WORLD
RESOURCES
INSTITUTE

Building the Climate Change Regime: Survey and Analysis of Approaches: Summary for Stakeholder Comment

Remi Moncel, Paul Joffe, Kelly Levin and Kevin McCall, *World Resources Institute*

With contributions by Lavanya Rajamani, *Center for Policy Research* and Jacob Werksman, *World Resources Institute*

The international community is at a crossroads. Negotiators at COP-16 agreed on many issues that are key to moving the international climate regime forward. Nonetheless, there a number of critical issues facing negotiators, at COP-17 and beyond, to realize the UNFCCC's long-term global goal of achieving "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".

This project -- a joint endeavor of the World Resources Institute (WRI) and the United Nations Environment Programme (UNEP), with the support of the Government of Ireland -- aims to shed light on possible ways forward on some of the key issues that need to be addressed by negotiators, policymakers, and civil society experts as they collaborate to build the climate regime. We do so by surveying and analyzing the academic literature as well as proposals by non-governmental organizations (NGOs) and governments that seek to advance the regime. The body of literature surveyed offers possible answers to key questions surrounding the institutional design of the climate change regime.

We acknowledge that there are many outstanding issues that need to be agreed upon in moving forward. This research project focuses on five of these: key issues we believe are relevant to the UNFCCC negotiations in 2011 and 2012 and expect be the focus of important decisions at COP-17 in South Africa and at the Earth Summit in Rio de Janeiro in 2012, and beyond. The issues selected are also the subject of detailed and timely analyses by government and non-governmental actors.

We analyze the following five key issues:

- Key issue #1 deals with options within the UNFCCC to increase the ambition of countries' commitments and actions. Some options include broadening the scope of gases and sectors covered and enhancing greenhouse gas accounting rules.

- Key issue #2 explores options outside the UNFCCC to increase the ambition of countries' commitments and actions. This analysis includes leveraging existing institutional capacity at all levels of the international system to spur a greater level of collective action.

- Key issue #3 discusses ways to equitably determine responsibility for the additional level of mitigation effort required in the future, including analysis of approaches to burden sharing based on capacity and contribution.

- Key issue #4 examines the roles that various actors can play in tracking country performance on mitigation actions and commitments and in assessing the effectiveness of the future regime. The section is not focused on how guidelines for reporting and reviewing information should be designed, but rather on who can play a role in the tracking of performance.

- Key issue #5 analyzes the legal forms a future climate agreement could take, outlining possible binding and non-binding approaches to coordinate international action on climate change.

For each key issue, we have identified relevant proposals by governments and civil society through an extensive literature review and consultations with authors of numerous submissions to the UNFCCC and academic articles. The proposals considered for this report are listed below. We selected them because they offered suggestions for addressing, in part or in full, at least one of the key issues under consideration in this report. We also made an effort to represent a range of views from developed and developing countries. Where relevant, proposals will be grouped together on the basis that they have common elements, take a common approach, or have common conclusions on a given issue.

Although we do not intend to make recommendations as to which approaches should ultimately be adopted, we will analyze them based on a set of criteria that we argue are necessary for any future regime to be politically, economically, socially, legally, and environmentally sustainable. Thus, in our attempt to inform the design of such a regime, we view proposals in relation to the criteria of *ambition, equity, and implementation*, criteria we posit are fundamental to ensuring legitimacy and effectiveness of any agreed outcome. We acknowledge that other criteria could be selected to conduct a similar review, but we believe that these criteria capture the essence of a long-term, enduring, and sustainable climate regime. We will aim to provide more complete definitions and context behind each of definition in our working paper, but we are tentatively defining these terms as follows:

- **Ambition** relates to the ability of the regime to effectively elicit and deliver actions by countries in a manner commensurate with the best available scientific information, capturing ambitiousness of timeframe and ambitiousness of the range of measures required.
- **Equity** relates to the perceived legitimacy of an agreement by all Parties. We note that the literature on the question of equity is vast and that there are varying interpretations of the concept, but for our purpose, we consider two aspects of equity - equity of process and equity of substance – as necessary elements to ensure buy-in from Parties to a globally negotiated agreement.
- **Implementation** relates to the ability of governments to enforce within their jurisdiction rules agreed nationally or internationally. We consider the components of implementation to include a capacity to put rules and regulations into force, to monitor and track adherence to the rules, and to enforce compliance or remedy non-compliance if it arises.

A comprehensive list of the literature surveyed to date is found below. Please note that the reference to certain proposals in this report does not imply endorsement on the part of WRI, UNEP or the Government of Ireland. In addition, despite our best attempt to accurately reflect the content of the proposals, the responsibility for any omission rests with the authors of this report.

Although we do not aspire to provide a comprehensive list of relevant proposals, it is our intent to capture a diverse range of views on a given key issue so as to reflect the main approaches that may be taken to build the climate regime. In this context, we welcome your feedback, comments, and suggestions as to further literature that addresses one or more of the key issues we analyze. We especially welcome topical literature that presents developing country visions for the future climate regime.

In order to adequately address comments and recommendations in the peer review process, **we ask that all comments be sent no later than August 7, 2011**. More context about the project and associated activities can be found on the WRI website here.

We expect the final version of our paper to be released at an event in Washington, DC in fall 2011 and to be followed by a side event during the UNFCCC COP-17 negotiations in Durban in December. Updates and further information will be available here in due course.

We look forward to hearing from you.

On behalf of the authors and contributors,

Remi Moncel
RMoncel@wri.org

Kevin McCall
KMcCall@wri.org

KEY HIGHLIGHTS FROM PROPOSALS EXAMINED

Please note that the summaries herein are not intended to reflect the entirety of the content in each of the proposals examined, but to highlight the pertinent content as it relates to each of our key issues and the criteria we outlined above.

Last revised: July 11, 2011

KEY ISSUE 1: Options under the UNFCCC to increase ambition beyond existing commitments and actions	
Aldy & Stavins (eds) (2010) ***Post-Kyoto International Climate Policy Research from the Harvard Project on International Climate Agreements***	The editors compile submissions by authors identifying key design elements of a scientifically sound [consistent with achieving the objective of stabilizing GHGs at levels that avoid dangerous anthropogenic interference with the global climate], economically rational [cost-effective] and politically pragmatic [likely to bring the US and engage key, rapidly-growing developing countries in increasingly meaningful ways over time]. They maintain anything is possible – from a highly centralized Kyoto-like architecture to proposals that are outside of the UNFCCC, such as proposals for G8+5 or G20.
Andersen, Stephen and Sarma, K.,. "***Making Climate Change and Ozone Treaties Work Together to Curb HFC-23 and Other "Super Greenhouse Gases.*"** Natural Resources Defense Council, 2010	This paper discusses reforms to the Clean Development Mechanism and complementary actions under the Montreal Protocol to contend with HFC-23 emissions to enable all countries to cooperate for the protection of the climate and the ozone layer.
Bell and Ziegler (forthcoming) ***Reimagining a climate agreement: lessons from managing other challenges that transcend national boundaries*** World Resources Institute, Washington DC	The authors highlight the lessons that can be learned from international security and economic regimes that may apply to international climate policy. While modesty and sensitivity are required in transplanting these lessons, they can nonetheless serve to incentivize progress in international climate governance. Lessons include the incremental approach that can allow a regime to emerge as trust develops between Parties: this is important for transparency and verification. They cite the transformative power of reviews, expert exchanges, consultative processes and non-adversarial discussion to encourage Parties to undertake deeper engagement.
Bodansky, Daniel ***International Sectoral Agreements in a Post-2012 Climate Framework*** Working Paper. Pew Center on Global Climate Change, 2007	Bodansky notes that international sectoral agreements could contribute to a post-2012 effort as one element of a broader framework. They appear best suited to advancing agreement and action by helping to defuse competitiveness concerns and treating critical technology and finance issues within a sector where they are most urgent. He concludes by noting that In sectors where industry is well organized at the international level (cement, aluminum) companies facing competitive imbalances may have an incentive to initiate a sectoral approach. Failing this it may fall to governments to take the initiative if sectoral agreements are to emerge.

