for Hydrogen Energy, and the Renewable Energy and Energy Efficiency Partnership. At the moment, Australia's main investment in terms of technology transfer is directed towards two projects. One is the AU$200 million International Forest Carbon Initiative, which supports efforts to reduce emissions from deforestation and forest degradation in developing countries. To date, Australia has established partnerships with Indonesia and Papua New Guinea. The second project is the Government's Global Carbon Capture and Storage Initiative[237] which aims to support the development and deployment of industrial-scale CCS technology in the country and abroad. The Australian government seems to have heard the calls of respected economists, like Nicholas Stern, for the country to lead the international community in the development of carbon capture and storage technology[238]. Indeed, Prime Minister Rudd announced last September[239] the creation of an AU$ 100 million international Carbon Capture and Storage Institute. Since then, a few contributors such as Shell International[240] and Masdar[241] (Abu Dhabi's renewable energy initiative) have signed a Memorandum of Understanding with the Australian government to become founding members. In January, Britain and Norway were among the first nations to give their backing[242]. This is a good sign as the Institute will need the buy-in of the G8 and other countries to get real credibility and run some large scale projects. The project should have been launched in January 2009.

Adaptation

The December 2008 White Paper acknowledges the fact that work on adaptation in Australia has only started in 2008, with the development and implementation of a comprehensive national adaptation strategy. Under the authority of the newly established Adaptation Research Facility[243], in charge of driving

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[237] *Joint media release with the minister for resources, energy and tourism, Martin Ferguson, global carbon capture and storage initiative, 19 September 2008. Accessed 19 February 2009* http://www.pm.gov.au/media/Release/2008/media_release_0484.cfm

[238] *ABC, Australia should be leading world in carbon capture and storage, 30 January 2009. Accessed 20 February 2009.* http://www.abc.net.au/news/stories/2009/01/30/2478075.htm

[239] *Kevin Rudd and Martin Ferguson, "Global Carbon Capture and Storage Institute", Press Conference with the Minister for Resources, Energy and Tourism, Martin Ferguson Prime Minister's Courtyard Parliament House, Canberra, 19 September 2008 . Accessed 20 February 2009* http://www.pm.gov.au/media/Interview/2008/interview_0486.cfm

[240] *Shell, media release, 25 November 2009. Accessed 20 February 2009* http://www.shell.com/home/content/au-en/news_and_library/news/news2008/ccs_institute_251108.html

[241] *Energyme, Masdar commits to Global Carbon Capture and Storage Institute, 22 January 2009. Accessed 18 February 2009* http://www.energyme.com/business/2009/20090200031.htm

[242] *Courier mail, Norway, UK back carbon capture and storage institute, 25 September 2008. Accessed 20 February 2009* http://www.news.com.au/couriermail/story/0,23739,24399982-953,00.html

[243] *National Climate Change Adaptation Facility. Accessed 20 February 2009* http://www.nccarf.edu.au/

the development and implementation of national research plans to address key knowledge gaps constraining adaptation action, action has been taken to understand the consequences of climate change on health. A National Adaptation Research Plan for Human Health[244] has been approved in December and an AU$ 10 million research project on climate change health effects has been launched in January 2009.These plans will identify critical gaps in the information available to decision-makers in key vulnerable sectors and regions, and set national research priorities relevant to climate change adaptation and human health.

However, much remains to be done to enable Australia to adapt effectively to the impacts of climate change. Sectors and regions need to understand their vulnerabilities and individuals, businesses and local government need targeted information and tools to support effective adaptation decisions.

Land Use, Land Use Change and Forestry

The land sector is characterised by a vast array of different production systems and ecosystems that together contribute around 27% of Australia's GHG emissions. The main project currently undertaken is the development of the Australian-developed National Carbon Accounting System (NCAS), which monitors and predicts GHG emissions and uptake from land-based activities covering all of Australia. A toolbox providing the tools for tracking GHG and carbon stock changes from land use and management has already been distributed to raise awareness and understanding of GHG issues in Australia[245]. The NCAS was selected in an international search by the Clinton Climate Initiative as the basis for a Global Carbon Monitoring System[246]. NCAS will provide the GHG accounting methods for the land sectors that will form part of Australia's new Carbon Pollution Reduction Scheme. Besides, the scope of the recent bushfires questions the effectiveness of burn-off management. A Royal Commission will be releasing its conclusions on this topic in the near future[247].

