

Nested Projects and REDD+ *Briefing Document*

This work was made possible by:



*



* This publication is made possible by the generous support of the American people through the United States Agency for International Development (USAID), under the terms of the TransLinks Cooperative Agreement No.EPP-A-00-06-00014-00 to The Wildlife Conservation Society. TransLinks is a partnership of WCS, The Earth Institute, Enterprise Works/VITA, Forest Trends and The Land Tenure Center. The contents are the responsibility of the author(s) and do not necessarily reflect the views of USAID or the United States government.

Nested Projects and REDD+

Briefing Document

Prepared by: Forest Trends and Climate Focus



Forest Trends' mission is to maintain, restore, and enhance forests and connected natural ecosystems, life-sustaining processes, by promoting incentives stemming from a broad range of ecosystem services and products. Specifically, Forest Trends seeks to catalyze the development of integrated carbon, water, and biodiversity incentives that deliver real conservation outcomes and benefits to local communities and other stewards of our natural resources.

Forest Trends analyzes strategic market and policy issues, catalyzes connections between producers, communities and investors, and develops new financial tools to help markets work for conservation and people.



CLIMATEFOCUS

Climate Focus is an advisory company committed to the development of policies and projects that reduce greenhouse gas emissions. Our international and multidisciplinary team works closely with companies, governments and non-governmental organizations on reducing emissions in energy, households, industry, agriculture and forestry. Climate Focus is an independent expert in international and national climate law, policies, project design and finance.

Table of Contents

1.	Introduction.....	8
2.	International REDD+ Developments.....	9
3.	Government Considerations.....	11
4.	Review of Nesting Issues and Options.....	12
4.1	Distribution of Incentives	14
4.2	Regulatory Aspects.....	17
4.3	Definition of Risk Mitigation Tools	21
4.4	Measurement and Monitoring	22
4.5	Baselines or Reference Levels.....	25
4.6	Leakage.....	28
4.7	Phased Approach	29
	References.....	33

Executive Summary

There is consensus in climate negotiations that efforts associated with Reducing Emissions from Deforestation and Degradation (REDD+) will ultimately be measured and rewarded based on national-level accounting systems. But while developing countries build capacity to implement and manage these national systems, initiatives are evolving rapidly at the state, provincial and project levels, and were formally acknowledged in the Cancun decision of the UNFCCC. Integrating these different accounting scales will be crucial to ensure the environmental integrity of the system as a whole and to mobilizing finance.

This briefing document presents the issues and options stemming from the ‘nesting’ of REDD+ projects developed at the local level with broader subnational or national systems. The nesting of projects has garnered the interest of many parties and analysts for a number of reasons. First, it allows incentives to be placed at the appropriate level of governance. While broader policy reforms may take years to be implemented, REDD+ action may be developed faster at the project level, delivering near-term emission reductions. Secondly, the project level is also a key entry point for private sector engagement, and may provide important options for direct community-level participation in REDD+. Finally, subnational activities can make important contributions to emerging national frameworks for REDD+ management and accounting. Establishing local investment mechanisms and measurement, reporting and verification (MRV) capacity in advance of national frameworks is providing valuable experience to inform broader architectures and capacity.

Though this paper focuses on the issues surrounding nested projects, this should not be interpreted to imply that these are countries’ main or only option to reduce deforestation and degradation. Other and often more powerful levers for shifting land-use and deforestation trajectories are available. These include command-and-control measures, security in land tenure, climate-smart agriculture, infrastructure planning, as well as policy reforms in forestry, agriculture and finance that affect land-use economics. Governments’ decisions about the appropriate choice and combination of policy and instruments for REDD+, and the specific role of project-based approaches, will involve tradeoffs and vary depending on factors such as specific drivers of deforestations, governance, political system and legal land status.

While the focus of this paper is on the nesting and integration of projects into broader subnational and national systems, the importance of nesting of states and provinces (and their equivalents) into national systems should not be overlooked. All different scales of accounting will eventually need to be brought into play and reconciled so as to co-exist in a concerted manner.

Distribution of Incentives

REDD+ incentives could take the form both of carbon credits (recognized in voluntary and/or regulated markets) and results-based payments from public sources (e.g., Green Climate Fund, bilateral REDD+ funding). There are a number of options available for issuing and distributing these incentives under nested REDD+ which depend in part on ongoing international negotiations. Options might include direct distribution of incentives from the International REDD+ System to projects as well as jurisdictions (as under the Clean Development Mechanism) or direct distribution to national and/or subnational governments with a

subsequent (indirect) distribution to subnational levels or projects. Governments with the authority to allocate rights to credits or funds will need to make policy choices, including whether to (i) incentivize project activities (striking a balance between these and use of funding for policies and programs), (ii) allocate tradable credits or distribute benefits/payments to these projects; and (iii) define the criteria or basis for allocating incentives.

Regulatory Aspects

Regulations and institutional setup for REDD+ will have a considerable impact on the ability of nesting approaches to ensure credible emissions reductions and to attract private investment. Issues and options that may deserve particular attention of both international as well as national policymakers include:

- Enacting national REDD+ guidance to serve as the backbone for more detailed regulations as the domestic system evolves. The general guidance could provide clarification on the scope of REDD+ and the principles guiding REDD+ implementation at the different levels, and the basic institutional setup.
- Defining the basic institutional setup, including defining the main regulatory entity responsible for overseeing domestic implementation and the contours of the powers attributed that entity. The regulatory entity may be an autonomous entity and/or be assisted by a standing committee com technical/scientific committee of technical experts and representatives of civil society.
- Establishing approval procedures at the international as well domestic level. At the international level, a dedicated system for approving projects and/or subnational level programs could be created following the initial criteria set by Cancun UNFCCC decision. At the domestic level, countries and jurisdictions could make determinations on what is required to approve or endorse projects, who proposes and registers subnational reference levels, when independent verification is needed, and the relevant consultation procedures.
- Creating a registry to support domestic policy options. A registry could function as an electronic database that is designed to evolve over time as domestic MRV capacities grow. Key issues and options would relate to the existence of central and jurisdictional registries, institutional arrangements, level of information to be recorded, and the use of the registry to clarify titling.

Risk Mitigation Tools

Risk mitigation mechanisms could be designed at two different levels: project level and the jurisdictional level. At the *project-level*, risks mitigation tools may be needed to address the issue of permanence and insure against reversal of stocks and emissions. When rewards or incentives for subnational project activities is linked to the overall performance of the *jurisdiction*, commonly cited risk management tools include: (i) buffer and reserve accounts; (ii) insurance mechanisms for reversal of carbon stocks; (iii) government guarantees; and (iv) penalty fees for sanctioned deforestation. These risk mitigation tools could be applied in many different combinations. Issues and options include defining the basket of risk mitigation tools available both at domestic as well as international level.

