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Towards results-based REDD+ mechanisms

“ Robust and thorough guidance is needed to ensure that the rapid development of national REDD+ frameworks...will result in an effective, efficient and equitable mechanism at the global scale. ”

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In December 2010, robust science, civic engagement and political will converged to establish an international mechanism to Reduce Emissions from Deforestation and Degradation (REDD) in developing countries under the UN Framework Convention on Climate Change (UNFCCC). In addition to addressing deforestation and forest degradation, the policy framework, established in Cancun, Mexico, includes conservation, sustainable management of forests and enhancement of forest carbon stocks. Taken together, these five activities constitute REDD+ [101].

The Cancun Agreements, adopted by the 16th Conference of the Parties to the UNFCCC, officially set the international REDD+ mechanism in motion. However, work on the REDD+ policy framework is not yet complete, as two critical and overarching issues need to be resolved before REDD+ can be used as a tool to address climate change: financing for phase III, the results-based phase of REDD+; and the technical and methodological elements needed for REDD+ implementation.

Finance for phase III of REDD+

The Cancun Agreements operationalized phases I and II of an international REDD+ mechanism, the readiness and demonstration phases, respectively. Phases I and II are already underway in dozens of developing countries, with financial support provided in part by developed countries and administered through bilateral and multilateral channels [102–104]. Full implementation (phase III) of national-scale REDD+ mechanisms will

be results based; that is, compensation will be awarded per ton of net emissions reduction achieved. A financial mechanism for phase III has not yet been agreed under the UNFCCC; financing could potentially be accomplished through bilateral or multilateral funds, an international carbon market, market-linked financial mechanisms, or a hybrid approach.

Financing for the full implementation of REDD+ has been one of the most contentious issues in the negotiation of an international mechanism. In one sense, the debate over phase III finance reflects continued tension with regard to the respective roles and responsibilities of developed versus developing countries in a global climate agreement. A divergence of views on the appropriateness of public versus private finance also exists in a specific REDD+ context. Countries in favor of market finance contend that mobilizing the private sector is necessary to achieve the scale of financing required to successfully achieve climate mitigation on a global scale, and recent estimates of the cost to cut deforestation in half range from US\$12 to 35 billion/year [1–3,105,106]. In addition, utilizing private sources to finance REDD+ may free up limited public funds for climate-related activities that are not suitable for market finance, such as adaptation.

Opponents of private finance for REDD+ object to the potential for international carbon markets to result in commoditization of developing countries' forests. They argue that allowing forest carbon to be purchased by private investors would effectively devalue the non-carbon aspects of the forest resource, which include

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providing homes and livelihoods to forest-dependent peoples, providing ecosystem services, harboring biodiversity, and regulating local and regional climate. Such a market failure would violate the social and environmental safeguards that lie at the heart of a functioning REDD+ mechanism.

Preliminary discussions on how to move forward with the discussion of phase III finance for REDD+ occurred in June 2011 and reinforced the wide range of countries' views. More general discussions on mitigation and finance are, however, much less advanced than those on REDD+. Because the funding mechanism(s) for REDD+ must be consistent with the architecture of an overarching global agreement, little substantive progress on phase III financing will be possible until many of these larger political issues are resolved.

Robust technical & methodological guidance is necessary for REDD+ to be effective at all scales

Although an agreement on results-based finance for REDD+ is not likely in the near term, billions of dollars have already been pledged for phases I and II. Much of this funding will be used to develop technical and methodological elements of national REDD+ mechanisms in preparation for full implementation. The Cancun Agreements identified a total of five such elements to be addressed by Parties under the UNFCCC:

- Identification and assessment of land use, land use change and forestry activities in developing countries that are linked to drivers of deforestation;
- Modalities for forest monitoring systems;
- Modalities for forest reference emission levels and reference levels (the common interpretation is that reference emission levels are used for assessing progress toward reducing deforestation and forest degradation, while reference levels apply to the impacts of conservation, sustainable management of forests, and enhancement of forest carbon stocks);
- Guidance for systems of information on how social and environmental safeguards are addressed and respected;
- Modalities for measuring, reporting and verifying (MRV) anthropogenic emissions, removals and changes in forest carbon stock and forest area.

Parties met for the first time to discuss the last four of these issues in June 2011 and many expressed the desire to have a decision on guidance and modalities in December 2011. Although this decision will necessarily

be broad in scope and relatively shallow in terms of detail, it will lay the foundation for future work and constitute an important signal to stakeholders that robust guidance for REDD+ is a priority under the UNFCCC. Phase I and II activities currently underway include the development of information systems, reference scenarios, MRV frameworks and forest monitoring systems [102–104]. While funding institutions have provided preliminary guidance on some of these elements, there is currently no set of commonly accepted and used guidelines or modalities for how these elements should be established. Without clear, overarching guidance from the UNFCCC that applies across funding arrangements and countries, there is a danger that frameworks currently under development will evolve into a patchwork of disparate, incomparable national mechanisms that will preclude the effectiveness of REDD+ as a global mitigation strategy.

