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*International Forest Carbon and the Climate Change Challenge Series – Brief No. 2**

International Forest Carbon in Current Policy Proposals

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Efforts to include emissions from deforestation and forest degradation in climate policy have gained considerable traction in recent years at multiple levels of governance. With mounting evidence that atmospheric CO_2 concentrations cannot be stabilized at a prudent level without addressing emissions from the forest sector, policymakers are actively seeking ways to integrate international forest carbon into existing and emerging greenhouse gas compliance regimes. Since 2005, for example, there has been a concerted effort in the United Nations Framework Convention on Climate Change (UNFCCC) process to integrate Reduced Emissions from Deforestation and Forest Degradation (REDD) into a post-2012 climate treaty.[1] In the United States, the inclusion of international forest carbon is also gaining traction in debates regarding the design of national and subnational compliance regimes. Indeed, leading legislative proposals for a federal cap-and-trade system introduced in the U.S. Congress over the last several years have included robust provisions for international forest carbon. Likewise, California and other States are actively exploring ways to include international forest carbon in their own greenhouse gas (GHG) compliance regimes.

To be sure, there is still much work to be done to integrate international forest carbon into climate change policy. Key issues in need of resolution include the coverage of forest carbon activities (i.e., deforestation only versus the full range of forest carbon); the appropriate policy mechanism(s) for recognizing and crediting forest carbon (fund and/or market) and the sequencing of such approaches; quantitative and qualitative limits for forest carbon; methodologies for measuring, monitoring, and verifying avoided emissions; accounting frameworks; and participation by key stakeholders, such as forest-dependent local communities and indigenous peoples (see Chapters 4 and 5 of full report).

Of course, there is no one right way of bringing international forest carbon into climate policy. Nor does the ability to do so depend upon a fully-formed international climate treaty for the post-2012 period. Indeed, irrespective of how forest carbon is included in a post-2012 climate treaty (as seems likely), it could also be incorporated directly into national and subnational compliance regimes, such as a U.S. federal or state (e.g., California) system, prior to the entry into force of a new international treaty (which may not have universal membership in any event). Thus, by creating robust provisions that recognize international forest carbon in U.S. compliance regimes (federal and state), the U.S. has an important opportunity to lead on this issue regardless of the outcome of the post-2012 negotiations.

How is international forest carbon treated in the international climate regime?

Background: Deforestation in the UNFCCC/ Kyoto Protocol

Although both the UNFCCC and the Kyoto Protocol recognize the importance of including forests as part of an international climate protection effort, the politics associated with forests during and after the negotiation of the Kyoto Protocol resulted in a complex and highly restrictive set of rules regarding how forests and land use would be treated. Known as the Marrakesh Accords (by virtue of their adoption at the Marrakesh COP in 2001), these rules provided for expansive treatment of land use and forestry in the Annex I Parties (under Article 3) while limiting Land Use, Land-Use Change, and Forestry (LULUCF) activities under the Clean Development Mechanism (CDM) (Article 12) to afforestation and reforestation. Importantly, the LULUCF rules under the CDM meant that avoided deforestation and other land-use projects would not be

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eligible for crediting under the Kyoto Protocol.[2] Thus, on the one hand, Marrakesh established a fairly liberal regime for the treatment of forest carbon activities in the Annex I countries, reflecting the demands of Canada, Japan, Russia, and the U.S. (before it withdrew from the process)—each of which stood to gain, relative to the EU member states, from a regime that included generous provisions for forest sinks. On the other hand, and partially as a response to concerns raised by the EU and some environmental NGOs at the time (notably WWF and Greenpeace), the Marrakesh Accords severely restricted forest carbon activities in developing countries and completely excluded activities aimed at reducing emissions from tropical deforestation. In effect, the Marrakesh Accords reflected a quid pro quo—expansive treatment of forests in Annex I countries in return for restricted treatment of forests in developing countries. This had the perverse effect of excluding one of the largest sources of global emissions (tropical deforestation) from the climate regime.[3]

During the discussions leading up to the Marrakesh Accords, the main technical objections to allowing avoided deforestation projects under the CDM included the potential for leakage and impermanence, the challenges of ensuring additionality, and the difficulties associated with measurement and monitoring (see Chapter 4 of full report for definitions). Of these, leakage was considered to be one of the more difficult problems to solve, given the challenges of ensuring that the CDM's project-based approach would not simply displace deforestation (and the associated emissions) from inside a project area to areas outside the project boundaries. Impermanence was also considered problematic as there appeared to be no easy way to guarantee that particular areas of protected forest would not be deforested in future years given the lack of basic forest governance and enforcement capabilities in many tropical forest countries. Finally, the challenge of measuring accurately the amount of CO_2 emissions avoided from a particular project and demonstrating additionality relative to business-as-usual (BAU) was seen as fraught with difficulties.