Measurement and Monitoring

Measuring and monitoring emissions from forests and land-use is increasingly feasible. An agreed international consensus exists regarding the guidance for measuring and monitoring land use, land-use change and forestry. Many specific parameters will, however, be determined at the domestic level in order to ensure that forest cover, forest condition and carbon stocks measured at different nested levels is consistent. Following this principle of consistency requires standardizing the use of certain elements and concepts, while other methodological decisions can be left to developers at the project and jurisdictional level.

Issues and options that could be considered by countries and jurisdictions, as well as by the International REDD+ System include (i) a definition of forest that is common and applicable at multiple scales; (ii) the definition of eligible activities and how to account properly for the different land-used and forestry activities taking place at different scales; and (iii) the harmonization of accounting periods for REDD+ activities implemented in different time periods.

Baselines/Reference Levels

Reference levels or baselines, by definition, cannot be observed or measured. The technical and political challenges of setting baselines are further compounded in nested forms of REDD+ because baselines at different scales must be consistent and coherent.

Under the UNFCCC, negotiations on reference levels for countries are politically charged and options discussed for establishing this rate include using historical averages or some other means of projection adjusting for national circumstances. At least as challenging, both technically and politically, is determining how this reference level will be distributed within national (or subnational) boundaries: in essence, predicting the future location of deforestation as the basis for targeting and allocating incentives for reducing emissions.

Options to develop and integrate baselines from projects and from jurisdictions for nested approaches include:

- disaggregate or bottom-up, in which multiple project-specific baselines are developed largely independently; or
- consolidated or top-down, where spatially explicit regional baselines are developed and used to zone and stratify the forest landscape to predict the rate, location and timing of future deforestation.

Leakage

Reducing the risk of leakage is frequently cited as an important reason for moving to jurisdiction-level accounting. Project-level activities intrinsically have the potential to displace emissions, through activity-shifting, market or other effects, to areas outside their project boundaries. While jurisdiction-wide accounting, in principle, resolves the problem of leakage, under a nested approach leakage still poses risks to the environmental integrity of projects (and overall jurisdictions) inasmuch as it reduces the true net emissions reductions that a given project activity achieves.

Current approaches to dealing with leakage under project-level accounting standards (e.g., CDM, VCS) include improving design of project activities to minimize leakage risks, accounting for leakage within a monitored “leakage belt” that covers the range of displaced agents and their activities, and making use of discount factors. At the jurisdictional level, options to deal with leakage include applying the aforementioned project-approaches, the use of a leakage tax leakage, and/or having jurisdictions assuming the leakage risk in order to spur private investments.

Phased Approach to Nesting

Countries and jurisdictions may opt to implement nested forms of REDD+ through progressive phases. This step-wise approach is one of the main advantages of ‘nesting’ and allows governments to move from independent accounting of projects to nested projects within subnational jurisdictions, and finally to a full-fledged national accounting system. These phases could be consistent with the general REDD+ implementation phases acknowledged in the Cancun UNFCCC decision.

For those countries willing to support subnational implementation of REDD+ prior to the establishment of a national accounting system, it would be important to establish some guidance at the domestic as well as international level. At the international level countries participating in the International REDD+ System could opt to promote early engagement in nesting by explicitly acknowledging that projects could be recognized internationally, provided these receive country/jurisdictional approval and abide by the rules and principles set-out by the International REDD+ System.

At the national or subnational level, when the choice is made in favour of incentivizing early action, some basic rules and an incentive system could be put in place to guide projects. These could include (i) defining basic technical, social and environmental standards that allow projects to qualify for the future national REDD+ system; (ii) providing project developers the certainty that, if the pre-nesting standards are followed, projects and emission reductions or removals will be taken into account and grandfathered into the national REDD+ system; and (iii) ensuring projects and emissions can be accounted for and tracked properly during the early phase.

Glossary

Baseline

A projection into the future of expected emissions and/or deforestation if no REDD policies, measures or projects are implemented.

Clean Development Mechanism (CDM)

A mechanism established in Article 12 of the Kyoto Protocol and designed to assist non-Annex I Parties in achieving sustainable development and in contributing to the ultimate objective of the UNFCCC, and to assist Annex I Parties in achieving compliance with their quantified emission limitation and reduction commitments.

Joint Implementation (JI)

A mechanism under the Kyoto Protocol through which a developed country can receive “emissions reduction units” when it helps to finance projects that reduce net greenhouse-gas emissions in another developed country (in practice, the recipient state is likely to be a country with an “economy in transition”). An Annex I Party must meet specific eligibility requirements to participate in joint implementation.

Leakage

GHG emissions displacement that occurs when interventions to reduce emissions in one geographical area (subnational or national) cause an increase in emissions in another area through the relocation of activities.

MRV System

A national and/or subnational Measurement, Reporting and Verification (MRV) process that ensures reliable assessment of climate benefits associated with real and measurable emission reductions and enhancement of removals.

Nested Approach or Nesting

Generally understood as an accounting, management and incentive system established to simultaneously enable REDD+ activities led by various actors working at national and subnational levels.

Reference Level

Negotiated forest (emission) reference level (at the national or subnational scale) that is synonymous with a baseline for providing incentives for a participating REDD country if emissions are below that level.

Registry

Electronic infrastructure designed specifically to ensure accurate accounting of projects and their respective performance (measured either through emission reductions or removals, or another agreed performance metric) as well as the issuance of REDD+ units.

Results-based

An incentive system wherein the international contribution to support REDD implementation is contingent on meeting pre-agreed benchmarks.

Subnational Activities

Refers to activities that take place in jurisdictions within the national territory of a country, including activities at the local (i.e., project) as well as state or provincial level.

1. Introduction

In international climate negotiations there is consensus that the climate benefits from Reducing Emissions from Deforestation and Degradation (REDD+) will ultimately be measured and rewarded based on national-level accounting systems. Working towards this goal is a principal focus of current REDD+ readiness funding. In the meantime, public and private demonstration projects are already being implemented that reduce greenhouse gas (GHG) emissions at the subnational or project level, while countries get these national policies, data and capacities ready. This bottom-up development is critical for immediate emissions reductions, gathering information, informing public strategy development, and engaging the private sector in REDD+. As international and national REDD+ architectures progress, these subnational activities will at some point need to be brought under broader scale accounting frameworks to ensure that any carbon credits issued to projects, national and subnational (e.g., state or regional) entities all “add-up” — maintaining environmental integrity while catalyzing action at multiple scales. Striking the right balance between encouraging early subnational action and investment in REDD while building towards more comprehensive national systems is a critical issue facing developing country governments. Avoiding the loss of an estimated 12 million hectares of forest globally each year requires the development of national strategies as well as immediate action at all possible scales.