Bodansky, D. and Diringer, E. ***The Evolution of Multilateral Regimes: Implications for Climate Change*** Pew Center Global Climate Change Policy Paper, December 2010	A comprehensive and binding global deal has strong virtues and should be the ultimate goal, but that in working towards it, parties should focus their efforts on concrete incremental steps both within and outside the UNFCCC. Parties should therefore seize opportunity for progress in parallel efforts outside the UNFCCC, all the while remaining mindful of the long-term objective of a binding framework within the FCCC, thereby guarding the legitimacy and credibility of that regime so that it will remain the forum of choice once global political will exists.
Bond et al (2005) **Can Reducing Black Carbon Emissions Counteract Global Warming?**	The authors analyze governance strategies for short term forcings and find that joint consideration along with carbon dioxide regulation is consistent with the language of the UNFCCC. They note the difficulty in terms of cost and complexity for addressing such forcings, particularly in Annex I countries where only marginal additional abatement in possible. In non-Annex I countries, however, reducing particulate matter (e.g. black carbon) is economically feasible and can be undertaken in parallel with UNFCCC efforts.
Cosbey et al (2005) ***Realizing the Development Dividend*** International Institute for Sustainable Development	The paper sets out to assess the extent to which the CDM is fully exploiting its potential to deliver benefits to developing countries beyond those strictly related to climate change, in the areas of economic growth through investment; technological evolution; poverty alleviation; environmental and human health improvements. The flows are not substantial compared to overseas development assistance, but nonetheless there are a number of reasons to consider the CDM an important engine of sustainable development. This paper recommends a number of policy options to enhance benefits, including reforming the CDM project cycle, changing the rules of the CDM, engaging development assistance, and defining sustainable development.
Daviet, F, et al. 2009. ***—Forests in the Balance Sheet: Lessons from Developed Country Land Use Change and Forestry Greenhouse Gas Accounting and Reporting Practices*** WRI Working Paper. Washington DC.	The paper sets out the need to establish a range of accounting and methodological tools to ensure the effectiveness of REDD programs as agreed upon in the Bali road map. The authors look at lessons from the experience of Annex I countries in accounting for forest-related emissions and sequestration under their emission reduction commitments with regards to their implementation of LULUCF provisions of the Kyoto Protocol.
den Elzen, M., Olivier, J. & Berk, M.; (2007), ***An analysis of options for including international aviation and maritime emissions in a post-2012 climate mitigation regime***. Netherlands Environmental Assessment Agency.	This paper provides an overview of various approaches for including maritime and aviation emissions in a future agreement.

EU (2011) ***A Roadmap for moving to a competitive low carbon economy in 2050***, Brussels, March 2011	Building on its objective of reducing greenhouse gas emissions by 80-95% by 2050 compared to 1990, the EU has set out a roadmap outlining milestones and challenges between now and 2050. The report examines investment opportunities in different sectors, including power, residential, industry and transport, to determine the pathway to a low-carbon economy by 2050. The Commission intends to use the Roadmap as a basis for developing sector specific policy initiatives to support the transition to a low carbon economy, as well as a means to stimulate the international negotiations in the run-up to COP17..
Faber, Jasper et al. ***Climate Change Scientific Assessment And Policy Analysis: Aviation and Maritime Transport in a Post 2012 Climate Policy Regime***, Netherlands Research Programme on Scientific Assessment and Policy Analysis, April 2007	This proposal presents several means for including aviation and maritime emissions in a future climate agreement.
Grieshop, Andrew et al. ***A black carbon mitigation wedge***, Nature Geoscience. August 2009. Volume 2.	This paper discusses the mitigation potential of addressing black carbon and argues for inclusion of black carbon under a future climate policy under the UNFCCC.
Hare et al ***The architecture of the global climate regime: a top-down perspective*** Climate Policy, Vol. 10 (6), 2010	The authors put forward an argument that a centralized, top-down, legally binding climate governance architecture is the best option to pursue an ambitious 2C or 1.5C goal. This requires strong global coordination and strict targets and timetables for countries, that need to be agreed upon and implemented as soon as possible to address climate change with the effort and urgency that it necessitates.
McKiernan and Loftus-Farren (2011) ***Submission to UNFCCC pursuant to FCCC/AWGLCA/2010/L.7, paragraphs 93-94***	The authors propose that the COP mandates a Process to support states in the development and implementation of policies that conform to human rights norms, thus ensuring that responses to global climate changes are effective, sustainable, and advance global human development, security, equality, and freedom. The authors propose that the Process should clarify existing human rights principles, should provide a forum for government and expert dialogue and information sharing about the impacts of mitigation and adaptation policies on human rights, include all parties, and that all of the features of this Process should be implemented at international, regional, and national levels of policymaking.
Molina, Mario et al ***Reducing abrupt climate change risk using the Montreal Protocol and other regulatory actions to complement cuts in CO2 emissions*** *National Academy of Sciences,* December 2009. Volume 106, No. 49	This paper discusses strategies to address short-lived non-CO_2 greenhouse gases and particles, such as amending the Montreal Protocol and the promotion of policies to address black carbon.

National Academy of Sciences (2010) ***Advancing the science of climate change***, Washington DC	This book reviews the current scientific evidence regarding climate change and examines the status of the scientific research efforts in the United States. It describes the role that climate change science, broadly defined, can play in developing knowledge and tools to assist decision makers as they act to respond to climate change.
Pan, Jiahua (2003) ***Human development goals with low emissions*** The Beijing Academy of Social Sciences	This approach focuses on issues relating to mitigation and adaptation commitments from a developing country perspective. Pan proposes that commitments by developing countries will be linked to human development goals as the first priority and then translated to carbon goals in the future. Voluntary, conditional or obligatory commitments will be taken by Parties to establish a low-carbon development path and these commitments will be subject to a comprehensive review at the end of each commitment period.
Schlamadinger, Bernhard et al. ***"Options for Including Land Use in a Climate Agreement Post-2012: Improving the Kyoto Protocol Approach*** *Environment Science & Policy.* Volume 10, Issue 4, June 2007, Pages 295-305.	This paper discusses the weaknesses of the current system of land use, land-use change and forestry (LULUCF) accounting in the Kyoto Protocol's first commitment period, and proposes a mechanism based on that existing structure, but with modifications to address the weaknesses.
Shine, Keith et al. ***Comparing the effect of emissions of short- and long-lived climate agents*** *Philosophical Transactions of the Royal Society*, July 2007 vol. 365 no. 1856.	This paper explores the implication of the use of the global temperature change potential (GTP) versus global warming potential (GWP, currently used) in addressing both short- and long-lived climate forcings in a future climate policy
Tol, Richard (2010) ***Long live the Kyoto Protocol*** Available at http://www.voxeu.org/index.php?q=node/4513	The Kyoto Protocol provides us with all the tools needed for an ambitious international climate policy, including international monitoring of emissions data; a forum to pledge domestic action and review progress; and international flexibility in emission reduction.
UNEP, 2010 ***The Emissions Gap Report: Are the Copenhagen Accord Pledges Sufficient to Limit Global Warming to 2 or 1.5°C?***	This collaboration between UNEP, the European Climate Foundation and the National Institute of Ecology, Mexico, provides policy-makers with an overview of the results from various studies on future emissions trajectories consistent with various global temperature limits. The assessment is based on the pledges brought forward by Parties under the Copenhagen Accord. It discusses how stronger accounting rules on land use, land-use change and forestry (LULUCF), surplus emissions units, and double counting of emission reductions could help close the gap between current emissions trajectories and those consistent with temperature limits..
UNEP / WMO (2011) I***ntegrated Assessment of Black Carbon and Tropospheric Ozone: summary for Decision Makers***	The report analyzes how short-term forcings (black carbon and tropospheric ozone) can be regulated to achieve relatively rapid improvements in climate change mitigation efforts in vulnerable areas. The regulatory measures outlined in the report complement longer-term measures to address carbon dioxide, but on their own, if fully implemented, would reduce future global warming by 0.5C (within a 0.2—0.7C range). A range of measures can be implemented under existing international environmental agreements and national and subnational air pollution regulations, with benefits in terms of global warming reduction, improved crop yield and improved public health.
Wara et al (2006) ***Measuring the Clean Development Mechanism's Performance and Potential***, Program on Energy and Sustainable Development, Stanford University	Notes that the CDM achieved some of the goals it set out to, albeit with limited success. The authors look at options to enhance mitigation efforts beyond carbon dioxide in a market-based regime. They hold that adopting a multilateral fund for industrial emissions of ozone depleting substances will enable broader (but shallower) participation in a future regime. They cite the absence of this as one of the biggest flaws in the Kyoto regime.