Conclusions

Despite increasing pressure from a carbon tax prone Opposition and disappointed Greens; the Federal Government is committed to its timetable for introducing the emissions trading scheme[248] in July next

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[244] *National Climate Change Adaptation Facility, Human Health and Climate change, 2 December 2008. Accessed 19 February 2009* http://www.nccarf.edu.au/sites/nccarf.edu.au/files/National%20Adaptation%20Research%20Plan%20-%20Human%20Health.pdf

[245] *Department of Climate Change, National Carbon Accounting System. Accessed 20 February 2009* http://www.climatechange.gov.au/ncas/ncat/index.html

[246] *CSIRO. Partnership. Accessed 20 February 2009* http://www.csiro.au/partnerships/NCASpartnership.html

[247] *ABC, Victoria'DES defends burn-off management, 11 February 2009. Accessed 20 February 2009* http://www.abc.net.au/news/stories/2009/02/11/2489015.htm

[248] *SMH, We're committed to emissions trading timeline: Wong, 19 February 2009. Accessed 19 February 2009* http://www.smh.com.au/environment/global-warming/were-committed-to-emissions-trading-timeline-wong-20090219-8c53.html

year. Further efforts need to be made before Australia could be considered as a leader in the fight against climate change.

Indonesia

Analysts: Nick Dommett and Fuad Ali

Key Points:

1. Development priorities continue to dominate energy sector policy.
2. The post-Kyoto carbon finance regime is critical for Indonesian involvement in technology transfer and low-carbon growth.
3. LULUCF national policy is disjointed and weak with REDD preparation confused.

Introduction

The Government of Indonesia's climate change policy centres on its 2007 National Action Plan for Climate Change[249]. It aims to integrate climate change with its Long- and Medium Term Development Action Plans, emphasising that economic development and poverty alleviation are to be combined with environmental protection.

The creation of the National Council on Climate Change (DNPI) in July 2008 is a direct result of this document, aiming to formulate and coordinate new policies amongst ministries[250]. Indonesia has significantly increased the climate change budget this year to RP 1.7 Trillion (US$ 200 million)[251], though this is threatened by global economic recession[252].

Government of Indonesia policy stresses that developed countries should not only commit to long-term binding cuts but also approve and fund REDD. REDD is of vital importance to Indonesia: it is the third largest emitter of carbon dioxide in the world, with the overwhelming majority from deforestation and forest fires[253].

GHG Mitigation

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[249] *State Ministry of Environment, National Action Plan Addressing Climate Change, November 2007. Date of Access: 15 February 2009. http://www.lead.org.pk/cc/attachments/Resource_Center/NAP/Indonesia.zip*

[250] *RI forms National Board on Climate Change, Antara, (Jakarta), 11 July 2008. Date of Access: 18 February 2009. http://www.antara.co.id/en/arc/2008/7/11/ri-forms-national-board-on-climate-change/*

[251] *Economic Governance For Climate Change Policies in Indonesia, ANU, 17 September 2008. Date of Access: 30 January 2009. http://www.aigrp.anu.edu.au/docs/projects/1016/preliminary_findings.pdf*

[252] *Indonesia considers revising 2009 budget, International Herald Tribune, 17 February 2009, (New York), 17 February 2009. Date of Access: 19 February 2009. http://www.iht.com/articles/ap/2009/02/17/business/AS-Indonesia-Economy.php*

[253] *Fred peace, Bog barons: Indonesia's carbon catastrophe, The Daily Telegraph, (London), 10 November 2008. Date of Access: 19 February 2009. http://www.telegraph.co.uk/earth/earthcomment/3317396/Bog-barons-Indonesia%27s-carbon-catastrophe.html*

Indonesia is not required to make GHG cuts under the Kyoto Agreement. However, this has not stopped a number of the larger export-orientated companies from voluntary action[254].

Rural electrification and rapid power development are strong policy priorities. Over 100 million citizens are still without access to electricity[255], and blackouts impede business operations[256]. Problems of power supply are rooted in the Asian Financial Crisis in the early 2000s, which led to underinvestment in, and later abandonment of, 27 foreign-funded projects[257]. To deal with the supply problems, the Indonesian Government is undertaking a 'crash' expansion of coal-fired power generation of 10,000MW by 2009/10[258] as part of a policy move away from oil, towards coal and gas. In a similar vein, Indonesia withdrew from OPEC in mid-2008[259].