Integrating these different local to national levels of action has come to be referred to as “nesting” and is important for a number of reasons. First, incentives need to be placed at the appropriate level of governance. While broader policy reforms may take years to be implemented, REDD+ action may be developed faster at the regional or project level, delivering near-term reductions in emissions. Secondly, the project level is also a key entry point for private sector engagement, and may provide important options for direct community-level engagement with REDD+. Finally, subnational activities are a critical piece of emerging national frameworks for REDD+ management and accounting. Establishing local investment mechanisms and measurement, reporting and verification (MRV) capacity in advance of national frameworks is providing valuable experience to inform broader architectures and capacity.

The term “nesting” is variously used to refer to subnational jurisdictions (e.g., states and provinces) integrated into national level systems, as well as to project-level activities sitting within broader national (or jurisdictional) systems. Both types of nesting are critically important and some of the most significant progress to date on developing jurisdiction-wide compliance systems is being led by states and provinces (e.g., under the Governors’ Task Force on Climate and Forests). However, this briefing document focuses on the discrete set of issues and options for nesting *project-level activities* within broader frameworks, under the assumption that the issues will be broadly similar whether the broader jurisdiction in which projects sit are national or subnational. The document aims to explain relevant technical and regulatory aspects that require further clarification (and simpler explanation) so that REDD+ design options for the integration of different levels of governance can be more easily understood and applied nationally and internationally.

This briefing document is structured as follows. Section 2 provides a brief overview of REDD+ developments at the international level. Section 3 presents some initial strategic considerations that place nested forms of REDD+ as an instrument within the context of broader domestic policies and measures. Section 4 addresses the key issues and policy options for the design of nested approaches to REDD+. Here we consider a range of technical, regulatory, institutional and economic aspects that may affect nested approaches and influence their design at the national level.

This briefing document will serve as basis for discussions in a high-level workshop among policy makers from developing countries and international experts. The results from the workshop will be used to draw some near-term actions and recommendations that countries and jurisdictions may adopt to encourage projects and private investments that is consistent with broader REDD+ strategies and incorporated in a final version of this document.

2. International REDD+ Developments

At the 16th session of the Conference of the Parties to the UNFCCC in Cancun in 2010 (COP16), parties to the UNFCCC adopted, with slight modifications, the REDD+ decision negotiated (but not adopted) at COP15 in Copenhagen.¹ With this UNFCCC decision, parties officially established an international incentive mechanism that encourages developing countries to reduce forest related emissions and enhance forest carbon stocks in the context of the provision of adequate and predictable financial and technological support to developing country Parties.

In line with the ongoing REDD+ readiness activities, countries are encouraged to develop (i) a national REDD+ strategy, (ii) national and, if appropriate subnational, reference (emission) levels, (iii) a MRV system, and (iv) a system for providing information on how the safeguards in the decision² are being addressed through the implementation of REDD+ activities.

The REDD+ decision recognizes implementation through a **phased approach** beginning with:

- i) the development of national strategies or action plans, policies and measures, and capacity-building; followed by
- ii) the implementation of national policies and measures and national strategies or action plans that could involve further capacity-building, technology development and transfer and results-based demonstration activities; and evolving into
- iii) results-based actions that should be fully measured, reported and verified. The choice of the starting phase of each country depends on national circumstances and available support.

There is no reference to sources of **financial support** (either government or market-based), but there is a mandate to explore financing options for the full implementation of the results-based actions (phase III implementation of REDD+).

Cancun also marked formal acknowledgement under the UNFCCC of **subnational approaches** to REDD+ accounting and monitoring. Developing country Parties aiming to participate in an international REDD+

¹ See “Outcome of the work of the Ad Hoc Working Group on long-term Cooperative Action under the Convention”, Draft decision - /CP.16 (“Cancun COP decision”).

² Safeguards are formulated in Annex I to the Cancun COP decision and include social, legal and environmental issues.

mechanism are encouraged to develop³ a “national forest reference emission level and/or forest reference level or, if appropriate, as an interim measure, subnational forest reference emission levels and/or forest reference levels, in accordance with national circumstances, and with provisions contained in decision 4/CP.15, and with any further elaboration of those provisions adopted by the Conference of the Parties”. The Subsidiary Body on Technical Advice (SBSTA) is mandated to develop for consideration at COP17 modalities relating to forest reference emission levels and forest reference levels (national and subnational) as well as modalities for measuring, reporting and verifying anthropogenic forest-related emissions by sources and removals by sinks, forest carbon stocks, forest carbon stock and forest area changes resulting from the implementation of REDD+ activities.

Outside of the UNFCCC context, various initiatives are helping finance ‘readiness’ for REDD+ in developing countries. The REDD+ Partnership established in May 2010 seeks to help coordinate the actions of development partners as regards REDD+ actions and finances. Operational multilateral initiatives include the World Bank’s Forest Carbon Partnership Facility, the UN-REDD Programme and the Forest Investment Program. Within the work and planning that countries benefiting from these funding mechanisms have carried out, consideration is often given to enabling subnational activities within the national REDD+ frameworks. However, beyond a stated interest to do so, in most cases there are few concrete steps defined to design a nested framework.

In addition, a wide array of bilateral support initiatives exist between the governments of countries like Norway, France and Germany (among others) who support the testing and learning processes for REDD+ readiness in developing countries. Some support explicitly includes activities related to engaging in nesting design. Nonetheless, in multi- and bilaterally funded REDD+ readiness efforts, understanding and progress with nesting design is still very incipient.

One forum in which progress is being made on the design of compliance regimes for nesting approaches is the Governors’ Task Force on Climate and Forests (GCF). The GCF has been working since 2008 to develop mechanisms to link compliance systems at the subnational level. With sixteen states and provinces from five countries encompassing roughly 20% of the world’s tropical forests, the GCF member states have been working to develop capacity and systems to generate REDD+ outcomes for a variety of market and non-market mechanisms. Primarily focused on linking California’s cap-and-trade system with states and provinces in Brazil, Indonesia and Mexico, the GCF will potentially encompass crediting pathways involving an array of nested options from projects, to states/provinces, to national systems.

The voluntary market is also preparing to adjust for the accounting and crediting requirements of nested approaches to REDD+. The Voluntary Carbon Standard (VCS) has recently launched an initiative to revise and expand its forestry-specific standards to allow different accounting scales, in particular the crediting of project level activities that are embedded in regional or national accounting systems.

³ This development is to be done “in the context of the provision of adequate and predictable support, including financial resources and technical and technological support to developing country Parties, in accordance with national circumstances and respective capabilities”. See paragraph 71(b) of the Cancun COP decision.