These concerns were further compounded by the fact that the emissions reduction commitments for the Annex I countries were negotiated and agreed to in 1997, four years before the treatment of forests was resolved at Marrakesh in 2001. Thus, opponents of an expansive approach to forest carbon argued that an influx of relatively cheap avoided deforestation credits of dubious environmental integrity would undermine the incentives for technological change in the energy sector that would come with higher carbon prices. Forest credits, in other words, were seen as a loophole for Annex I countries to avoid the already modest emissions reductions that they had agreed to at Kyoto.

A short history of REDD and the post-2012 negotiations

For several years after the Marrakesh decision to prohibit forest protection from crediting under the CDM, the issue of tropical deforestation was largely ignored within the UNFCCC. In 2005, however, Papua New Guinea and Costa Rica put the issue back on the international climate policy agenda with a proposal to use carbon finance to pay countries that reduced their national rates of deforestation. Their proposal,[4] which launched an advocacy campaign by a group of tropical forest countries known as the Coalition for Rainforest Nations (CfRN),[5] introduced the concept of REDD (known at the time as Reducing Emissions from Deforestation in Developing countries[6]) and emphasized both the global significance of emissions from tropical deforestation and the serious gap left open by the lack of any recognition of this problem in the Kyoto Protocol. Most importantly, the proposal stated that Papua New Guinea and Costa Rica, along with other supporting countries, were "prepared to stand accountable for [their] contributions to global climate stability, provided [that] international frameworks are appropriately modified, namely through fair and equitable access to carbon emissions markets."[7]

The proposal suggested two possible avenues for deliberations: 1) modifying the current Kyoto Protocol, or 2) devising a new optional "protocol" to include so-called REDD credits in the post-2012 period.[8] Under either approach, countries that reduced their deforestation rates would be able to sell carbon credits equal to the amount of avoided emissions. To the surprise of many observers, the UNFCCC parties endorsed the main components of the proposal and launched a two-year process in the Subsidiary Body for Science and Technical Advice (SBSTA) to explore options for structuring REDD policy mechanisms in a post-2012 agreement.

These meetings covered a range of topics, including measuring, monitoring, and verification; leakage; treatment of forest degradation; treatment of countries with largely intact native forest and low rates of deforestation; and the appropriate policy instrument(s) for channeling carbon finance to REDD activities.

Based on the progress made during this two-year process, the UNFCCC parties decided to incorporate an expanded concept of REDD in the Bali Action Plan (also known as the Bali Roadmap), which established the framework for negotiating a new post-2012 climate change treaty.[9]

Since the Bali Action Plan, REDD has continued to gain traction in the UNFCCC process and in the broader international climate policy community, reflecting general support, both scientific and political, for including new incentives to reduce emissions from tropical deforestation in some form in a post-2012 treaty. Accordingly, at their December 2008 meeting in Poland, the UNFCCC parties put the technical discussions regarding REDD on an accelerated track and established a process to negotiate REDD as part of a new climate treaty.[10] The recently released negotiating text for a new international climate change agreement confirms the overall trend by including a range of options for a REDD mechanism as part of any such agreement.[11]

How does the current effort differ from Kyoto?

Several factors account for the growing recognition that REDD can and should be part of a post-2012 climate agreement.

First, and most important, there is an increased sense of urgency regarding the problem. Simply put, it has become clear that any realistic effort to stabilize the composition of the atmosphere at a level that will avoid dangerous interference with the climate must address tropical deforestation.

Second, proposed new accounting frameworks that would measure emissions from deforestation on the basis of national and subnational jurisdictions (as opposed to the pure project-based accounting under the CDM) combined with the treatment of the forest sector as a source of emissions rather than as a sink allows for better integration with the existing regulatory architecture of mitigation policy and its emphasis on baselines, caps, emissions, and credits for reductions. These proposed new accounting frameworks allay several key environmental integrity concerns that plagued efforts to include avoided deforestation under Kyoto. Under a national accounting framework, intra-country leakage is no longer an issue.[12] Likewise, there is no need to prove additionality under such a framework, as any reduction would be measured relative to a national baseline or specific reference scenario.