The Green Energy Policy of 2003 envisaged conservation potentials of 10-30%, and set a 5% renewable target for the national energy mix for 2010[260]. Geothermal energy presents an estimated capacity of 27 000 MW, and in 2009 15 fields are to be tendered with an expected total capacity of 1,500MW[261], doubling current geothermal generation. In the longer term also, the government plans for geothermal generation to make up 30% of its second 10 000MW 'crash' electricity programme[262].

Finance and market incentivisation policies

Indonesian government expectations, carbon price volatility, and multilateral financial limitations are all muddying the waters in this emerging arena.

Government reliance on international funding mechanisms for mitigation and adaptation appears to have been too high in comparison with projected supply, with the government expecting much larger incomes

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[254] Asia Pulp Paper. Date of Access: 20 February 2009 http://www.asiapulppaper.com/
[255] UNDP, Human Development Report 2007/2008 – Indonesia. Date of Access: 20 February 2009 http://hdrstats.undp.org/countries/data_sheets/cty_ds_IDN.html
[256] Singapore Institute of International Affairs (SIIA), Indonesia power cuts affect business, 10 July 2008. Date of Access: 20 February 2009 http://www.siiaonline.org/?q=programmes/insights/indonesia-power-cuts-affect-business
[257] Arijit Ghosh and Grace Nirang, Indonesia's power grid unravels – Blackouts persist as investors hesitate to enter risky market, International Herald Tribune, 1 September 2005. Date of Access: 20 February 2009 http://www.iht.com/articles/2005/08/31/bloomberg/sxgrid.php
[258] Alfian, PLN secures 65% financing first 10 000 MW program, The Jakarta Post, 31 January 2009. Date of Access: 20 February 2009 http://www.thejakartapost.com/news/2009/01/31/pln-secures-65-financing-first-10000-mw-program.html
[259] BBC, Indonesia to withdraw from OPEC, 28 May 2008. Date of Access: 28 February 2009 http://news.bbc.co.uk/1/hi/business/7423008.stm
[260] NEDO, CDM Development in Indonesia – Enabling policies Institutions and Programmes, Issues and Challenges, 2005.
[261] Benget Besalicto Tnb., Government offering 15 geothermal fields for power bids, The Jakarta Post, 17 February 2009. Date of Access: 20 February 2008 http://www.thejakartapost.com/news/2009/02/17/government-offering-15-geothernal-fields-power-bids.html
[262] Olivia Hutabarat and Alfian, Two new geothermal power plants operate 2009, The Jakarta Post, 22 October 2008. Date of Access: 20 February 2008 http://www.thejakartapost.com/news/2008/10/22/two-new-geothermal-power-plants-operate-2009.html

from market and multilateral sources than it may receive. It previously commented that the government budget for climate change is 'limited', and that finance should be sought from international means[263].

However, these expectations are in contrast with the actual supply of funds at present. The fall in CER price following the recent oil price drop and economic crisis has reduced incentives for developed nations to buy carbon credits from clean energy projects under the CDM. As well as slowing revenue from existing projects for project developers, the price falls have dramatically reduced carbon finance potential; indeed, it is reported that pipeline projects designed without fixed prices are unlikely to continue past the planning stage[264,265].

On adaptation, the Adaptation Fund Board of UNFCCC has made it clear that Indonesia needs to finance its own way through its climate problems[266], citing the limited funding that the Board itself has (US$ 150million per year) for a global effort on adaptation. Indeed, one member of the Board suggested that, "the idea that Indonesia will finance its climate change programs on foreign money generated from the signing of the Kyoto protocol is a fantasy. No amount of foreign funding would be enough to deal with Indonesia's climate problems"[267].

A combination of high government expectations to date coupled with a reduction in supply of funds from CERs and the Adaptation Fund leaves a large gap to be filled in Indonesia's climate budget, with no obvious solution evident at present.

International Technology Transfer

Proposed CDM projects are required to meet the government's sustainability criteria. The CDM's sustainable development provision combines both technology transfer and the promotion of national sustainable development goals. The Indonesian DNA for the CDM has outlined the criteria for sustainable growth as: ensuring transfer of know-how; avoiding obsolete and experimental technology; and promoting local technology[268].