Arguably, guidance is needed most urgently on two elements in particular: forest monitoring systems and reference emission levels/reference levels. Although each of the five elements is critically important to the success of REDD+ at all scales, guidance on these two elements must be provided as soon as possible to inform phase I and II activities currently underway.

Reference emission levels/reference levels provide the benchmark of business-as-usual net emissions against which the impacts of REDD+ activities will be assessed, and, thus, also inform the provision of financial compensation in a results-based mechanism. In order for REDD+ to function at the international level, a ton of net emissions reductions in one REDD+ country must be equivalent to a ton of net emissions reductions in any other participating country. This requires the scenarios underlying reference emission levels/reference levels to be defined and developed consistently and comparably across all countries. The current lack of common guidance and principles for setting reference scenarios is a gap that must be addressed by the UNFCCC to ensure that reference emission levels/reference levels currently under construction are consistent with goals and safeguards agreed upon for REDD+.

The second element, forest monitoring systems, provides information on anthropogenic emissions and removals, forest carbon stocks and changes in forest area that will underlie results-based REDD+ mechanisms. Guidance from the Intergovernmental Panel on Climate Change provides a viable first step for developing a forest monitoring system [4,5], while emerging approaches based on satellite remote sensing calibrated with inventory measurements can be used



to improve the accuracy and efficiency of more traditional methodologies [6–8]. Forest monitoring informs all elements of a REDD+ mechanism, including the formulation of reference emission levels/reference levels, MRV systems, carbon accounting and compensation frameworks, and information systems for safeguards. It is critical that forest monitoring systems be able to respond to the range of information requirements that will arise under a results-based mechanism. As progress continues apace under phases I and II, guidance and guidelines must be in place to ensure that the forest monitoring systems are robust, transparent and compatible with the development and full implementation of REDD+ elements.

Moving ahead with policy & technical guidance for REDD+

The need for additional guidance on forest monitoring systems and reference emission levels/reference levels in the near term is critical to the long-term success of

REDD+ at the global scale. This observation in no way diminishes the importance of work on the remaining policy, methodological and technical elements, but is rather a response to the accelerating pace of REDD+ activities in developing countries and the most time-sensitive gaps in guidance. Robust and thorough guidance is needed to ensure that the rapid development of national REDD+ frameworks currently underway follows a path that will result in an effective, efficient and equitable mechanism at the global scale.

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Bibliography

- 1 Busch J, Strassburg B, Cattaneo A *et al.* Comparing climate and cost impacts of reference levels for reducing emissions from deforestation. *Environ. Res. Lett.* 4, 044006 (2009).
- 2 Commission of the European Communities. Addressing the challenges of deforestation and forest degradation to tackle climate change and biodiversity loss: impact assessment. *The European Economic and Social Committee, and the Committee of the Regions*. Brussels, Belgium, 6–7 October 2008.
- 3 Eliasch J. *Climate Change: Financing Global Forests*. The Stationery Office Ltd, Norwich, UK (2008).
- 4 National Greenhouse Gas Inventories Programme. *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. Eggleston S, Buendia L, Miwa K, Ngara J, Tanabe K (Eds). Institute for Global Environment Strategies, Hayama, Japan (2006).
- 5 National Greenhouse Gas Inventories Programme. *Good Practice Guidance for Land Use, Land-Use Change and Forestry*. Penman P, Gytarsky M, Hiraishi T *et al.* (Eds). Institute for Global Environment Strategies, Hayama, Japan (2003).
- 6 Baker DJ, Richards G, Grainger A *et al.* Achieving forest carbon information with higher certainty: a five-part plan. *Environ. Sci. Policy* 13, 249–260 (2010).
- 7 Goetz SJ, Dubayah RO. Advances in remote sensing technology and implications for measuring and monitoring forest carbon stocks and change. *Carbon Manag.* 2(3), 231–244 (2011).
- 8 Houghton RA, Greenglass N, Baccini A *et al.* The role of science in Reducing Emissions from Deforestation and Forest Degradation (REDD). *Carbon Manag.* 1(2), 253–259 (2010).

▪ Websites

- 101 UN Framework Convention on Climate Change. Decision 1/CP.16, The Cancun Agreements: outcome of the work of the *Ad Hoc* Working Group on Long-term Cooperative Action under the Convention. <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf#page=2>
- 102 Forest Carbon Partnership Facility. www.forestcarbonpartnership.org/fcp/node/203
- 103 UN-Reducing Emissions from Deforestation and Forest Degradation. www.un-redd.org/AboutUNREDDProgramme/NationalProgrammes/tabid/584/Default.aspx
- 104 Voluntary Reducing Emissions from Deforestation and Forest Degradation Plus Database. <http://reddplusdatabase.org>
- 105 Union of Concerned Scientists. Out of the woods: a realistic role for tropical forests in addressing global warming. www.ucsusa.org/REDD
- 106 Reducing Emissions from Deforestation and Forest Degradation (REDD): an options assessment report. www.REDD-OAR.org