Third, rather than follow the failed Kyoto sequence, which sought to bring deforestation (and forest carbon in general) into the climate regime after commitments had been negotiated and agreed upon, efforts to include REDD in the post-2012 framework are proceeding as part and parcel of the overall effort to agree on reduction targets. Thus, the potential supply of REDD credits is being considered on the front end of the overall framework rather on the back end after reduction targets have been negotiated. This approach provides an opportunity to adjust reduction targets to accommodate the expected supply of forest credits in a manner that preserves the overall integrity of the system.

Fourth, capabilities for measuring, monitoring, and verifying reduced emissions from deforestation and forest degradation have improved significantly since Kyoto was negotiated. Although there is still work to be done in refining methodologies to create compliance-grade forest carbon assets, technical advances and the refinement of carbon registries have provided confidence that REDD credits can be designed carefully and with improved environmental integrity.

Fifth, it has become increasingly clear that REDD could be a crucial component of any overall political deal on a post-2012 agreement by breaking the Kyoto logjam and providing an avenue for developing countries to move toward meaningful emissions reductions commitments, perhaps as part of Nationally Appropriate Mitigation Actions (NAMAs). Brazil's announcement at the UNFCCC meeting in Poznan that it would reduce national emissions from deforestation by 70% within ten years on the condition that leading emitters such as the United States and China agree to meaningful targets, exemplifies the critical importance of REDD in the politics of international climate policy.[13]

Ongoing debates, unresolved issues

Although much has changed since Kyoto, there are still a number of unresolved issues regarding whether and how REDD will be included in post-2012 climate policy. Debates are ongoing in the UNFCCC process, for example, regarding the appropriate policy mechanism(s) for including REDD in a future climate regime, and the ways in which different policy mechanisms could be deployed as part of a phased approach.[14] Some countries, such as Brazil, are on record as supporting a fund-based approach,[15] while others, notably the CfRN countries, support market-based approaches contingent upon deeper emissions cuts by the industrialized countries.[16] Work is also ongoing regarding a number of methodological and accounting issues, including how to accommodate high-forest, low-deforestation countries in a REDD mechanism.[17] Participation by forest-dependent peoples and protections for the rights of indigenous peoples and local communities have also been raised as issues needing resolution.[18] Likewise, weak institutional capacity and forest governance have been identified as possible roadblocks to any effective REDD regime.[19] Finally, there are potential issues regarding the impacts of a possible REDD regime on other policies and

practices affecting land use, including biofuels and food production.

How is international forest carbon treated in the EU ETS?

The European Union (EU) has long been skeptical of efforts to bring forests into climate policy. Indeed, even though Kyoto allows for afforestation and reforestation projects under the CDM, the EU expressly excluded any CDM credits for these activities from trading in its chief Kyoto compliance mechanism—the EU Emissions Trading Scheme (EU ETS).[20] With REDD, however, the EU is taking a somewhat more flexible approach in recognition of the growing international prominence of the issue and mounting evidence that a prudent approach to climate stabilization cannot be achieved without dealing with deforestation. Thus, the European Commission released a policy statement in October 2008 urging the international community to reduce tropical deforestation by 50% by 2020, with support in the short term coming from a "global forest carbon mechanism," to be financed with auction revenues from cap-and-trade systems such as the EU ETS. The statement also noted the longer-term possibility of transitioning to direct inclusion of REDD in the carbon markets.[21] Similarly, the climate change package of legislation amending the EU ETS for the post-2012 period, which was adopted by the European Parliament in December 2008, commits the EU to work toward establishing an internationally recognized system for reducing deforestation (and promoting other international forest carbon activities such as afforestation and reforestation) within the context of a post-2012 climate agreement. The new legislation also identifies efforts to reduce emissions from deforestation as eligible for EU ETS auction revenues, and specifies that trading of credits for REDD and other international forest carbon activities in the EU ETS is contingent upon conclusion of an international treaty that includes such activities.[22] In sum, the EU recognizes the importance of REDD and is willing to work toward improved financing for REDD activities, but will not embrace a full-blown market approach to REDD unless and until there is a post-2012 international climate agreement that expressly does so.

How is international forest carbon treated in emerging compliance regimes in the United States?

In contrast to the EU's general skepticism regarding forest carbon and its tentative approach to REDD, efforts to design GHG compliance regimes in the United States (at state, regional, and federal levels) appear far more open to creating robust provisions for international forest carbon. This reflects a deep U.S. historical interest in and leadership on international forest conservation issues, a pragmatic approach to the design of regulation, and perhaps most significantly, an emphasis on the importance of REDD and international forest carbon in dealing with climate change.