World Bank (2010) ***State and trends of the carbon market 2010*** , Washington DC, May 2010	The paper outlines the successes and shortcomings of international carbon markets in 2010. The authors note that clear policy and regulatory signals must be urgently provided tf a stronger global market is to emerge. To provide the regulatory certainty that is needed, there must be considerable investment in carbon finance mechanisms, coupled with other policy and finance instruments, to address the threat posed by climate change.
KEY ISSUE 2: Options outside the UNFCCC to increase ambition beyond existing mitigation commitments and actions	
Aasrud et al (2009) Sectoral Market Mechanisms: Issues for negotiation and domestic implementation	The authors review proposals for the design of sectoral market mechanisms that are the subject of debate within the UNFCCC negotiations and in domestic legislation. They note that attention needs to be paid to design and implementation elements at the international level, including how sectoral mechanisms will interact with existing market mechanisms. The authors highlight technical requirements that Parties might want to consider, including issues of compliance and liability.
Andersen, Stephen and Sarma, K.,. "***Making Climate Change and Ozone Treaties Work Together to Curb HFC-23 and Other "Super Greenhouse Gases.*"** Natural Resources Defense Council, 2010	This paper discusses reforms to the Clean Development Mechanism and complementary actions under the Montreal Protocol to contend with HFC-23 emissions
Allcott and Mullainathan (2010) ***Behavior and Energy Policy***	The authors analyze how non-price-based behavioral incentives can be used to effect behavioral change: peripheral factors - "nudges" - can influence real-world outcomes. They cite the example of OPOWER power company grading neighboring houses in terms of their rankings for energy efficiency in order to promote amicable competition to spur energy efficient behavior. They note the need for research into a nuanced effort by policy-makers to translate behavioral science into scaled real-world interventions.
Aldy & Stavins (eds) (2010) ***Post-Kyoto International Climate Policy Research from the Harvard Project on International Climate Agreements***	The editors compile submissions by authors identifying key design elements of a scientifically sound [consistent with achieving the objective of stabilizing GHGs at levels that avoid dangerous anthropogenic interference with the global climate], economically rational [cost-effective] and politically pragmatic [likely to bring the US and engage key, rapidly-growing developing countries in increasingly meaningful ways over time]. They maintain anything is possible – from a highly centralized Kyoto-like architecture to proposals that are outside of the UNFCCC, such as proposals for G8+5 or G20.
Au et al (2011) ***Beyond a Global Deal: a UN+ approach to climate governance*** Global Governance 2020	The authors propose a complementary and supplementary approach to the UNFCCC process to secure global climate governance by engaging in a mix of top-down and bottom-up strategies. Cooperative bilateral ties, especially between the US and China are important. Local, municipal and regional initiatives can act as bottom-up policy drivers domestically, and centralized regional coordination can design strong top-down climate policy. Civil society has a role to play in changing the narrative of how climate change is discussed.
Baron & Bygrave (2002) ***Towards international emissions trading" design implication s for linkages*** IEA/OECD	The authors look at options for linking trading systems, noting the benefits and challenges involved. They find that solutions can be designed where technical barriers to linking exist, although some solutions risk undermining the environmental integrity of market mechanisms , and may be burdensome in terms of implementation and monitoring.

Barrett and Stavins (2003) ***Increasing participation and compliance in international environmental agreements***	Premised on the proposition that the UNFCCC and the Kyoto Protocol appear incapable of inducing significant participation and compliance, the authors look to other possible architectures vis a vis their capacity for these two elements. They find that proposals that are best in terms of cost-effectiveness (conditional on implementation), primarily market-based instruments, are less likely to be effective in promoting participation and compliance while those proposals focusing on domestic measures and policies appear better at promoting both, which the authors posit need to be addressed in a global climate regime. They find that the creation of incentives for international cooperation is a problem of second-best institutional design and conclude that more attention needs to be given to cost-effectiveness and probability of implementation – the aspects that will affect the degrees of participation and compliance that can reasonably be expect to be forthcoming.
Biermann, Pattberg, van Asselt and Zelli (2009) ***The fragmentation of global governance architectures: a framework for analysis*** Global Environmental Politics, 9:4	The authors discuss the fragmentation of global governance, listing the various advantages and disadvantages of a decentralized regime. They note that formal coordination between UN climate regime and other institutions could ensure that there is work towards a common objective. They find that the UN regime needs to be better coordinated with non-environmental institutions in order to minimize 'Conflictive Fragmentation' which undermines efforts and can be counterproductive to the effectiveness and ambition of the regime.
Bodansky, D. and Diringer, E. ***The Evolution of Multilateral Regimes: Implications for Climate Change*** Pew Center Global Climate Change Policy Paper, December 2010	A comprehensive and binding global deal has strong virtues and should be the ultimate goal of the climate negotiations, but that in working towards it, parties should focus their efforts on concrete incremental steps both within and outside the UNFCCC. Parties should therefore seize opportunity for progress in parallel efforts outside the UNFCCC, all the while remaining mindful of the long-term objective of a binding framework within the FCCC, thereby guarding the legitimacy and credibility of that regime so that it will remain the forum of choice once global political will exists.
Bodansky (2011) ***A tale of two architectures***	Bodansky looks at developments in the international negotiations noting that a more bottom-up approach is emerging. He notes further that this is politically pragmatic for building trust and gaining experience in climate regulation to help unblock the current stalemate leading to more ambitious governance in the future.
Bodansky, D. ***International sectoral agreements in a post-2012 climate framework*** Pew Center Global Climate Change Policy Paper, 2007	Bodansky notes that international sectoral agreements could contribute to a post-2012 effort as one element of a broader framework. They appear best suited to advancing agreement and action by helping to defuse competitiveness concerns and treating critical technology and finance issues within a sector where they are most urgent. He concludes by noting that In sectors where industry is well organized at the international level (cement, aluminum) companies facing competitive imbalances may have an incentive to initiate a sectoral approach. Failing this it may fall to governments to take the initiative if sectoral agreements are to emerge.
Bodansky et al (2004) ***International climate efforts beyond 2012: a survey of approaches*** Pew Center on Global Climate Change, December 2004	The paper surveys 44 proposals for a future climate regime. These proposals range from ones that build upon the UNFCCC in a Kyoto-style agreement, to those advocating other approaches, including bottom-up, or fragmented approaches.
Bradley et al (2007) **Slicing the pie: sector-based approaches to international climate agreement: issues and options** World Resources Institute, Washington DC	The authors note that many heavy-emitting industrial sectors are not especially conducive to international cooperation due to considerations such as international competitiveness, uniformity of products and processes, and concentration of actors. These factors are likely to influence whether sectoral agreements or other initiatives are feasible or appropriate for such areas of activity. They further note that there is strong logic to prefer more comprehensive approaches over a sector-by-sector breakdown because, for a given level of ambition, dividing climate effort into sectoral approaches will tend to increase cost, reduce transparency, and increase the negotiating burden for governments.