3. Government Considerations

Governments can deploy an array of different options for reducing deforestation and degradation as part of an international REDD+ mechanism. REDD+ projects represent only one of these options. Other and generally more powerful levers for shifting land-use and deforestation trajectories may involve cross-cutting measures such as security in land tenure, rural credit and technical assistance to improve agricultural productivity, strengthened forest governance, climate-smart infrastructure planning, as well as policy reforms in forestry, agriculture and finance that affect land-use economics. Yet, site-specific or project-level activities will in some circumstances also provide powerful opportunities for addressing specific constellations of factors driving deforestation.

Governments' choices about how and if to adopt a nested approach will involve assessment of the costs and chances of success of different REDD+ strategies, including government programs, policies and incentives for the development of private REDD+ projects. The decisions regarding how governments prioritize different strategic and programmatic means for REDD+ is a critical piece of the REDD+ readiness process, and is directly linked to questions of how projects-level activities may be incentivized, and the trade-offs of allocating finance for emissions reductions between government programs and policies and individual stakeholders (e.g., communities, landowners, projects). If countries, states or provinces are ultimately compensated for emissions that are reduced across the jurisdiction as a whole, governments will need to determine which portion of credits or benefits are more properly associated with government policies and which with project activities.

The relevance and implications of nesting project activities into broader accounting frameworks has to be considered in the context of national REDD+ strategies. The appropriate choice of REDD+ policies and measures will depend on a series of factors:

- **Agents and Drivers of Deforestation.** The reduction of deforestation and the creation of appropriate incentives for conservation and improved land use will depend on the drivers of deforestation in a particular country and region. Where most deforestation is planned and driven by economic interest of large corporations, policies are likely to consist of a mix of command-and-control measures and the creation of incentives that would lead to a diversion of economic activities to other sectors or areas. Where deforestation is driven by poverty, the need for fuelwood or subsistence farming, REDD+ policies are likely to consist of community programs that give access to different sources of income and fuel needed for cooking or heating.
- **Governance.** The choice of policies will also depend on the institutional capacities of a country. In places where corruption is rampant and governance weak, incentives to non-state actors may be more effective than the implementation of government-driven policies. In these cases, a mix of encouraged and supported private (for-profit and non-for-profit) action paired with governance reform may constitute the best choice for action, while in countries with strong governance and effective enforcement systems, regulatory action (such as lifting or enacting tax benefits) may be the most effective way to incentivize REDD+.

- **Political System.** In federal systems much of the law making and law enforcement is delegated to the state and regional level. The policy choice for REDD+ depends therefore on the allocation of authority and powers within a country. Equally important, and actually far more so for project-level activity, is the political orientation of the State with regards to its role, and that of the private sector, in the economy and forest sector. Governments with a strong tradition of state enterprise and government participation in investment and production are likely to prefer more centralized approaches, while more market-oriented states are likely to prefer greater options for direct private investment. In a similar vein, States with robust community and civil-society sectors may also be more tolerant of non-governmental initiatives.
- **Legal Land Status.** Finally, ownership of forest land is essential for the implementation of REDD+. Where the majority of forest is owned by the government different policies apply than to private forest. In the latter case, governments will operate with incentives as regulation of private property is often limited through constitutional and other legal barriers (that forbid the taking of property rights without due compensation). In cases where land-ownership is unclear and titles do not exist yet other policies will have to establish incentives for forest stewardship.

Allocating resources (whether these be funds or carbon credit) amongst different options involves trade-offs. In all cases where emission reductions are credited on the subnational level and where a national reference level has been adopted, rules need to guide the allocation of emission reductions between the various levels of action to avoid double counting and crediting of emission reductions. In some cases, subnational action will be credited with tradable carbon credits, in others, the accounting for emission reductions merely serves to assess the effectiveness of subnational action or the allocation of incentive payments. In all these cases, rules for “nesting” are relevant.

4. Review of Nesting Issues and Options

The ‘nesting’ of programs and projects within broader accounting frameworks is generally understood as an accounting, management and incentive system established to simultaneously enable REDD+ activities led by various actors working at national and subnational levels. The notion of a nested approach to REDD+ was first introduced by Pedroni *et al.* as a way to promote the direct engagement private actors in project activities nested within a national accounting system. Key assumptions of the nested approach as initially proposed were (i) the use of market-based instruments as a tool to deploy REDD+ finance; (ii) direct crediting of project-level activities; and (iii) the detachment of national level performance from project-level crediting.⁴

Since then the concept of “nesting” has been elaborated in a variety of forms by experts grappling with issue of integrated accounting systems for REDD+ and private sector investment (see Box 1 below). Over the past couple of years several organizations including governmental, for profit and non-for-profit entities, have

⁴ See Pedroni *et al.* 2009.

developed a number of conceptual papers highlighting the many intricate aspects surrounding nested approaches to REDD+. These papers went into great length in pinning down some of the most relevant technical, regulatory and commercial implications of the adoption and integration of project-level activities within national and/or subnational accounting frameworks for REDD+.

Box 1 – Recent Studies on Nesting Approaches to REDD+

A non-exhaustive list of recent studies relating to nesting approaches to REDD+ includes:

- *Options Paper – Regulatory Design Options for Subnational REDD Mechanisms*, William Boyd, University of Colorado Law School, 2010;
- *Brazil's Emerging Sectoral Framework for Reducing Emissions from Deforestation and Degradation (REDD) and the Potential to Deliver Greenhouse Gas Emissions Offsets from Avoided Deforestation in the Amazon's Xingu River Basin*. Electric Power Research Institute. 2010;
- *Making GCF/ARB REDD feasible for private sector investment*, Tobias Garritt, GCF Representative, Province of Papua, Indonesia (discussion draft of 2010);
- *A Nested Approach to REDD+: How could it be implemented?*, Lucio Pedroni, Manuel Estrada, and Mariano Colini Cenamo in "Pathways for Implementing REDD+", UNEP RISOE Centre, 2010;
- *Integrating Project and National REDD+: The Importance of the Private Sector*, Naomi Swickard, Kim Carnahan in "Pathways for Implementing REDD+", UNEP RISOE Centre, 2010;
- *An Integrated REDD Offset Program (IREDD) for Nesting Projects under Jurisdictional Accounting*, Terra Global Capital, 2010;
- *A Nested Approach to REDD+ - Structuring effective and transparent incentive mechanisms for REDD+ implementation at multiple scales*, The Nature Conservancy and Baker & McKenzie, 2010;
- *Engaging the Private Sector in the Potential Generation of REDD+ Carbon Credits: An Analysis of Issues*, Robert O'Sullivan, Charlotte Streck, Timothy Pearson, Sandra Brown and Alyssa Gilbert, supported by The UK Department for International Development (DFID), 2010.