International forest carbon and federal cap-and-trade proposals

Since 2007, several leading legislative proposals for a federal cap-and-trade system have included provisions recognizing REDD and other international forest carbon activities. Most recently, the American Clean Energy and Security Act of 2009 (H.R. 2454), introduced by Congressmen Henry Waxman (D-California) and Edward Markey (D-Massachusetts) and passed by the full House Energy and Commerce Committee on May 19, 2009, contains extensive provisions for reduced emissions from deforestation.[23] Specifically, the proposed legislation allocates 5% of annual U.S. emissions allowances from the start of the program through 2025 for REDD capacity building and improved forest governance in developing countries and to achieve "supplemental emissions reductions from reduced deforestation" of 720 million tons in 2020 (equivalent to 10% of U.S. emissions in 2005) and cumulative reductions of 6 billion tons by 2025.[24] This supplemental reduction concept is novel and appears to be driven in part by a desire to gain credibility in the international negotiations on the theory that even if the U.S. cannot agree to the 2020 targets being advanced by the EU (20% below 1990 levels by 2020), it will use some of its allowances to purchase supplemental reductions in the forest sector that would move the U.S. somewhat closer to the EU targets. Of course, even if such provisions survive to enactment, it remains to be seen whether and how tropical countries would participate in such a program given the various requirements attending such participation.

The proposed legislation also provides for international offset credits for reduced deforestation (as part of a substantial pool of international offsets) from three types of activities: (1) national-level activities in countries that have adopted national deforestation baselines that are based on annual historical rates of deforestation and that establish a trajectory resulting in zero net deforestation within 20 years; (2) state- or province-level activities in developing countries that are responsible for more than 1% of global GHG emissions; and (3) project- or program-level activities in countries responsible for less than 1% of global GHG emissions.[25] The latter two categories of eligible activities are subject to a phase out after five years from the date that the U.S. compliance system begins, with the possibility for an additional eight-year extension for project- or program-level activities in least developed

countries.[26] Thus, although these provisions do allow for subnational REDD activities, the phase-outs and other substantive requirements illustrate the strong preference in the U.S. for national-level REDD activities. Finally, the proposed legislation also provides for a "strategic reserve" of allowances as part of a general cost-control mechanism that would be refilled with international offset credits from reduced deforestation.[27]

In contrast to previous U.S. legislative proposals, the Waxman-Markey Discussion Draft requires developing countries that wish to participate in either the set-aside or the offsets program be party to a bilateral or multilateral agreement with the United States governing the relevant activities.[28] Other details regarding eligibility and quality criteria for international offset credits are delegated to future rulemakings.[29] The proposed legislation, however, does mandate that the Administrator "seek to ensure the establishment and enforcement by [participating countries] of legal regimes, standards, and safeguards" that give due regard to the rights and interests of local communities and indigenous peoples, promotes consultation and participation by such stakeholders in reduced deforestation activities, and encourages profit sharing with such groups.[30] Although there are a number of serious questions regarding how the EPA would carry out such responsibilities (and whether EPA is the appropriate entity for doing so), the fact that such provisions are included in the draft legislation reflects the growing importance of this issue and the increased ability of those representing these groups to leverage climate policy (at multiple levels) as a way of enhancing the overall accountability and transparency of the emerging REDD regime.

At this point, it is impossible to determine whether the Waxman-Markey provisions will survive to enactment. Nonetheless, it is important to recognize the considerable progress that their bill represents regarding REDD and international forest carbon. In the previous Congress, the two climate bills introduced by Congressmen Waxman and Markey respectively contained no significant provisions on REDD or international forest carbon, reflecting a lack of attention to the issue and a general skepticism of forest carbon. There were, however, a number of other legislative proposals introduced in the previous Congress that did include significant provisions on REDD and international forest carbon. In the Senate, for example, America's Climate Security Act of 2007 (S. 2191), introduced by Senators Lieberman and Warner, provided an explicit set-aside of emissions allowances for international forest carbon activities in developing countries.[31] More importantly, the substitute amendment (S. 3036) offered by Senator Boxer, the Chairman of the Senate Environment and Public Works Committee, and debated on the Senate floor in June 2008, contained expansive provisions for international forest carbon, including a set-aside provision like that proposed in the Lieberman-Warner bill and a provision that provided a pool of offset allowances (up to an amount equal to 10% of the total amount of allowances allocated under the cap) for international forest carbon activities undertaken in countries that have adopted national accounting frameworks.[32] The major differences between these legislative proposals and the current Waxman-Markey legislation include 1) the scope of eligible activities, with Waxman-Markey covering only reduced deforestation and the Boxer-Lieberman-Warner bill covering the full range of international forest carbon activities (REDD, afforestation, reforestation, and improved forest management); 2) the allowance for subnational activities (for a limited time) under Waxman-Markey; 3) the *ex ante* requirement of an agreement or arrangement with the national government before any REDD activities (at whatever level) can be eligible to generate international offsets; and 4) the size and mandated use of the allowance set-aside under Waxman-Markey for significant supplemental reductions.