Public acceptance of the new carbon bureaucracy cannot be assumed. Indeed, Indonesian campaigners voiced criticism of the CDM experience at Poznan:

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[263] http://www.thejakartapost.com/news/2009/01/28/ri-told-use-own-budget-climate.html

[264] http://www.carbonpositive.net/viewarticle.aspx?articleID=1402

[265] *Open Europe, Polluters are cashing in on the EU's Emissions Trading Scheme; Price of carbon falls by 60%, 28 January 2009. Date of Access: 20 February 2008* http://www.openeurope.org.uk/media-centre/summary.aspx?id=770

[266] *Adianto P. Simamora, RI told to use own budget, The Jakarta Post, 28 January 2009. Date of Access: 20 February 2008* http://www.thejakartapost.com/news/2009/01/28/ri-told-use-own-budget-climate.html

[267] http://www.thejakartapost.com/news/2009/01/28/ri-told-use-own-budget-climate.html

[268] *National Commission for Clean Development Mechanism. Date of Access: 20 February 2009* http://dna-cdm.menlh.go.id/en/susdev/

"At the local level, CDM projects only create illusions and false hope for local governments, especially in the waste and energy sector. In our experience, the procedures and all activities related to the project application mostly only benefited consultants, auditors and investors." Yuyun Ismawati, Director of Balifokus, Indonesia[269].

Although public approval has not as yet been achieved and barriers exist with local government capacity, the national political-administrative structure is integrated with CDM. Within energy policy-making, an annual volume of 25.2 Mt CO_2 is envisaged for the energy sector[270], with 2.6 Mt CO_2 reached so far[271].

Indonesia's high carbon profile attracts polluting nations eager to pick 'low hanging carbon fruit'. International climate diplomacy creates additional opportunities for cooperation. At Poznan a Memorandum of Understanding (MoU) was signed between the UK and Indonesia, including renewable energy supplies and energy efficiency[272]. The Indonesian government's CDM commission (DNA) was set up relatively late, in 2005, but is accelerating its processing of applications. It approved 46 of Indonesia's 70 projects in the first nine months of 2008[273].

However, slowing carbon financing is likely to reduce investment. On top of this, at the other end of the CDM bureaucracy, only one project has received CER certification from the Executive Board in the past quarter[274].

The post-Kyoto finance is crucial for continuing and extending Indonesian activities within the UNFCCC. Currently, reductions are not exploited as they could be, as evidenced by the lack of renewable energy CDM projects in the existing crash electricity generation programmes, which continue along the business-as-usual baseline scenario of fossil fuel-based growth.

Adaptation

The National Action Plan also provides an adaptation plan, including non-binding deadlines for capacity building measures, which forms the basis of a US$200 million loan agreement between Government of

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[269] *Focus on the Global South, Clean Development Mechanism: Dump it don't Expand it, 2008. Date of Access: 20 February 2009* http://focusweb.org/clean-development-mechanism-dump-it-don-t-expand-it.html?Itemid=5

[270] *Surya Darma and Imam B. Raharjo, 2007, New Opportunities for conventional geothermal fields in Indonesia. Date of Access: 20 February 2009* http://www.samorka.is/Apps/WebObjects/Samorka.woa/1/swdocument/1000926/Surya+Darma+&+Imam+B.+Raharjo,+New+Opportunities+for+Conventional+Geothermal+Fields+in+Indonesia.pdf

[271] *IGES, 2008, CDM Country Fact Sheet: Indonesia – November 2008. Date of Access:* http://enviroscope.iges.or.jp/modules/envirolib/upload/984/attach/indonesia_final.pdf

[272] *FCO, UK-Indonesia Partnership signed in Poznan, 12 December 2008. Date of Access: 20 February 2009* http://ukinpoland.fco.gov.uk/content/en/article/3646277/10158516/ukindonesia

[273] *Fidelis E. Satriastanti, 70 CDM Projects Approved for 2009, Jakarta Globe, 14 January 2009. Date of Access: 20 February 2009* http://www.thejakartaglobe.com/news/national/article/6082.html

[274] *UNFCCC, CERs Issued, 20 February 2009. Date of Access: 20 February 2009* https://cdm.unfccc.int/Issuance/cers_iss.html?s=40

Indonesia and the French Development Agency (AFD)[275]. The loan incorporates a monitoring and compliance mechanism where technical and steering committees meet regularly throughout the year[276]. Additionally, the government's MoU with the UK addresses "technical assistance on climate risks and adaptation strategies with a view to develop local adaptation strategies"[277].