Even though the use of market-mechanisms remains contentious and uncertain, REDD+ negotiations under the UNFCCC, as described in Section 2, have evolved considerably in other aspects concerning subnational activities. Under the Cancun Agreements the parties to the UNFCCC have established that REDD+ may be implemented via subnational incentive, measurement and accounting systems as an interim measure to a fully-fledged national accounting framework. The parties also agreed to the concept of phases to REDD+ implementation, the last phase anchored on a 'results-based' incentive system. This indicates that countries may start out implementing subnational accounting systems for REDD+. Countries are also free to create incentives for project-level activities after the adoption of national reference levels as long as the overall performance of the country is measured at the national level. Nesting becomes relevant under both scenarios: in the first one when subnational pilot areas and programs have to be integrated into future national accounting systems, in the

second when incentives are passed on to sponsors of programs and projects within the context of already established national accounting systems.

While it is not clear whether an international REDD+ mechanism will allow the creation of compliance-grade credits, the need to involve the private sector (investment by landowners, investors, companies and non-profit civil society organizations) in REDD+ implementation remains obvious. The level of finance estimated to effectively address emissions⁵ from the forestry sector in developing countries cannot be pooled and deployed in the required quantity and speed without significant private sector engagement. Actions on the ground will also necessarily entail the participation of NGOs and companies directly or indirectly. Hence, creating the conditions for program and project-level activities to be nested within national and/or subnational accounting and providing the means for private sector engagement in such activities remains therefore a central objective of nesting approaches to REDD+.

4.1 Distribution of Incentives

At root, international incentives for REDD+ may take the form of performance-based payments from bilateral and multilateral public sources, or may be mediated by the creation of offsets that may be used by countries or entities to meet compliance requirements. Whether credits or offsets for compliance purposes will form part of an international agreement is still an area of contention within the UNFCCC process, but was included in draft US federal legislation and in California's AB32.

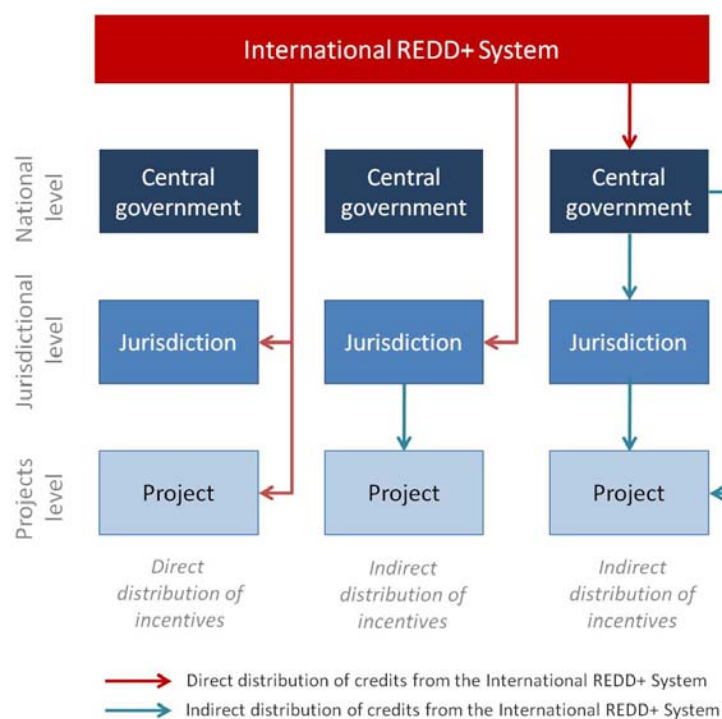
As a general rule, advocates of nesting approaches see the advantages of promoting both carbon markets as well as public funding mechanisms to incentivise REDD+. REDD+ incentives could come both in the form of carbon credits (recognized in voluntary and/or regulated markets) and as results-based payments from public sources (e.g., Green Climate Fund, bilateral REDD+ funding). Typically, REDD+ public fund-based payments are associated with rewarding policies and programs taking place at the jurisdictional level and carried out by governments, whereas crediting mechanisms (i.e., issuance of carbon credits) are seen as a more appropriate alternative for attracting compliance-driven private demand and to stimulate private sector engagement at the subnational level. However, these approaches are not mutually exclusive: public funded support can be allocated to entities or projects based on performance metrics, and tradable credits may be issued by national or state governments.

⁵ The actual cost of reducing emission (as opposed to readiness measures) is estimated at USD17 billion to USD28 billion per year in order to halve global deforestation according to opportunity cost estimates in major forest nations. See Pagiola, S., Bosquet, B., 2009.

There are a number of options available for countries and jurisdictions for issuing and distributing incentives or credits under nested REDD+. These options differ essentially in the manner in which incentives are initially allocated by a bilateral or multinational REDD+ mechanism (the “International REDD+ Mechanism”) to domestic actors. Although some other variations exist, these scenarios can be broadly summarized as follows:

- Direct distribution of REDD+ incentives from the International REDD+ System to projects as well as jurisdictions
- Direct distribution of REDD+ incentives from the International REDD+ System to jurisdictions and indirect distribution (or pass-through) of REDD+ benefits from these jurisdictions to projects
- Direct distribution of REDD+ incentives from the International REDD+ System to the central government only and indirect distribution (or pass-through) of these to subnational jurisdictions and projects

Figure 1



Hence, the allocation of incentives could be **direct** (i.e., when project entities receive incentives directly from the International REDD+ System, as is the case under the CDM) or **indirect** (i.e., when project entities receive incentives via the central government or a jurisdiction). The International REDD+ System could specify the crediting mechanisms available at the international level. The international guidance provided by the International REDD+ Mechanism could also allow national governments to make detailed determinations within these guidelines. Allocation of REDD+ credits or benefits under nested architectures therefore involve institutions and policies at least two different levels:

- i) The International REDD+ System with regards to direct or indirect allocation of incentives and/or credits, and
- ii) National (or jurisdictional) government decisions regarding the allocation of credits and/or benefits within its jurisdiction, and the basis for doing so.

Where the International REDD+ System accepts the direct crediting modality, countries and jurisdictions may choose to restrict their role to endorsing projects before these are approved and credited internationally. The direct crediting option is generally seen by private entities and investors as the most attractive one, as it requires less governmental intervention when compared to indirect forms of crediting.