In many ways, the momentum behind REDD and international forest carbon in the United States reflects the emergence of a broad-based consensus among leading environmental NGOs and prominent U.S. companies that this should be included in U.S. climate policy. This emerging consensus is manifest most prominently in the work of a number of climate-related coalitions of NGOs and the business community, including the Forest Carbon Dialogue, Avoided Deforestation Partners, and the U.S. Climate Action Partnership (USCAP),[33] which has endorsed the "development of measures and incentives, through both U.S. legislation and within a multilateral framework, that aim to reduce emissions from deforestation and land-use change"[34] and the role of international forest carbon as important components of cost-control efforts in a federal cap-and-trade system.[35]

Of course, there are still a number of unresolved issues regarding how REDD and/or international forest carbon should fit within U.S. climate legislation. Specifically, questions remain regarding the proper scope of eligible activities (i.e., REDD only or the full suite of international forest carbon activities). There are also significant questions regarding the inclusion of subnational level activities and projects (in addition to national-level activities) in international forest offset provisions. At a more general level, there is ongoing debate regarding quantitative limits attending the use of offsets, with opponents of offsets raising concerns

about market flooding and the potential dilution of incentives to make reductions in core domestic sectors such as electric power, and supporters pointing out that expansive provisions are needed to send a sufficiently strong signal to the market in order to promote investment in such activities.

As in the international discussions, there are also lingering questions in the U.S. context regarding measurement, monitoring, and verification capabilities for REDD and/or international forest carbon as well as questions whether sufficiently rigorous quality criteria can be established to ensure the environmental integrity of any offset allowances from such activities and that local communities share in the benefits. Questions have also been raised about potential competition with domestic offset providers. Finally, objections have been raised that these sorts of provisions will operate as wealth transfers to developing countries ("shipping U.S. dollars abroad"), including countries with poor performance in forest governance and an overall lack of transparency.

In sum, the effort to bring REDD and international forest carbon into U.S. climate legislation is an ongoing process, but one that appears to be proceeding on a track that is independent of (though largely consistent with) the international negotiations. Although there are still a number of unresolved issues on the implementation side, there is growing recognition within the U.S. climate policy community that the U.S. has an important opportunity to lead on this issue by creating provisions in its own GHG compliance regime that will recognize and support REDD and international forest carbon activities in a manner that ensures environmental integrity and facilitates similar efforts in other fora.

International forest carbon and emerging GHG compliance regimes at state and regional levels

In addition to ongoing progress in the federal legislative arena, international forest carbon is also gaining traction among efforts to construct subnational GHG compliance regimes in the United States. California, for example, is actively exploring provisions that will recognize efforts to reduce emissions from deforestation and enhance sequestration through other forest carbon activities in developing countries. The recently approved Air Resources Board (ARB) Scoping Plan which provides the framework for implementing California's climate change legislation[36] recognizes "the importance of establishing mechanisms that will facilitate global partnerships and sustainable financing mechanisms to support eligible forest carbon activities in the developing world" and specifically identifies the possibility of accepting offsets from "those jurisdictions that demonstrate performance . . . in reducing emissions or enhancing sequestration through eligible forest carbon activities in accordance with appropriate national or subnational accounting frameworks."[37]

In an effort to further this goal, California, along with Wisconsin and Illinois, recently signed Memoranda of Understanding (MOUs) with four Brazilian states (Amapá, Amazonas, Mato Grosso, and Pará) and two Indonesian provinces (Aceh and Papua) at the Governors' Climate Change Summit on November 18, 2008.[38] Although the MOUs provide a foundation for future cooperation on a number of climate policy, financing, technology exchange and research issues, the parties expressly recognize the importance of the forest sector,[39] and have committed to "developing rules to ensure that forest-sector emissions reductions and sequestrations, from activities undertaken at the subnational level, will be real, measurable, verifiable and permanent, and capable of being recognized in compliance mechanisms."[40] The MOU states are currently engaged in an effort to develop these rules and build a regulatory architecture that allows interoperability between their systems.