The offer of technical assistance and loan agreements signify a boost for Indonesian adaptation policy in the light of the UNFCCC Adaptation Fund Board's lack of financial support (detailed in *Finance and Market Incentivisation Policies* section, above).

LULUCF

Again here, the National Action Plan is the government's major progress during this period. The Plan provides two commitments: rehabilitation of 11.2 million ha of degraded forest by 2009; and reduction of fire 'hot spots' in forests and peat lands by 50% in 2009[278]. Government responses to these targets has been mixed: while claiming to introduce new policies on illegal logging, forest revitalization and employment of people local to forests[279], it sells forested land to mining companies for only Rp 300 (2.5 US cents) per square meter[280] and passes mine-enabling laws[281]. While government announced a total ban on converting forested lands into commercial sites[282], the agriculture ministry reintroduced permits for peat

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[275] *AFD, AFD and the Climate Change Program Loan (CCPL), November 2008. Date of Access: 13 February 2009. http://www.afd.fr/jahia/webdav/site/afd/users/admin_indonesie/public/Fiche_AFD_CCPL_eng.pdf. This follows an earlier $300 million loan agreement with the Government of Japan (GoJ) as part of their 'Cool Earth Partnership' scheme (http://www.mofa.go.jp/policy/economy/wef/2008/loan.html)*

[276] *AFD,* Climate Change Program Loan: *the Agence Française de Développement has just disbursed 200 million US dollars in favor of the Government of Indonesia, 17 December 2008. Date of Access: 17 February 2009. http://www.afd.fr/jahia/webdav/site/afd/users/admin_indonesie/public/CCPL_17122008.pdf*

[277] *Govnet communications, UK-Indonesia partnership signed in Poznan, 11 December 2008. Date of Access: 17 February 2009. http://www.govnet.co.uk/news/2008-12-11/ukindonesia-partnership-signed-in-poznan*

[278] *State Ministry of Environment, National Action Plan Addressing Climate Change, November 2007, pp.51-2. Date of Access: 15 February 2009. http://www.lead.org.pk/cc/attachments/Resource_Center/NAP/Indonesia.zip.*
There is confusion over whether President Yodhyono made a new commitment to reduce emissions from the forestry sector by 50% in Hokkaido, Japan, 2008. Date of Access: 18 February 2009. http://www.greenpeace.org/seasia/en/press/releases/greenpeace-response-to-jakarta. However the targets and dates are identical to those stipulated in the National Action Plan Addressing Climate Change for the reduction of fire hot spots.

[279] *Minister hopes new forestry programs can stop deforestation, Antara, (Jakarta), 22 January 2009. Date of Access: 18 February 2009. http://www.antara.co.id/en/arc/2009/1/22/minister-hopes-new-forestry-programs-can-stop-deforestation/*

[280] *Adianto P. Simamora, Group calls Bali climate plan a dead document, The Jakarta Post, (Jakarta), 13 January 2009. Date of Access: 15 February 2009. http://www.thejakartapost.com/news/2009/01/13/group-calls-bali-climate-plan-a-dead-document.html*

[281] *Indonesian New Mining Law, mitrais. Date of Access: 18 February 2009. http://news.mitraismining.com/Pages/MiningLawNews.aspx. While the passage of this law has received a mixed reaction from the mining community, its very existence, passed days after Poznan, highlights Indonesia's ambiguous position in this sector.*

[282] *Adianto P.Simamora, Govt shuns plans to convert more forests, The Jakarta Post, (Jakarta), 2 February 2009. Date of Access: 6 February 2009. http://www.thejakartapost.com/news/2009/02/05/govt-shuns-plans-convert-more-forests.html.*

land conversion to palm oil[283]. Indeed, most of the work on the critical areas of forest fire prevention[284], monitoring[285], and degraded land rehabilitation[286] is conducted by environmental NGOs, with the government a passive actor at best. This contradictory action over the past three months illustrates that current national policies are not sufficient to reduce deforestation rates.