When the International REDD+ System allows indirect distribution of incentives within jurisdictions, this may likely allow government sovereign flexibility in re-allocating incentives within their jurisdiction. Governments then have a series of options and choices:

- **Whether to incentivize project-level activities.** As described in Section 3 this document, this is a strategic decision regarding the relative weight of policies and programs as opposed to site-based project activities. Governments may choose to support project-level activity, to restrict this to certain demarcated geographic areas,⁶ or to focus mechanisms solely on jurisdiction-wide policy and programs, excluding projects.
- **If project-level activities are to be incentivized, whether to allocate tradable credits or financial benefits/incentives to these projects.** While traditional carbon project models (e.g., CDM, JI or voluntary market) are based on allocation of tradable credits, other performance-based options exist, including ex-ante financial incentives (e.g., PES schemes in Mexico, Costa Rica and Ecuador) or ex-post results based payments (functionally equivalent to feed-in tariffs in the energy sector). The decision as to whether to distribute credits or payments will depend on government evaluation of risks, transaction costs, and the most effective mechanisms to attract capital and promote change on the ground.
- **Decide on the criteria or basis for allocating credits or incentives.** These can be distributed to projects:
 - based on project-level accounting of achieved GHG benefits (as is currently the modality for CDM and voluntary carbon projects and as explored further in section 4.6),
 - based on other performance metrics (e.g., hectares of avoided as opposed to tCO₂)
 - based on other benchmarks or criteria (estimated opportunity cost, adjustment factors for other social, equity and development objectives)

⁶ Some analysts have suggested *only* allowing credits to be generated from geographically defined activities in order to establish a causal link between the activity and the emissions reductions or removals achieved. See An Integrated REDD Offset Program (IREDD) for Nesting Projects under Jurisdictional Accounting, Terra Global Capital, 2010.

4.2 Regulatory Aspects

In order to create a viable and workable framework for nested forms of REDD+ some guidelines could be implemented both at the international as well as the national level. The International REDD+ System could, for instance, put in place clear requirements and eligibility criteria for approving subnational activities (and, if applicable, jurisdictional programs) and for accepting or issuing REDD+ credits arising from emission reductions achieved by these activities (or jurisdiction-wide policy and programs). The national level requirements, in turn, could address more detailed aspects of the development of jurisdictional frameworks, but still remaining flexible enough to adapt to emerging rules and procedures at the international level. Table 1 provides an overview of the general thinking behind the regulatory aspects of nesting.

Table 1

International Guidelines	National Guidelines
Establish the criteria for endorsing a jurisdictional REDD+ program, including elements used for establishing the reference level, MRV requirements, and requirements related to validation and verification by third-parties.	Establish a jurisdictional REDD+ strategy that considers issues like drivers of deforestation, land and forest tenure, policies and measures for REDD+, and institutions responsible for overseeing and implementing these measures.
Define whether only the jurisdictional REDD+ program would be subject to approval by the International REDD+ System or whether each activity within the jurisdictional REDD+ program would also have to be approved before REDD+ credits are accepted in the international mechanism.	Establish an approval process for subnational project activities, including validation, verification, public consultation procedures, benefit-sharing arrangements and the attribution of clear responsibilities for national entities in relation to the jurisdictional approval process.
Define whether crediting mechanisms would be available and when direct and/or indirect crediting of subnational project activities would take place.	Clarify the actors allowed to become project proponents and the areas/land which are eligible for nested REDD+ implementation.
Define the criteria applicable to subnational activities developed prior to the establishment of the jurisdictional baseline.	Define jurisdictional criteria for grandfathering subnational project activities into the jurisdictional REDD+ program.
Define the criteria for issuance/acceptance of REDD+ credits, including whether successful performance at the jurisdictional level is a requirement for issuance/acceptance of credits at the project-level.	Establish consultation procedures for the implementation of subnational project activities and operationalize social and environmental safeguards, including putting in place a dispute resolution process for REDD+.

Regulatory aspects of REDD+ will hence have a considerable impact on the ability of nesting approaches to attract private investment. There are many issues that may deserve particular attention of both international as well national policymakers. These include the enactment of REDD+ guidance for subnational actors, establishment of dedicated institutions to oversee the implementation of REDD+ actions, definition of approval procedures, use and operation of a REDD+ registry, and clarification on rights to emission reductions.

Domestic REDD+ Regulations

Countries and jurisdictions willing to incentivize project-level activities may start out by providing general guidance (via legislation) on REDD+. This general guidance would constitute the backbone for further and more detailed regulations as the domestic system evolves and could include provisions on the scope of REDD+, the principles guiding REDD+ implementation at the different levels, and the basic institutional set-up.

- **Scope:** The REDD+ legislation may, for instance, define eligible subnational activities. Countries or jurisdictions may opt to follow the full scope of REDD+ as agreed at the UNFCCC level, may restrict scope in accordance with current national/local measurement capabilities (e.g., deforestation and sustainable forest management only), or may even expand the domestic system's reach to include other activities (see section 4.4).⁷ Ineligible activities such as reforestation with exotic species and conversion of natural forests may also be explicitly stated in this general guidance.
- **Principles and Safeguards:** Principles orienting domestic actions may also be defined outright. These will not only instruct project developers engaging in REDD+ projects, but also domestic regulatory entities and verifiers charged with approving and certifying these activities. Some principles and safeguards have already been established at the UNFCCC level and may serve as a "de minimis" set of principles to be adopted at the domestic level. These include environmental integrity (which requires due regard for issues such as leakage, permanence, double counting and robust monitoring), full and effective participation of stakeholders (including provisions on benefit-sharing and public information/consultation on the design of the domestic REDD+ system), respect for traditional and indigenous knowledge, and the use of transparent and equitable institutional structures (which may include the establishment of a dedicated dispute settlement mechanism).

The enactment of general REDD+ guidance at the national level would be particularly useful in federal systems, where states and provinces also have power to legislate on and regulate environmental issues. The REDD+ guidance would ensure consistency by having states and provinces abiding by the same principles and general rules, but still leaving flexibility for subnational jurisdictions to further regulate REDD+ in accordance with their respective circumstances and needs. From a private engagement perspective, the early establishment of general REDD+ guidance by the central government would also be very positive, as it would reduce uncertainties related to future conflicts of laws or the potential overriding of existing state or provincial laws.

⁷ This may be the case with broader regulations created to protect and incentivize ecosystems services beyond REDD+ (e.g., water quality control, and social-biodiversity). Activities falling outside the scope of REDD+ as determined by the International REDD+ System may not be creditable separately under that regime, but may still be considered as complementary to REDD+ and weigh-in positively in the approval of such activities.

Domestic REDD+ Institutions

A basic institutional set-up could include the designation of a regulatory entity responsible for overseeing and approving REDD+ activities and its composition. This regulatory entity may be a new dedicated public agency, an autonomous entity, or an already existing entity (e.g., responsible for the forestry sector) in the country. The REDD+ regulatory entity's attributions and powers could also be identified in the REDD+ general guidance and could include:

- establishing procedures for approval of subnational and project activities;
- register and listing REDD+ subnational and project activities;
- overseeing the operation and functioning of a subnational registry registering activities and reference levels;
- establishing procedures for monitoring of activities, including requirements for dealing with leakage, permanence and double-counting;
- issuing credits (or defining allocation of credit/other forms of incentive);
- obligations regarding consultation/information dissemination to stakeholders;
- hearing cases and solving disputes that may arise as a result of REDD+ implementation and/or decisions of the national regulatory body; and
- provisions related to the potential grandfathering of activities implemented before the establishment of the domestic system.