This represents the first effort (at any level of governance) to move into what might be called the "proof of concept" stage in the ongoing effort to bring international forest carbon activities into existing and emerging GHG compliance regimes. As such, the effort carries global significance as a signal to other governmental entities and to the broader climate policy community that this is achievable and that there will be a meaningful process of transnational cooperation among the MOU states to develop workable frameworks and mechanisms for generating compliance-grade assets from international forest carbon activities in Brazil and Indonesia and bringing such assets into existing and emerging compliance regimes in the United States. This is particularly relevant to the ongoing discussions in Congress regarding international forest carbon provisions in a federal cap-and-trade system because much of the regulatory cooperation that is being done through the MOU process could provide significant content and important lessons for future federal efforts to develop the necessary rules and regulations for bringing international forest carbon into a federal GHG compliance market. It also illustrates the diverse, pluralistic nature of global climate policy, and the very important role of subnational entities as early drivers.

Conclusion

There are a variety of policy options and legal frameworks for bringing international forest carbon into GHG compliance markets—from full-scale incorporation in a post-2012 international regime to partial recognition in emerging regional, national, or subnational regimes. Although considerable progress has been made over the last several years in resolving some of the challenges and moving toward the design of viable policy mechanisms, there is much work to be done. Further policy development in both the international and domestic (U.S.) contexts will require firm and effective leadership and coordination across multiple jurisdictions to ensure that environmentally robust forest carbon becomes a part of climate governance.

References

1 The so-called Bali Ac tion Plan, which was put forth by the UNFCCC Parties at COP 13 in Bali Indonesia in 2007 as a "road map" for the post-2012 negotiations, expressly directs that REDD be included in the negotiations. See Bali Action Plan, Decision _-/CP.13. http://unfccc.int/files/meetings/cop_13/application/pdf/cp_bali_action.pdf.

2 The UNFCCC provides, inter alia, that policies and measures to address climate change should be "comprehensive" and "cover all relevant sources, sinks, and reservoirs of greenhouse gases." UNFCCC Article 3(3). The Convention further directs the Parties to "promote sustainable development, and promote and cooperate in the conservation and enhancement . . . of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests, . . . as well as other terrestrial . . . ecosystems." UNFCCC Article 4(d)(1). Building on this, the Kyoto Protocol contains several open-ended provisions intended to accommodate forests and land use—also known as Land Use, Land-Use Change, and Forestry (LULUCF). Article 3(3), for example, provides that "removals by sinks resulting from human-induced land-use change and forestry activities, limited to afforestation, reforestation, and deforestation since 1990, measured as verifiable changes in carbon stocks in each commitment period, shall be used to meet the commitments" for the Annex I Parties. Kyoto Protocol 3(3).Decision 11/CP.7, Annex, Definitions, Modalities, and Guidelines Relating to Land Use, Land-Use Change, and Forestry Activities under the Kyoto Protocol, FCCC/CP/2001/13/Add.1 (2002). 2–3, 13 and Annex 14. The Marrakesh Accords also imposed substantial quantitative restrictions on eligible forestry credits, limiting the use of such credits to 1% of any Annex I Party's overall commitments, and called for the development of definitions and modalities for including afforestation and reforestation project activities under the CDM in the first commitment period, taking account of issues such as impermanence, additionality, and leakage. The Marrakesh Accords also expressly required that the treatment of LULUCF activities in future commitment periods would be "decided as part of the negotiations on the second commitment period." Ibid. at ¶ 15.

3 Eric C. Bettelheim and Gilonne d'Origny. 2004. Carbon sinks and emissions trading under the Kyoto Protocol. In *Capturing Carbon and Conserving Biodiversity: The Market Approach*, ed. Ian R. Swingland. 285 (emphasizing the inconsistency between the rules excluding avoided deforestation and restricting afforestation and reforestation in developing countries and those that allow Annex I countries to account for all forest activities in their own national accounting).

4 Reducing Emissions from Deforestation in Developing Countries: Approaches to Simulate Action, FCCC/CP/2005/MISC.1. (2005), available at http://unfccc.int/resource/docs/2005/cop11/eng/misc01.pdf. The substance of the proposal drew directly on a proposal first articulated at COP 9 in 2003 by a group of Brazilian and American researchers. See Marcio Santilli et al, Tropical Deforestation and the Kyoto Protocol: A New Proposal (2003) at 3 (proposing approach known as compensated reduction in which developing countries would be compensated for reducing their national rate of deforestation during the first Kyoto commitment period relative to a national historical baseline rate).