Bradley et al (2008) ***Leveling the carbon playing field***	The report analyzes international competitiveness concerns affecting US domestic momentum on climate change. The authors identify a number of options that are available to mitigate these concerns by leveling the carbon playing field. These include implementation of market-based mechanisms – carbon trading or a carbon tax - for energy-intensive industries globally or using trade measures or use of trade measures such as border tax adjustments to internalize a carbon price and minimize competitive disadvantages of imports from jurisdictions with no regulatory scheme.
Butti (2011) ***The tortuous road to liability: a critical survey on climate change litigation in Europe and North America*** Sustainable Development Law and Policy, WCL, 2011:2	Butti comments on the current role of climate litigation, echoing Professor Osofsky's assertion that litigation fulfills a "gap filling role" in response to polcy failures. He finds that within the US, cases fall into 3 categories: seeking legislation for mitigation action, claims arising from such regulations where they exist, and tort-based claims. Within the EU, where there is a wider legislative framework. Cases tend to revolve around the implementation of rule, for example concerning the EU ETS
Cao, Jing (2010) ***Beyond Copenhagen: Reconciling international fairness, economic development and climate protection***, Tsinghua University/Belfer Center, Harvard University	The paper proposes a top-down, burden-sharing rule designed to produce a fair distribution of burdens across countries while giving priority to economic development and achieving emission reductions consistent with the 2C guardrail. The paper sets out design elements of a regime that are important, especially form a developing country perspective
CEB Secretariat (2008) ***Acting on climate change: the UN system delivering as one***	The report outlines the role of various UN organizations in climate governance, highlighting the role that can be played in fields of knowledge, scientific assessment and warning systems, adaptation, capacity building, technology transfer, public awareness and REDD.
Chatham House, E3G (2007) ***Changing Climates: Interdependencies on energy and climate security for China and Europe***, Chatham House, London	The report outlines areas where there is mutuality of interest between the EU and China and focuses on the areas fertile for bilateral cooperation between the two economies. These interdependencies can be capitalized on to lead to a 'win-win' situation in terms of economic growth, climate and energy supply and security.
The CNA Corporation (2007) ***National security and the threat of climate change***	The authors – a group of retired senior US military commanders – examine national security implication of climate change. They find climate change to be a "threat multiplier", exacerbating security concerns and causing widespread instability in already unstable regions, and even leading to instabilities in currently stable ones. They recommend that climate change considerations be fully integrated into national security and defense strategies, that the US should commit to stronger international leadership and the commit to global partnerships to build capacity and resilience.
Council on Foreign Relations (CFR) (2010) ***The global climate change regime***	This paper discusses the status of current climate change governance structure, its advantages and disadvantages and the scale of the challenge ahead. It then lays out options for strengthening the climate regime. Key recommendations include strengthening the IPCC, limiting the UNFCCC negotiations to MRV and setting overall ambition moving the rest to the G20 or MEF, reforming the CDM to create a robust system of international carbon offsets, forcing progress on US policy through energy efficiency regulations, subsidizing renewable energy and reforming the Bretton Woods and UN institutions to better incorporate climate change.
Dasgupta and Taneja (2010) ***Trade, technology transfer and climate change*** CPR,	The authors look at the evolution of the trade regime and analyze the effect on developing countries of using trade mechanisms to govern climate change, quantifying negative impacts of BTAs on export industries. They notes that agreements on technology transfer will be critical and that private sector participation in sectors such as energy efficiency,

New Delhi	fuel switching and industrial processes needs to be supported.
EU-Africa Joint Declaration on Climate Change (2008), 11th Ministerial Meeting of EU Troika and African Ministers, Addis Ababa	Sets forth bi-regional commitment to cooperate to address climate change, "a serious global challenge which demands urgent, cooperative, fair and shared responsibility to act". Reiterates regions' joint commitment to the objectives and principles of the UNFCCC.
E3G (2007) **EU Energy Strategy Review: Driving investment in clean and secure energy**	The briefing paper sets out how the EU can undertake ambitious action to tackle climate change and simultaneously bolster energy security, and notes how Europe is better-placed that any other major economy to overcome structural barriers to achieving economic, environmental and security gains from radical energy efficiency improvement. E3G outlines a number of options that would ensure an integrated energy and climate policy, including coordination of regulation, setting mandatory targets in various sectors (energy, renewables, cars), and a common external energy and climate security policy to facilitate cooperation with the US, China, India and Japan.
Foresight (2011) ***The future of food and farming***	The report highlights five key challenges for global food security, two of which are intricately linked to climate change. It notes the major failings of the food system today and the unsustainability of current practices to conclude that, among other things, addressing climate change and achieving sustainability need to be recognized as dual imperatives.
Foundation for the Economics of Sustainability (FEASTA) ***Cap and Share: A Fair Way to Cut Greenhouse Emissions***. May 2008.	(1) A guaranteed declining cap on GHGs is defined (2) a corresponding amount of Production Authorisation Permit (PAP) quotas are emitted each year (3) PAP are equally allocated to every adult on Earth (4) every adult can either sell (at the market price) or destroy its PAPs (5) Fossil energy suppliers have to buy a certain amount of PAPs based on their production
Ghosh (2010) ***Making climate change look like trade: questions on incentives, flexibility and credibility*** CPR, New Delhi	Ghosh looks at parallels proposed by other authors between climate change and trade, classifying these arguments in terms of political expediency, flexibility and credibility. Important areas include political will and reducing uncertainties and risk. Ghosh notes that shifting to smaller forums based on short-term expediency advantages can have longer-term disadvantages for overall ambition of the regime.
GLOBE (2011) **Climate change legislation: laws , patterns and trends** Global Legislators Organisation (GLOBE International)	The report looks at climate legislation in 16 major economies, most of which has been enacted since 2009. GLOBE notes that much greater attention should be paid to national level policy and legislative development as this is where there is a shift in the debate and that governments are beginning to realize that acting to confront climate change is in their national interest.
Grieshop, Andrew et al. ***A black carbon mitigation wedge***, Nature Geoscience. August 2009. Volume 2.	This paper discusses the mitigation potential of addressing black carbon and argues for inclusion of black carbon under a future climate policy under the UNFCCC.

Hare et al ***The architecture of the global climate regime: a top-down perspective*** Climate Policy, Vol. 10 (6), 2010	The authors put forward an argument that a centralized, top-down, legally binding climate governance architecture is the best option to pursue an ambitious 2C or 1.5C goal. This requires strong global coordination and strict targets and timetables for countries, that need to be agreed upon and implemented as soon as possible to address climate change with the effort and urgency that it necessitates.
Hartley and Wood (2004) ***Public participation in environmental impact assessment—implementing the Aarhus Convention***	The authors note that the Aarhus Convention presents a unique opportunity for public participation procedures to be enhanced. In doing so, they suggest that if real improvements are to be secured, and the potential of the Aarhus Convention maximized, the focus needs to be on supplying opportunities for the public to participate as well as ensuring that these opportunities are effective.
Houser, T. (2010) ***Less can be more: protecting Cancun's fragile victory*** Peterson Institute for International Economics, Washington DC	Outlines the successes achieved at COP16 and highlights the steps forward that align with major emitting states' political dynamics to move forward. Building on the mandate agreed upon at COP16 may lead to a legally-binding agreement in the long-term, but important progress can be made towards a politically-binding agreement in the short-term, which is vital to keep the climate governance process alive.
IPCC (1999) ***Aviation and the global atmosphere***	The report assesses the effects of aircraft on climate and the aviation emissions deposited into the upper troposphere and lower atmosphere. It notes that the about 2% of global anthropogenic carbon dioxide came from aviation (1992), equaling 13% of all transport emissions and forecasts increased emissions in the future as improvements in efficiency will be offset by a greater increase in passenger demand.
International Council on Human Rights Policy (2008) ***Climate change and human rights: a rough guide***	Chapter III discusses litigation as a response to climate policy failures noting the difficulties of pursuing this at the international versus the domestic level. It also notes that climate change presents many questions that do not sit well with the current human rights framework. The report notes that even if lawsuits fail, litigation can still be an effective strategy for purposes of public awareness.
Kapur (2011) ***Climate change, intellectual property, and the scope of human rights obligations*** Sustainable Development Law and Policy, WCL, 2011:2	Kapur charts how international legal and human rights provisions apply to climate change, referencing technology transfer and its interaction with IPRs. Kapur analyzes human rights obligations established through the International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic and Social Rights (ICESR), and how these rights may be enforced nationally and transnationally.
Keohane and Victor (2010) ***The regime complex for climate change*** The Harvard Project on International Climate Agreements, Discussion Paper 10-33	The authors outline the functional, strategic and organizational reasons why a single, unified approach to a global climate regime has failed and argue that a 'regime complex', interlinking numerous regimes, may offer advantages in terms of flexibility and adaptability. Such a complex needs to meet certain functional criteria, that are not satisfied by today's institutional structure. The UNFCCC can continue to play an umbrella role, but for reasons of political practicality, there are benefits from working toward a loosely linked but effective regime complex for climate change.