Establishing an autonomous entity may be an option to provide further transparency to the domestic REDD+ system and, to some extent, reduce the risks of political interference where pure technical decisions are required. The recently enacted legislation on payment for environmental services in Acre (Brazil) creates an organization that is self-managed and administratively independent from government, although supervised by the state environmental department. An autonomous administration entails well some level of financial independence. The REDD+ guidance could determine the sources of funding that would support the operation of this entity. The regulatory entity might also be supported in its tasks by independent committees comprised of technical experts and representatives of civil society, as defined under the general REDD+ guidance.

It is likely that a separate institutional set-up may be required both at the central, as well as the state/provincial level. To avoid lengthy and costly approval procedures for project developers, countries would have to ensure consistency and streamline overall approval procedures. See further discussions about project approval procedures below.

Approval Procedures

There may be several layers of approval in a REDD+ system which must be reconciled and streamlined. At the international level, the International REDD+ System would set its dedicated system for approving projects and/or subnational level programs. Such International REDD+ System may be established at the multilateral UNFCCC-level, as well as the regional or bilateral level systems. This may lead to the creation of a plethora of

guidelines and eligibility criteria that would be required from host jurisdictions and projects to qualify under the International REDD+ System.

Under the UNFCCC, some of the eligibility criteria for REDD+ are already emerging. The UNFCCC decision in Cancun established some pre-requisites for countries to qualify for REDD+, including establishing a national strategy, a national forest reference (emission) level, a robust monitoring mechanism, and a system for reporting on safeguards. Approval of REDD+ activities, in turn, would be subject to the requirements listed in annex I of the UNFCCC decision, which includes being country-drive, consistent with the objective of environmental integrity and national development goals, and results-based.

Many key issues however remain to be addressed at the international level. The SBSTA is charged with developing modalities for forest reference (emissions) level and MRV. These may include determining key concepts, scope, how reference levels are proposed and adopted, the institutions involved in the approval process, and their respective functions.

At the domestic level similar issues need to be addressed. Countries and jurisdictions have to decide what is required to approve or endorse projects, who proposes and registers subnational reference levels, when independent verification is needed, and the relevant consultation procedures. Governments willing to put in place procedures for subnational activities prior to a national REDD+ system may opt to establish consultation procedures with project developers of existing voluntary projects. Many of these decisions are likely to be influenced by the rules and procedures established by the International REDD+ System.

REDD+ Registry

A registry may be created by countries and subnational jurisdictions to support the different policy decisions taken at the domestic level. A registry would function as an electronic database that enhances transparency, efficiency and environmental integrity of REDD+ actions domestically. Generally, a registry is not seen as a tool to drive policy, but to support the implementation of policy options taken at both the domestic as well as international level.

Governments may decide to create only a central national registry to serve as main depository of all relevant information or establish additional independent registries for each state/province within the country. While the latter may require additional resources and institutional infra-structure, it may be a helpful tool to support a nested approach in advance of a national REDD+ system.

A registry may have multiple functions and may also be designed to evolve over time and in accordance with the country's progress through the different phases of REDD+ (and potentially with phases of a nested approach to REDD+). For instance, in an initial stage, where only a limited number of project-level activities have been implemented and actions being carried out domestically are mainly readiness-related, a national or jurisdictional registry may simply capture core information for each discrete project and track the activity and its performance. As MRV capacities grow domestically and reference levels are adopted, the various reference levels (national and subnational) can be consolidated and the outcomes of projects could be recorded. The issuing and tracking of REDD+ units could be a feature for countries and jurisdictions which have already

achieved the final phase of REDD+. Other key issues to be decided in relation to the operation of a registry include the relevant institutional arrangements; the supporting functions to be carried-out, and effect on title and rights to REDD+ benefits.

Definition and Transfer of Carbon Rights

Clear rules around ownership and title to carbon rights would give project developers additional regulatory certainty. Governments could, for instance, clarify the extent to which non-state actors can own and transact internationally recognized emission reductions and how these are related to the laws applicable to land and forest tenure and other environmental resources of the country/subnational jurisdiction.

In addition, countries and jurisdictions may define in REDD+ guidance the basic features of those emission reductions. Some countries may wish to restrict the sale of a portion of those units to foreign entities as offsets to meet national (voluntary) commitments. For example, some countries, like Brazil, are considering distinguishing between units which would only entitle holders to receive funded-based payments (non-tradable) from units which could be transacted as offsets.

The registry system discussed above could also be of great value in relation to clarifying title and effecting transfer. While titling and ownership of environmental resources is purely a national policy-choice, a registry could support this and provide transparency and certainty to the process. For example, a registry could support a policy decision to only allow a transfer of title of credits if project is registered and the transaction is registered. A registry could also provide certainty regarding title if the national policy stated that the project developer who has registered the project in the registry is the *prima facie* owner of the emission reductions and resulting units.

4.3 Definition of Risk Mitigation Tools

Different views exist in relation to whether the receipt of REDD+ credits at the project-level would be tied to jurisdictional performance. Some experts are of the view that, in order to maintain environmental integrity of subnational REDD+ systems, no credits should be issued to project-level entities unless the jurisdiction (the central government or a subnational jurisdiction, as applicable) as a whole achieves its reference level.⁸ Systems would, in this case, be designed in a way that credits at the subnational/project level would only be issued **after** a positive assessment of the overall jurisdictional performance.⁹ Others, in turn, favour decoupling projects and jurisdictional performance as the only realistic means to attract substantial private sector participation. De-linking jurisdictional performance from project-level performance reduces the reliance of private investment on governmental action and could thus promote an early flow of private capital and help achieve emission reductions in the near to medium term.¹⁰

⁸ See Cortez 2010.

⁹ See Electric Power Research Institute (EPRI) 2010.

¹⁰ See Pedroni 2010.

Risk mitigation mechanisms could be designed at two different levels: project level and the jurisdictional level. At the *project-level*, risks mitigation tools may be needed to address the issue of permanence and insure against reversal of stocks and emissions. This is normally dealt with via the creation of buffers and reserve accounts (as in the VCS), or by attributing carbon credits a temporary nature or limited life (as in the case of afforestation and reforestation under the CDM).

When rewarding of performance of subnational project activities is linked to the overall performance of the *jurisdiction*, experts generally agree that an array of risks mitigation tools may be required to attract meaningful private sector participation. The commonly cited risk management tools are: (i) buffer and reserve accounts; (ii) insurance mechanisms for reversal of carbon stocks; (iii) government guarantees; and (iv) penalty fees for sanctioned deforestation.