5 The original group of countries that supported the proposal by Papua New Guinea and Costa Rica included Bolivia, Central African Republic, Chile, Congo, Democratic Republic of Congo, Dominican Republic, and Nicaragua. Since 2005, countries participating within the various activities of the Coalition for Rainforest Nations include: Bangladesh, Belize, Central African Republic, Cameroon, Congo, Colombia, Costa Rica, DR Congo, Dominican Republic, Ecuador, Equatorial Guinea, El Salvador, Fiji, Gabon, Ghana, Guatemala, Guyana, Honduras, Indonesia, Kenya, Lesotho, Liberia, Madagascar, Malaysia, Nicaragua, Nigeria, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Samoa, Sierra Leone, Solomon Islands, Suriname, Thailand, Uruguay, Uganda, Vanuatu and Viet Nam. See http://www.rainforestcoalition.org/eng/.

6 Originally REDD did not include forest degradation, but later documents and decisions included this concept.

7 RReducing Emissions from Deforestation in Developing Countries: Approaches to Simulate Action, FCCC/CP/2005/MISC.1. (2005), available at http://unfccc.int/resource/docs/2005/cop11/eng/misc01.pdf.

8 Ibid.

9 Bali Action Plan, Decision __/CP.13. The Bali meeting also took a separate, more detailed REDD decision, encouraging further work on policy approaches and methodological issues as well as the initiation of pilot projects in key countries. See Reducing Emissions from Deforestation in Developing Countries: Approaches to Stimulate Action, Decision -/CP.13.

10 Since Poznan, the debate about the appropriate legal structure for a REDD mechanism has intensified, with increased attention to the question of how Nationally Appropriate Mitigation Activities (NAMAs) and REDD might work together. The topic of NAMAs has emerged as a key focus of efforts to facilitate developing country involvement, beyond project-based CDM, in a post-2012 agreement. There are many operational questions unanswered about how NAMAs would work, but there is a general recognition that some new registration system would be required whereby countries that develop national plans to mitigate greenhouse gases could recruit contributions from developed countries to assist in implementation and register the reductions from such activities. An important and unresolved question regarding NAMAs is whether the registration, funding and verification of such reduction activities done under a NAMA mechanism would generate fungible carbon credits. See http://unfccc.int/resource/docs/2009/awglca5/eng/04p01.pdf. Part 1, paragraphs 26 and 28.

11 Negotiating Text, Ad Hoc Working Group on Long-term Cooperative Action Under the Convention, FCCC/AWGLCA/2009/9 (19 May 2009), paragraphs 106–128.

12 Although international leakage is an issue, this is no different than for other sectors.

13 Joshua Partlow. 2008. Brazil's deforestation decision draws praise. *Washington Post*, December 6.

14 For an overview of different options for including REDD in a post-2012 climate agreement, with specific endorsement of a phased approach that utilizes different instruments depending on national circumstances, see A. Angelsen, S. Brown, C. Loisel, L. Peskett, C. Streck, and D. Zarin. 2009. Reducing Emissions from Deforestation and Forest Degradation (REDD): An Options Assessment Report. http://www.REDD-OAR.org.

15 The Brazilian government has advocated a fund-based approach that would operate outside of the GHG compliance markets and would channel money to national governments based on demonstrated reductions in emissions from deforestation on a national scale. See Brazilian Perspective on Reducing Emissions from Deforestation, Paper No. 4, Views on Issues Related to Further Steps under the Convention to Reducing Emissions from Deforestation in Developing Countries, FCC/SBSTA/2007/MISC.2.

16 The Coalition for Rainforest Nations has endorsed full-scale integration with the carbon markets, as part of a larger "basket of approaches," that would allow demonstrated national-level reductions in deforestation to qualify for emissions reductions credits (or offsets) that could be traded in one or more compliance regimes. See Joint Submission of Bolivia, Central African Republic, Costa Rica, Democratic Republic of Congo, Dominican Republic, Fiji, Ghana, Guatemala, Honduras, Kenya, Madagascar, Nicaragua, Panama, Papua New Guinea, Samoa, Solomon Islands, and Vanuatu, Paper No. 3, Views on Issues Related to Further Steps under the Convention to Reducing Emissions from Deforestation in Developing Countries, FCC/SBSTA/2007/MISC.2; Joint Submission

of Belize, Bolivia, Cameroon, Central African Republic, Congo, Costa Rica, Democratic Republic of Congo, Dominican Republic, Equatorial Guinea, Gabon, Ghana, Guatemala, Guyana, Honduras, Kenya, Lesotho, Liberia, Madagascar, Panama, Papua New Guinea, Singapore, Solomon Islands, Thailand, Uganda, and Vanuatu, Submission of Views: Reducing Emissions from Deforestation in Developing Countries: Approaches to Stimulate Action, FCCC/SBSTA/2008/MISC.4.