Levi and Michonski (2010) ***Harnessing international institutions to address climate change***	The authors discuss the potential role for existing multilateral and plurilateral venues in governing climate change, noting that a wealth of climate-related institutional capacity already exists, that existing energy and environment organizations will be instrumental in reaching a deal, but will not be prominent players in the future , and that MDBs are the only existing institutions with the capacity to handle finance aspects of climate change. They also note that policy-makers should anticipate conflicts between climate and existing organizations, for example the WTO.
Low, Marceau and Reinaud (2011) ***The interface between the trade and climate regimes: scoping the issues*** World Trade Organization, Staff Working Paper ESRD-2011-1	The authors discusse the possibility that World Trade Organization rules and procedures might be applied by countries concerned about carbon leakage and the national cost consequences of differential mitigation policies that raise competitiveness concerns. They caution that a decision needs to be reached as to how far competitiveness concerns should shape climate policy, given the principles of sustainable development and 'common but differentiated responsibility'.
Mace in Schneider et al (2009) ***Climate Change Science and Policy****: Chapter 21:* "***International Treaties***"	Mace discusses the post-2012 framework including how principles of equity should be addressed, what type of commitments should be taken, the role of technology transfer, and financing adaptation. Mace posits that strong top-down governance is most suitable, given the urgency of the climate change problem, but notes that a combination of top-down and bottom-up approaches are possible in implementing a comprehensive climate regime.
Mayer (2010) ***Reduce and Invest: reduce the CO_2 burden in the atmosphere and invest in a sustainable economy***, Concept outline	Mayer proposes that a levy in the region of 5-10% be imposed on fossil fuel consumption globally. This market mechanism will disincentivize consumption while simultaneously encouraging investment in research and development and roll out of cleaner fuel sources to move the world to a low carbon pathway. The percentage levy can be adjusted to account for ambitiousness of mitigation target and the total sum of the finance that will be required globally.
Molina, Mario et al ***Reducing abrupt climate change risk using the Montreal Protocol and other regulatory actions to complement cuts in CO2 emissions Proceedings of the*** *National Academy of Sciences,* December 2009. Volume 106, No. 49	This paper discusses strategies to address short-lived non-CO_2 greenhouse gases and particles, such as amending the Montreal Protocol and the promotion of policies to address black carbon.
Orellana et al (2010) ***Climate change in the work of the Committee on Economic, Social and Cultural Rights***, CIEL, 2010	The paper looks at issues of climate change and human rights in the context of the work of the Committee on Economic, Social and Cultural Rights (CESCR), as well as linkages between the two in the broader human rights framework. The authors look at jurisprudence of environmental cases involving human rights claims based on administrative, common-law or rights-based claims and make a number of recommendations for the CESCR to anchor climate change within its work program. These include general commentary by the CESCR, developing state reporting guidelines that consider climate change and develop indicators for monitoring the impacts of climate change.
Schwarte and Byrne (2010) ***International climate change litigation and the negotiation process*** Foundation for International Environmental Law and Development (FIELD) Working paper	The paper discusses to what extent litigation under public international law may help address climate change and possibly facilitate a positive and timely outcome within the UNFCCC negotiations. In doing this, it looks at substantive legal options based on existing public international legal theories and norms and their relative procedural means for implementation.

UN Human Development Report 2007/08	The report posits that climate change is the defining development issue of our generation, undermining efforts to combat poverty and disproportionately affecting the world's poor – 40% of the world population, or 2.6 billion people. To address this, the report recommends that, among other measures, adaptation be placed at the heart of international cooperation, which itself needs to be strengthened.
UNEP (2009) ***Green Economy Report***	This report outlines the social and economic arguments for transitioning to a green economy. The report highlights the range of roles that governments and the private sector can play to engage in this transformation. For governments this involves eliminating harmful subsidies and creating market-based incentives, as well as encouraging green procurement. The private sector will in turn respond to these stimuli by building skills and innovating to take advantage of green economy opportunities.
UNEP (2010(b)) ***Second meeting of the Consultative Group of Ministers or High-level Representatives on International Environmental Governance***	The article offers a brief description of the broader institutional reforms identified to stimulate thinking on possible institutional changes to global environmental governance. These include graduating existing UN Programs (like UNEP) to a global environmental organization, or investing new architecture such as a 'World Environmental Organization'.
Weisbach, D. ***Negligence, Strict Liability, and Responsibility for Climate Change*** Belfer Center, 2010	Weisbach examines the possibility of apportioning responsibility for climate change using tort law principles. Traditional fault theories require more consideration than the available data is ever likely to support. Strict liability may serve as a 'one-time' claim for past wrongs, but even still has problems. Incentive-based approaches are preferable, for example, not giving benefits to Parties who increase emissions between now and an eventual treaty
World Banks (2011) ***Cities and Climate Change: an urgent agenda***	The report looks at the linkages between changing demographic patterns of increased urbanization and climate change, and outlines the opportunities that cities have to address the ensuing problems. Addressing climate change will have coincidental benefits on other problems that affect city life, including air quality and urban transport. It notes the opportunities for coordinated ambitious action that can be taken by major cities globally, irrespective of their stage of economic development.

Zhang (2009) **Multilateral Trade Measures in a Post-2012 Climate Change Regime?: What Can Be Taken from the Montreal Protocol and the WTO?** Fondazione Eni Enrico Mattei Working Paper 342	This paper discusses to what extent trade-related measures should be incorporated in post-2012 regime. Zhang argues that such measures (border tax adjustments, etc) should initially be applied only among Annex I countries and that, in order to encourage developing countries to do more, developed countries should focus on 'carrots'. 'Sticks' can be incorporated, but only if they are credible and realistic and serve as a useful supplement to push developing countries to take comparable actions or adopt comparable policies and measures earlier than would otherwise have been the case. Zhang also notes that unrealistic border adjustment measures as exemplified in the Lieberman-Warner bill (taken as a proxy for any future US legislation) are counterproductive to reaching an agreement on comparable climate actions in the post-2012 climate negotiations.
KEY ISSUE 3: Means for sharing the mitigation effort	
Adve & Engineer (2010) ***Equity and social justice in a finite carbon world*** Economics and Political Weekly, Oct. 2010	The authors analyze the proposal for a carbon budget put forward by Kanitkar et al (2010) (see below) noting some of its positive contributions, including focusing on carbon stock instead of flow, which has positive impacts in terms of equity. However the authors note some problems with the model used, that they believe the model's underlying assumptions are too generous and thus undermine the study's objective. They also criticize that equity is not considered in an intra-state context.
Banuri,. et al. (1995). ***Equity and Social Considerations in Climate Change***, IPCC Second Assessment Report, 1995	The IPCC's Second Assessment Report examined equity and social considerations of climate change and the sharing of mitigation effort. It highlights a number of central tenets that arise, including procedural equity, consequential equity and intertemporal aspects of the problem (for example, intergenerational equity). It notes that for any agreement on climate change to be effective, it must be regarded as legitimate: equity is an important element in gaining legitimacy.
Baer, Paul et al. ***The Greenhouse Development Rights Framework: Drawing Attention to Inequality within Nations in the Global Climate Policy Debate***. *Development and Climate.* 2009. Volume 40, Issue 6.	1) A "development threshold" is codified, defining a level of welfare below which people are not expected to share the costs of the climate transition (2) Each country's aggregate *capacity* is defined as the sum of all individual income, excluding income below the threshold (3) Each country's *responsibility* is defined as its cumulative emissions since 1990, excluding emissions that correspond to consumption below the development threshold (3) These measures of *capacity* and r*esponsibility* can be combined into a single indicator of obligation: the "Responsibility Capacity Index" (RCI) (4) The RCI, could serves as the basis of a progressive global "climate tax", determining each nation's obligatory financial contribution to a grand international fund which would support both mitigation and adaptation, and/or as a basis to determine national reductions obligations as shares of the global mitigation requirement (5) it is foreseen to be a legally binding regime.