Looking to the future, Indonesia has been active in REDD, signing a MoU with the UK government to explore potential activities[287]. Indonesia formed a Climate Change Trust Fund to distribute potential foreign finance among relevant ministries[288] and is developing regulations on the use of REDD carbon credits, reputedly the first of its kind in the world[289]. However, the trust fund has created conflict and confusion between the DNPI and the development council, BAPPENAS[290], on responsibility over foreign contributions[291]. Publication of the regulations has been delayed from December 2008 to sometime before the Bonn UNFCCC conferences in March and April 2009[292].

Overall the Indonesian government's efforts are desultory. National policies are weak, primarily driven by a pro-land conversion and pro-development policy. With REDD, cohesive, forward planning is lacking, even though DNPI was created to address this.

Conclusion

Progress has been slow. Familiarity with CDM is improving but much depends on post-Kyoto negotiations, since Indonesia's forestry sector remains the weakest link in the country's mitigation policy. The creation of

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[283] *Ian MacKinnon, Indonesia reopens peatland to palm oil plantation, The Guardian, (London), 18 February 2009. Date of Access: 19 February 2009. http://www.guardian.co.uk/environment/2009/feb/18/indonesia-peat-palm-oil*

[284] *Fire Response in Central Kalimantan, Indonesia, The International Research Institute for Climate and Society, Date of Access: 19 February 2009. http://portal.iri.columbia.edu/portal/server.pt?open=512&objID=466&PageID=0&cached=true&mode=2&userID=2.*

[285] *Eyes on the Forest, EoF, Date of Access: 19 February 2009. http://eyesontheforest.or.id/index.php?option=com_frontpage&Itemid=1&lang=english.*

[286] *Project POTICO: Palm Oil, Timber & Carbon Offsets in Indonesia, World Resources Institute. Date of Access: 19 February 2009. http://www.wri.org/project/potico.*

[287] *Govnet communications, UK-Indonesia partnership signed in Poznan, 11 December 2008. Date of Access: 17 February 2009. http://www.govnet.co.uk/news/2008-12-11/ukindonesia-partnership-signed-in-poznan*

[288] *Adianto P. Simamora, Govt. to set up climate trust fund to woo donors, The Jakarta Post, (Jakarta), 24 October 2008. Date of Access: 1 February 2009. http://www.thejakartapost.com/news/2008/10/24/govt-set-climate-trust-fund-woo-donors.html*

[289] *David Fogarty, Indonesia delays forest-carbon rules, Reuters, (Singapore), 19 January 2009. Date of Access: 26 January 2009. http://www.thejakartapost.com/news/2008/10/24/govt-set-climate-trust-fund-woo-donors.html*

[290] *Adianto P. Simamora, Govt., climate change council differ on foreign financial aids, The Jakarta Post, (Jakarta), 14 January 2009. Date of Access: 27 January 2009. http://www.thejakartapost.com/news/2009/01/14/govt-climate-council-differ-foreign-financial-aids.html*

[291] *Adianto P. Simamora, Govt., council squabble over foreign assistance, The Jakarta Post, (Jakarta), 15 January 2009. Date of Access: 27 January 2009. http://www.thejakartapost.com/news/2009/01/15/govt-council-squabble-over-foreign-assistance.html*

[292] *Ed Davies, Indonesia aims to wrap up forest-carbon rules, Reuters, (Jakarta), 29 January 2009. Date of Access: 6 February 2009. http://www.reuters.com/article/GCA-BusinessofGreen/idUSTRE50T0Y220090130?pageNumber=1&virtualBrandChannel=10112*

the DNPI was intended to improve inter-ministry coordination, but creation of the climate change fund has complicated matters. Indonesian LULUCF policy is biased towards clearing land for palm oil and mining. As the global economic crisis deepens, the demand for extra revenue will only increase. While REDD revenue streams could mitigate this trend, the income could well be significantly less than first projected and is shrouded in continued uncertainty at present[293].

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[293] *Adianto P. Simamora, RI told to use own budget for climate, The Jakarta Post, (Jakarta), 28 January 2009. Date of Access: 30 January 2009. http://www.thejakartapost.com/news/2009/01/28/ri-told-use-own-budget-climate.html*