17 See, e.g., Information on Experiences and Views on Needs for Technical and Institutional Capacity-Building and Cooperation: Submissions from Parties, Reducing Emissions from Deforestation in Developing Countries: Approaches to Stimulate Action, FCCC/SBSTA/2009/MISC.2.

18 This issue was taken up by SBSTA at its 30th session in 2009. See Issues Relating to Indigenous Peoples and Local Communities for the Development and Application of Methodologies: Submissions from Parties, Reducing Emissions from Deforestation in Developing Countries: Approaches to Stimulate Action, FCCC/SBSTA/2009/MISC.1. For critical reviews of the issue, see Tom Griffiths, Seeing REDD: Forests, Climate Change, and the Rights of Indigenous Peoples and Local Communities, Forest Peoples Program (2008).

19 Saunders et al. 2008. *Forest Governance and Reduced Emissions from Deforestation and Degradation*. Chatham House.

20 Directive 2004/101/EC of the European Parliament and of the Council of 27 October 2004 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in respect of the Kyoto Protocol's project mechanisms (2004) (The Linking Directive) http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:338:0018:0023:EN:PDF.

21 European Commission. 2008. Addressing the Challenges of Deforestation and Forest Degradation to Tackle Climate Change and Biodiversity Loss, COM 645/3. The Commission proposed to dedicate up to 5% of the auction revenues from the EU ETS as a source of financing for the Global Forest Carbon Mechanism.

22 European Parliament. 2008. Resolution and amendments to Commission Proposal to improve and extend the greenhouse gas emission allowance trading system of the Community (Dec. 17). http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P6-TA-2008-0610+0+DOC+XML+V0//EN&language=EN.

23 American Clean Energy & Security Act of 2009 (ACESA) (H.R. 2454).

24 Ibid. The side-aside percentage declines to 3% for the years 2026 through 2030 and 2% for the years 2031 through 2050. The discussion draft provides further that if the Administrator of EPA is unable to achieve the required supplemental reductions, it must take additional allowances from the cap in order to do so.

25 Ibid. The total amount of offsets (international and domestic) available under the program is determined by a formula: 2 billion divided by the sum of 2 billion plus the cap for any particular year to get the portion of offsets that a regulated entity can use to satisfy its compliance obligations (half of which can come from domestic offsets and half of which can come from international offsets). Thus, in the initial years when the cap is approximately 5 billion tons, each regulated entity can satisfy roughly 28% (2/7) of its compliance obligations with offsets, half of which can come from international offsets.

26 Ibid (Part D, Section 743e).

27 Ibid. The strategic reserve provides for quarterly auctions of allowances at a minimum strategic reserve price. Revenues from these auctions can then be used to purchase international offset credits from reduced deforestation, which are then retired in lieu of new strategic reserve allowances after taking a 20% discount.

28 Ibid.

29 Ibid.

30 Ibid.

31 See America's Climate Security Act of 2007 (S. 2191) Title III, Subtitle H – International Forest Protection, §§ 3801–3806. As amended in subcommittee, the provision sets aside 2.5% of the total allowances available under the cap for eligible international forest protection activities.

32 The total amount of the set-aside was reduced from 2.5% of allowances to 1%. S. 3036. Although no amendments were debated during the Senate floor discussion of the bill, several important amendments were filed that contained extensive provisions for international forest carbon, including most prominently a cost-control amendment sponsored by Senator Stabenow (D-Michigan) that had a bipartisan group of co-sponsors and significant support from a number of regulated entities and prominent trade associations representing the U.S. agricultural community.

33 U.S. Climate Action Partnership (USCAP). 2009. A Blueprint for Legislative Action. http://www.us-cap.org/pdf/USCAP_Blueprint.pdf. The Blueprint presents recommendations for federal climate legislation from thirty major corporations and environmental NGOs.

34 USCAP Blueprint at 5.

35 Ibid. at 9–10.

36 The California Global Warming Solutions Act of 2006 (AB 32).

37 California Air Resources Board (CARB). 2008. Climate Change Proposed Scoping Plan: A Framework for Change. (October 2008; approved December 2008), 38 and 115. http://www.arb.ca.gov/cc/scopingplan/document/psp.pdf. Memorandum of Understanding (MOU) Article 2(b). http://gov.ca.gov/press-release/11101.

38 http://site.governorsglobalclimatesummit.org/News.html.

39 As contemplated in Article 2(a) of the MOUs, the parties intend to cooperate on a range of forest sector activities, including "reducing greenhouse gas emissions from deforestation and land degradation—otherwise known as 'REDD'—and sequestration of additional carbon through the restoration and reforestation of degraded lands and forests, and through improved forest management practices."

40 MOU Article 2(b).

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