Caney (2001) ***International distributive justice***	The paper focuses on climate change as a compelling case for global and intergenerational justice. Caney looks at issues of burden-sharing, dividing approaches into two accounts. The causal account looks at issues of collective responsibility for climate change and common duty to pay reparations. The beneficiary account, focusing on notions that those who have benefitted from climate change through industrial expansion should pay reparations. He concludes that the intricacies involved in both of these accounts make the attribution of responsibility to make reparations more problematic that is normally recognized.
Dutt (2009) ***A climate agreement beyond 2012*** CPR, New Delhi	Dutt proposes that advanced developing countries take on commitments to limit future emission increases, based on the Contraction and Convergence proposal. The development status could be determined by a metric such as GDP or the Human Development Index (HDI). There would be differentiation for countries that have achieved more emission efficient development than others. Dutt proposes separate regulations for energy-related carbon dioxide emissions and for forestry, agriculture and fluorinated gases. Performance tracking would be accomplished byexpert teams from other countries.
Dutt (2010) ***Equity in climate change*** CPR, New Delhi	This builds upon Dutt 2009 to analyze developments in the wake of the Copenhagen Accord. He synthesizes the Copenhagen pledges by all countries to conclude that current pledges would result in carbon dioxide concentration of 775ppm, representing a 3.9C temperature rise by the end of the century. He raises questions that remain unanswered as to the role of Kyoto Protocol mechanisms going forward, as well as to questions of long-term finance.
Foundation for the Economics of Sustainability (FEASTA) ***Cap and Share: A Fair Way to Cut Greenhouse Emissions***. May 2008.	(1) A guaranteed declining cap on GHGs is defined (2) a corresponding amount of Production Authorisation Permit (PAP) quotas are emitted each year (3) PAP are equally allocated to every adult on Earth (4) every adult can either sell (at the market price) or destroy its PAPs (5) Fossil energy suppliers have to buy a certain amount of PAPs based on their production
Kanitkar et al 2010: Tata Institute for Social Science/Ministry of Environment and Forests, India ***Conference on Global Carbon Budgets and Equity in Climate Change***, 28-29 June 2010, Discussion Paper, Supplementary Notes and Summary Report	The conference paper reflects a proposal by Kanitkar et al that sets forth a model for burden-sharing for the climate regime that aims to achieve equitable utilization and common responsibility among all states. The model incorporates "fair shares" for all states moving away from the current share of carbon space, taking into account emissions cuts for nations above their fair share and allowing growth in those countries currently below it. The proposal takes issues of human well-being and intergenerational equity as central.
La Rovere et al (2002) ***Climate change and sustainable development strategies: a Brazilian perspective*** (OECD)	This paper issues and approaches to build an equitable international regime to address climate change under a Brazilian perspective, identifying key barriers and suggesting how to overcome them. Key conclusions for climate change mitigation in line with sustainable development include policies aimed at curbing deforestation, a focus on renewable energy and two sets forth two proposals on burden sharing. One scheme would be based on the contributions to global temperature increase of each country from 1840, and not simply on their annual GHG emissions. The second proposal, ("a less ambitious suggestion") would be to use the cumulative GHG emissions of individual countries since 1990 to set out future mitigation action.
Mace (2008). "***The Bali Road Map: Can it Deliver an Equitable Post-2012 Climate Agreement for Small Island States***." RECEIL. 2008. Vol 17, No. 2.	This paper highlights the key outcomes related to effort sharing sought by the Alliance of Small Island States in the international climate negotiations.

Mattoo and Subramanian (2010) ***Equity in climate change: an analytical review*** World Bank Policy Research Working Paper, July 2010	This paper presents an analytical framework on equity and climate change, highlighting the consequences -- in terms of future emissions allocations -- of different approaches to equity (progressive cuts; ability to pay; equal per capita emissions; historic responsibility). With the strong conflicts of interest that are present when trying to define equity, the authors propose that the focus of international cooperation be shifted to generating a low-carbon technology revolution.
Michaelowa, Axel et al. ***Graduation and Deepening: An Ambitious Post-2012 Climate Policy Scenario*** *International Environmental Agreements: Politics, Law and Economics.* Volume 5, Number 1.	This paper proposes a way to graduate Parties into taking on emissions targets, as well as ways to increase absolute caps over time.
O'Neill and Oppenheimer 2002 ***Dangerous climate impacts and the Kyoto Protocol*** Science, Vol. 296, June 2002	The authors propose several plausible interpretations of what "dangerous interference" with the global climate might mean with respect to particular environmental outcomes. They examine the consistency between the Kyoto Protocol and emissions changes over time that would avoid dangerous environmental outcomes.
Page (2007) ***Climate change, justice and future generations***	This book presents a wide discussion of equitable concerns that arise with regard to international climate negotiations and any future agreed regime. Page outlines two approaches to burden-sharing – based on contribution to the problem and second on ability to pay, and discusses the various advantages, challenges, controversies and complexities of each.
Page (2008) ***Distributing the burdens of climate change***	Page looks at issues of burden-sharing rooted in various philosophical standpoints based on the ability to pay, contribution to the problem, beneficiary pays, or a hybrid of these. He concludes that there is far more divergence than is often recognized and that is no single approach offer a balance between intellectual soundness and practical policy relevance. Page finds that the Global Development Rights proposal comes closest to capturing these two qualities.
Statement of Mr. Jairam Ramesh, Minister of Environment and Forests, 7th MEF Meeting, Rome, Italy. 2010.	This proposal suggests that the global carbon budget be divided on the basis of cumulative emissions per capita.
Shue (1999) ***Global environment and international inequality***. *International Affairs*, 75(3), 531-45	Shue outlines various approaches to understanding fairness based upon varying theories of justice to conclude that no matter what theoretical background that is used, the same conclusion is reached: the allocation of costs of protecting the environment and halting climate change should be principally borne by wealthy industrialized countries.
TERI (2009) ***Right to Sustainable Development: An Ethical Approach to Climate Change*** The Energy Resources Institute (TERI), 2009.: Delhi.	This paper presents TERI's proposal for dividing the mitigation effort based on fairness and equity principles and the promotion of sustainable development for all.
WBGU (2008) ***Solving the climate dilemma: The budget approach*** German Advisory Council on Global Change (WGBU), November 2008. Berlin.	1) A 2°C guard rail is adopted as legally binding in international law (2) For CO2 from fossil sources a global emission budget is adopted (3) It is subdivided into national CO2 budgets among all countries on an equal per-capita basis (4) Each country has to produce a decarbonization road map (5) An international emissions trading system helps to achieve the balance between the emissions paths of the various countries (6) With regard to past CO2 emissions an additional financial compensation between north and south is aimed for (7) CO2 from non-fossil sources, other relevant GHGs and further

	radiative forcing substances are subjected to separate regulations.
KEY ISSUE 4: Tracking country performance on mitigation	
Blechman and Finlay (forthcoming, 2011) **What climate control can learn from past efforts to limit nuclear dangers** The Stimson Center, Washington DC	The authors analyze the efforts undertaken to regulate arms proliferation since the existence of nuclear weapons. Efforts have ranged from unilateral national declarations, to formal agreements, to multinational treaties and the establishment of international organizations. They articulate potential lessons to be learned from weapons control efforts; one area of focus is the importance of is verification, which they note as essential for publics to gain confidence in the process of international agreements. There is a substantial role for the private sector to play in this, from cooperation with industry, to encouraging "whistle blowers", and leveraging private individuals and NGOs. Important lessons that could apply to a climate change regime include that an ultimate goal be articulated, that a 'grand bargain' be struck even if it moves incrementally, that implementing entities be created, proceed even in the absence of key players, pay attention to verification, leverage the private sector and consider the use of radical unilateral actions.
Buchner et al (2011) ***Monitoring and Tracking Long-Term Finance to Support Climate Action*** OECD	The report analyzes aspects of financing for the climate regime, noting that there is neither a universally-agreed definition of what sources are involved nor an agreed basis for measurement or methodology for tracking of such finance. The authors highlight the relevant information that needs to be tracked in order to build a comprehensive MRV system for climate finance, and propose improvements to current reporting and tracking systems as well as new reporting approaches for a more robust and inclusive system of MRV.
Chayes & Chayes (1998) ***The New Sovereignty: Compliance with International Regulatory Agreements***. Harvard University Press, Cambridge, MA.	The authors find that in a changed world of multiple and multilateral opportunities and threats, hyper-vigilant verification policies and procedures are out of place – the search for absolute assurance is illusory. Ultimately no system of verification, no matter how abundantly endowed, will be able to verify completely all the activities subject to regulation. No matter how sophisticated the verification program, there will be uncertainties and disagreements about the state of information that is developed; therefore it is necessary to carefully consider transparency issues without placing too heavy a burden on the verification element

DeFries et al (2007) ***Earth observation systems for estimating greenhouse gas emissions from deforestation in developing countries***	The authors analyze technical capabilities for monitoring deforestation and estimating emissions and note that implementation of policies to reduce emissions from deforestation require effective, consistent, reproducible and accurate deforestation monitoring systems. Key constraints for to achieving this include low international commitment of resources to increase capacity, coordination of observations to ensure coverage, access to free or low-cost data, and standardized protocols for interpretation and analysis
Ellis et al. (upcoming) ***Frequent and Flexible Reporting Formats in Biennial Update Reports***. OECD, expected June 2011.	The authors note that the Cancun Agreements represent a step forward in setting out procedures for reporting of data and provide for more consistency and transparency in country reporting. They outline suggestions for the structure and content of biennial reports, including reporting formats. This is important to increase the comprehensiveness of information provided, and enhance transparency to build trust, and improve consistency through standardization. For optimal consistency and transparency, the authors find that biennial reports should primarily focus on key information or information that changes substantially from previous reports, and that additional flexibility in terms of content should be given to developing countries.
European Union ***Fast start funding for developing countries: 2010 progress report***, Brussels, Belgium, Nov. 2010	In 2010 the EU mobilized EUR2.2 bn, as part of its EUR7.2 bn commitment between 2010-2012, to help developing countries implement immediate and urgent action to respond to climate change. These responses will include mitigation, adaptation and REDD+ and will increase synergies between economic development and climate resilient action.
Fei et. Al. (2009). ***Mitigation Action in China: Measurement, Reporting and Verification.*** Working Paper. World Resources Institute: Washington, D.C. Available at: http://www.wri.org/publication/mitigation-actions-in-china	The paper seeks to facilitate progress on the provisions in the Bali Action Plan by examining how Chinese climate change policy and the implementation of these policies is monitored at the domestic level and may off er insights to the international community. The authors seek to answer several pertinent questions relating to methodologies for measuring GHG reductions, international integration of MRV processes, and identifying what gaps need to be filled to enable actions to be linked to support, among other issues.
Fransen, T (2009) ***Enhancing Today's MRV framework to meet tomorrow's need: the role of national communications and inventories***, World Resources Institute	The paper examines the strengths and weaknesses of the 'national communications' system within the UNFCCC in the context of the post-2012 climate regime, considering the Bali Action Plan on provisions related to MRV.
Ghosh and Woods (2010) "***Developing Country Concerns about Climate Finance Proposals: Priorities, Trust, and the Credible Donor Problem***" in Richard B. Stewart, Benedict Kingsbury,and Bryce Rudyk, ***Climate Finance: Regulatory and Funding Strategies for Climate Change and Global Development;*** New York University Abu Dhabi Institute	Ghosh and Woods outline the key points of their paper to state that the history of North-South mistrust pervades the climate negotiations, that stable and secure finance is essential, that effective monitoring, verification and compliance mechanisms are needed for both emission reductions and finance and technology transfers and that trusted institutions are required (for which the Bretton Woods institutions may not be the answer).

Haas, P.M. (2008) ***Climate change governance after Bali*** Global Environmental Politics 8:3	The demanding goals from Bali (adaptation funding, etc) are far beyond the less demanding targets of Kyoto, which have not been achieved. Focusing on a more demanding global aspiration seems unlikely to succeed. The best course of action is to delay hard bargaining on a post-KP agreement to build stronger foundations for a better treaty for achieving short term policy gains
Levin et al. (2009) ***"Can non-state certification systems bolster state-centered efforts to promote sustainable development through the clean development mechanism?***" 44 Wake Forest L. Rev. 777	The authors focus on non-state market-driven global governance in the environmental regime. These strategies embrace market approaches built around incentives and price mechanisms; several forms of non-state authority have emerged, including corporate social responsibility,providing information through labeling, and self-reporting. They look at relationships between public and private authority and use the Gold Standard offset certification to explore the symbiosis between these two authorities. They note that government policy can be advanced through the use of non-state market mechanisms.
Levin et al et. Al. (2010). ***Remedying Discord in the Accord: Accounting Rules for Annex I Pledges in a Post-2012 Climate Agreement***. Working Paper. World Resources Institute: Washington, D.C. Available at: http://www.wri.org/publication/remedying-discord-in-the-accord	The authors propose that measures be taken to strengthen reporting on financial information provided by developed countries by requesting the SBSTA to develop a common reporting format in consultation with OECD, MDBs and relevant experts for adoption at COP17, and the set out guidelines to conduct such reporting
McFaul, L. (2006) ***Developing the climate regime: the role of verification*** UK Verification, Research and Training Information Centre (VERTIC)	The paper outlines the evolution and role of verification and compliance within the UNFCCC and highlights areas related to capacity-building and climate system governance where focus should be made in investing in an effective global regime.
Nash, Pendleton and Rettalack (2009) ***Building trust and cooperation in a North-South climate change compact: what role for regulators?*** Global Climate Network Briefing Paper	The paper focuses on issues of MRV that will be of material interest to national environmental regulators as the climate change negotiations evolve. The role of national regulatory authorities in MRV has not received major attention in current literature, and this paper sets out how domestic regulators can help build consenss in the current negotiations by leading on MRV from the bottom up. National work on that front can also help engender trust and cooperation on an international level in a post-2012 global climate regime.
Niederberger, Anne and Kimble, Melinda, ***MRV under the UN Climate Regime – Paper Tiger or Catalyst for Continual Improvement?***	The authors posit that expanding the MRV regime to include mitigation actions is an opportunity to support, rather than burden, developing countries in their efforts to improve their climate performance over time, consistent with sustainable development. One pragmatic approach is to ensure that national actions are measurable, reportable and verifiable, namely adopting a certification scheme for National Climate Management Systems (which would require countries to establish a climate policy, set national goals and timetables, secure resources to implement related national actions, and track their progress over time).

Tirpak et al (2010) ***Guidelines for Reporting Information on Public Climate Finance.***	The working paper discusses different ways to improve the current system for reporting and compiling information on public financing for climate change to help Parties to the UNFCCC develop robust reporting processes for climate finance. Among other measures, it urges Parties to consider implementing a more robust data review process and recommends that Parties could make significant improvements by adopting a standardized financial reporting format, but notes that this will take time to implement.
UNEP, 2010 ***The Emissions Gap Report: Are the Copenhagen Accord Pledges Sufficient to Limit Global Warming to 2 or 1.5°C?***	This paper discusses how stronger accounting rules on land use, land-use change and forestry (LULUCF), surplus emissions units, and double counting of emission reductions could help close the gap between current emissions trajectories and those consistent with temperature limits.
Victor, D.G. et al,(eds) ***Implementation and Effectiveness of International Environmental Agreements*** MIT Press, Cambridge MA,1998	Authors look at problems of implementation of multilateral environmental agreements, focusing on how commitments are translated into practice. In examining this, they look at systems for implementation review (SIRs) – the institutions through which parties share information, review performance and deal with noncompliance. While these operate at the international level, implementation of individual measures takes place at the national level. Thus the authors focus their comparisons here.
KEY ISSUE 5: The legal form of a future climate agreement	
Baer, Paul et al. ***The Greenhouse Development Rights Framework: Drawing Attention to Inequality within Nations in the Global Climate Policy Debate.*** Development and Climate. 2009. Volume 40, Issue 6.	1) A "development threshold" is codified, defining a level of welfare below which people are not expected to share the costs of the climate transition (2) Each country's aggregate *capacity* is defined as the sum of all individual income, excluding income below the threshold (3) Each country's *responsibility* is defined as its cumulative emissions since 1990, excluding emissions that correspond to consumption below the development threshold (3) These measures of *capacity* and r*esponsibility* can be combined into a single indicator of obligation: the "Responsibility Capacity Index" (RCI) (4) The RCI, could serves as the basis of a progressive global "climate tax", determining each nation's obligatory financial contribution to a grand international fund which would support both mitigation and adaptation, and/or as a basis to determine national reductions obligations as shares of the global mitigation requirement (5) it is foreseen to be a legally binding regime.
Bodansky, D. and Diringer, E. ***The Evolution of Multilateral Regimes: Implications for Climate Change*** Pew Center Global Climate Change Policy Paper, December 2010	The authors analyze how international regimes have a tendency to evolve slowly over time into legally binding agreements. They note that this might also be the case for the climate regime, and outline the advantages that such an evolutionary process can have, leading eventually to a more effective and robust regime, having undergone processes of institutional learning and building trust among Parties.
Cao, Jing ***Beyond Copenhagen: Reconciling international fairness, economic development and climate protection*** Belfer Center, 2010	The paper proposes a top-down, burden-sharing rule designed to produce a fair distribution of burdens across countries while giving priority to economic development and achieving emission reductions consistent with the 2C guardrail. The paper sets out design elements of a regime that are important, especially from a developing country perspective

Cottier (2011) ***Confidence-building for Global Challenges: The Experience of International Economic Law and Relations,*** World Trade Institute, University of Bern, Switzerland	Cottier analyzes the gradual evolution and developments in the international economic regime to highlight possible lessons for climate change. He notes that typical incentives (reciprocity) in economic regimes do not work for climate change, leading to the free-riding problem. Cottier concludes that a package deal involving gradual consensus building in concentric circles, with graduation and open ended negotiations and the agreement on a dispute settlement mechanism offers the best chances for a comprehensive climate regime. He finds that top-down regimes, where achieved face problems of verification and implementation.
Department of Energy and Climate Change (UK), March 2010***Beyond Copenhagen: The UK Government's International Climate Change Action Plan***	Notes that a single treaty, binding on all parties, and which upholds and builds on the Kyoto architecture, including binding economy-wide targets for developed countries and design principles for the carbon market, would be the best outcome from the UNFCCC negotiations.
Falkner, et al. ***International Climate Policy after Copenhagen: Towards a 'Building Blocks' Approach*** Global Policy, Vol 1(3), October 2010	Falkner states that a major reassessment of the current approach to building a climate regime is required. The 'global deal' strategy, predicated on the idea of negotiating a comprehensive, universal and legally binding treaty that prescribes, in a top-down fashion, generally applicable policies based on previously agreed principles, has been unsuccessful and there is need to consider a 'second-best' option.. Using a 'building blocks' approach allows for disaggregation of the negotiations into a multi-track approach that enables parties to secure 'low-hanging fruits', moving forward in the regime in areas where mutual agreement is possible. This helps prevent the climate negotiations descending into a decentralized, bottom-up approach, which is undesirable.
Foundation for International Environmental Law and Development (FIELD) (2011) ***Briefing note on the legal form of a new climate change agreement***	This briefing note sets out the proposals that have been made by Parties for the eventual legal form that a global climate agreement might take.
Keohane and Victor (2011) ***The regime complex for climate change*** The Harvard Project on International Climate Agreements, Discussion Paper 10-33	The authors outline the functional, strategic and organizational reasons why a single, unified approach to a global climate regime has failed and argue that a 'regime complex', interlinking numerous regimes, may offer advantages in terms of flexibility and adaptability. Such a complex needs to meet certain functional criteria, that are not satisfied by today's institutional structure. The UNFCCC can continue to play an umbrella role, but for reasons of political practicality, there are benefits from working toward a loosely linked but effective regime complex for climate change.
Olmstead and Stavins (2010) ***Three Key Elements of Post-2012 International Climate Policy Architecture****;* Belfer Center, 2010	The authors set out what they believe to be the three essential elements of an effective post-2012 international global climate policy architecture: a means to ensure that key industrialized and developing nations are involved in differentiated but meaningful ways; an emphasis on an extended time path of targets; and inclusion of flexible market-based policy instruments to keep costs down and facilitate international equity.
Rajamani, L., ***Addressing the 'Post-Kyoto' stress disorder: reflections on the emerging legal architecture of the climate regime*** International Comparative Law Quarterly, Vol. 58, October 2009	The author outlines the possible legal forms any international agreement might take, highlighting what a successful outcome should include. Elements include that an agreement be legally binding, engage all developed countries while creating conditions to engage developing countries, especially rapidly growing ones.

Rajamani (2011) ***The Cancun Agreements: reading the text, subtext and tea leaves***	The author points out that the Cancun Agreement, like Copenhagen, leaves fundamental differences between Parties unresolved. These include the future of the Kyoto Protocol and differentiation on legal form and architecture. Many countries favor a legally binding agreement, but its architecture and relationship to the Kyoto Protocol remains unclear. The author notes that the opening up of consensus decision-making as happened at Cancun may create the conditions necessary to resolve procedural issues that have impeded the evolution of the regime to date.
Raustiala, Skolnikoff and Victor (eds) ***The implementation and effectiveness of international environmental commitments: theory and practice*** MIT Press, MA, 1998	Authors look at problems of implementation of multilateral environmental agreements, focusing on how commitments are translated into practice. In examining this, they look at systems for implementation review (SIRs) – the institutions through which parties share information, review performance and deal with noncompliance. While these operate at the international level, implementation of individual measures takes place at the national level, and are thus domestically binding although they may not be internationally.
Richards, J. et al (2010) ***Cancun Building Blocks: Essential steps on the road to a fair, ambitious and binding deal,*** Climate Action Network,	The paper sets out the steps that need to be accomplished to establish a clear vision for COP17 in order to agree on a process for reaching a "full, fair, ambitious and binding deal". The authors pay particular attention to global ambition and shared effort, emission reductions by developed countries, mitigation actions by developing countries, support for adaptation and the legal framework for a path forward.
Tangen (2010) ***The odd couple? The merits of two tracks in the international climate change negotiations***	Tangen proposes two tracks for the climate regime, with a legally binding instrument for the second commitment period of the Kyoto Protocol and COP decisions to incorporate pledge and review from the Copenhagen Accord into the Convention.
Victor, D. ***Global Warming Gridlock, Creating More Effective Strategies for Protecting the Planet*** (*2011*)	Victor argues that the immediate goal should be investment in adaptation (including geoengineering). The strategy for moving forward is based on: who the parties are; what they are promising; and what will encourage them to honor those promises. In achieving this Victor envisages a 'bottom-up' approach with national governments "bidding" to undertake commitments that are both feasible and in their interest (versus an overarching 2C target, with commitments being imposed 'top-down'). These bids may be contingent on other governments making equally ambitious bids, and ultimately lead to convergence of policies. This will require a small club of large countries negotiating in multi- or bi-lateral and therefore will likely be outside of UN process; new institutional architecture is required to track bids and assess data and policy implementation
WBGU (2008) ***Solving the climate dilemma: The budget approach*** German Advisory Council on Global Change (WGBU), November 2008. Berlin.	1) A 2°C guard rail is adopted as legally binding in international law (2) For CO2 from fossil sources a global emission budget is adopted (3) It is subdivided into national CO2 budgets among all countries on an equal per-capita basis (4) Each country has to produce a decarbonization road map (5) An international emissions trading system helps to achieve the balance between the emissions paths of the various countries (6) With regard to past CO2 emissions an additional financial compensation between north and south is aimed for (7) CO2 from non-fossil sources, other relevant GHGs and further radiative forcing substances are subjected to separate regulations.

Werksman, J. ***Legal symmetry and Legal Differentiation under a Future Deal on Climate Change*** Climate Policy, Vol. 10 (6), 2010	The author suggests that Parties should focus initially on substantive issues within the UNFCCC negotiation process and deal with the issue of legal form once there is agreement on substantive issues
Werksman, J. (2010) ***Law and Disorder: Will the Issue of Legal Character Make or Break a Global Deal on Climate?*** German Marshall Fund of the United States	The paper deals with developed and developing country Parties' views on a legally binding agreement as the end result fo the UN negotiating process. It also sets out options as to what kind of governance framework might be in place if divergent opinions as to a legally binding agreement do not converge.
Werksman and Herbertson (2010) ***The aftermath of Copenhagen: does international law have a role to play in a global response to climate change?*** Maryland Journal of International Law	The authors note that a number of issues need to be agreed upon to enable a full, fair, ambitious and binding deal at COP17. This includes a global understanding of ambition and shared effort, developed Party emission reductions, developing Party mitigation actions, adaptation and clarity of the legal framework and path forward.
Winkler, H. and Beaumont, J. ***Fair and Effective Multilateralism in the post-Copenhagen climate negotiations*** Climate Policy, Vol. 10 (6), 2010	The authors examine trends emerging in other multilateral environmental agreements to identify various options for changing aspects of the climate process, including changing the content, style, actors and fora of the negotiations. Ultimately they believe that investment is needed in the UN process - the only legitimate, fully inclusive forum. They also believe that a legally binding outcome offers the best guarantees of effectiveness in terms of implementation.