These risk mitigation tools could be applied in many different combinations. One potential scenario is the use of ‘performance reserve’ accounts at the jurisdictional level and an insurance policy at the project-level. The jurisdictional performance reserve would serve to cover for jurisdictional non-performance in future verification periods and ensure that successful project activities can still receive credits. The project-level insurance, on the other hand, would insure the jurisdiction against non-performance at the project level.¹¹ Another option is to place the primary liability for reversal at the project entity and, in addition, make use of mechanisms such as credit reserve accounts and insurance systems to further mitigate performance risks.¹²

When funding mechanisms are used, some have suggested that governments impose a tax or levy on sanctioned deforestation in order to avoid that all participants in the relevant REDD+ system bear these costs. This would also lower the overall performance risk of the jurisdiction.¹³

4.4 Measurement and Monitoring

Accounting for the climate benefits of REDD+ in a nested framework poses challenges in reconciling accounting at different scales, and potentially by different institutional entities. Ultimately, emissions reductions and removals reported as resulting from REDD+ action generated at subnational level, whether these be projects, states or provinces, need to be consistent and tally with emissions reductions achieved and reported at the national level. In simple terms, if a project claims to have reduced emissions by a certain amount this must be measured and accounted for in ways that are consistent with national accounts, since national-level reductions should be the sum total of all reductions within the country’s boundaries.

Determining as credibly as possible the relative contribution of subnational activities to reductions and removals is essential to avoid government liabilities and double counting. If nested systems have inconsistencies across scales then, at the very least they will result in an inefficient allocation of resources (granting more

¹¹ See Cortez *et al.* 2010.

¹² See Boyd 2010.

¹³ See De Gryze and Durschinger 2010.

credits or payments to some entities than warranted), and in a worst case scenario emissions reductions attributed to projects may exceed or undermine reductions achieved at national scale (granting more credits or payments than the system actually has).

Measuring and monitoring emissions from forests and land-use is increasingly feasible, with clear guidance and rapidly growing technical and institutional capacity around the world. An agreed international consensus exists regarding the guidance for measuring and monitoring land use, land-use change and forestry. However many specific parameters will need to be determined at the national level in order to ensure that forest cover, forest condition and carbon stocks measured at different nested levels is consistent. At COP 15 parties agreed to use the most recent Intergovernmental Panel on Climate Change (IPCC) guidance and guidelines as the basis for estimating anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes¹⁴ Following this principle in a multilevel nested accounting approach requires standardizing the use of certain elements and concepts, while other methodological decisions can be left to developers at the project and jurisdictional level.

Definition of Forest

Consistent national and nested accounting requires a common understanding of what constitutes “forest” and its boundaries. Countries wishing to engage in REDD+, and nested approaches, will need to adopt a clear definition of forests, applicable at multiples scales. A consistent national forest definition based on structural characteristics (correlated with carbon stocks) is a prerequisite to determining when and where deforestation is considered to occur, and to differentiate between deforestation and forest degradation. Many countries have adopted definitions of forest under the parameters set out in the Kyoto Protocol.¹⁵

Eligible Activities

Deforestation is, relatively speaking, the most straightforward of the activities covered by REDD+ both in terms of defining and measurement and monitoring. UNFCCC parties have agreed on a deforestation definition under the Kyoto-Protocol, conceptualizing it as “... the direct, human-induced conversion of forested land to non-forested land.”¹⁶ In contrast, a UNFCCC decision defining degradation is still pending. It is still unclear how activities like degradation and sustainable management of forests, or enhancement of carbon stocks and afforestation/reforestation can be conceptually distinguished. For example, minimizing collateral damage of timber harvesting practices in forest concessions could either be considered reducing degradation or as one of the means of sustainable management of forests. Thus, national authorities would need to establish interim guidance for projects and subnational activities to account properly for different activities, avoiding inconsistencies with emerging national compliance frameworks, including clear definitions of eligible activities

¹⁴ See FCCC/SBSTA/2009/L.19/Add.1.

¹⁵ The rules of the Kyoto Protocol require countries to adopt parameters within a forest definition that includes a minimum area (0.05-1.0 hectare), tree crown cover threshold (>10-30 %) and minimum potential tree height (2-5 meters). See 16/CMP.1, Annex, paragraph 1(a).

¹⁶ See FCCC/KP/CMP/2005/8/Add.3.

and probably limitations on eligible activities in a phased approach, depending on what can effectively be captured in national MRV (e.g., beginning solely with reductions in emissions from deforestation).

National, subnational, and project-based activities will also have to address questions of scale and significance in order to be clear about which types of land-use changes have to be accounted for at which level. While large-scale changes from forest to cropland can be easily tracked as deforestation with remote sensing means at all levels, disperse, small-scale slash-and-burn practices could be far more difficult to monitor at the national level. In this case, subnational schemes might provide for the necessary means to track local land use change dynamics. However, to avoid asymmetries in accounting, a common conceptual framework on how to integrate these different monitoring efforts needs to be established upfront. This framework should be based in IPCC's key categories analysis, which leads to an identification of land use change to be considered significant in terms of their absolute emission and removal level, related uncertainties, and trend.¹⁷ Each country will determine those key categories which encompass all significant emission sources at the national level.

Stratification

To determine emissions factors consistently for different forest types, the IPCC 2006 Inventory Guidelines require stratification of land-use data considering climate, soils, ecological zones, and management practices.¹⁸ An agreed national stratification scheme, established up front, can avoid the problem of entities applying different emission factors to equivalent forest ecosystems. This scheme might stratify the country at a higher level and leave room for sub-stratification at the subnational and project level. This approach would be in line with the IPCC 2006 distinction of different complexity levels ("tiers") and spatiotemporal boundaries ("approaches"). To begin with, national accounting might aim first at tier 2 compliant accounting (use of IPCC default assumptions and methods, applied to national data), accounting for land use change between two points in time based on key categories (approach 2¹⁹). Project based and jurisdictional activities could already start applying site specific methods or assumptions to site-specific data (tier 3) spatiotemporally tracking emissions and removals across all key categories (approach 3). While projects or jurisdictional activities might have the resources to measure relevant carbon pools at tier 3 level based on an agreed stratification, countries will require several (possibly many) years to fully cover the national forest domain within a GHG inventory.

Applying a national sampling scheme and standard measurement protocols could facilitate sharing emission factors amongst different levels reducing implementation costs substantially. Measuring above-ground biomass within one stratum requires a certain sampling density to be determined upfront. If projects or jurisdiction sharing the same forest stratum agree to measure this stratum dividing their efforts to achieve the required

¹⁷ See IPCC 2006 Vol. 1 Chapter 4.1.1.

¹⁸ See IPCC 2006 Vol. 4, Chap. 3.3.2.1.

¹⁹ In the context of IPCC 2006, approaches describe different ways of representing so called activity data, i.e., data on the magnitude of human activity resulting in emissions or removals taking place during a given period of time (IPCC GPG 2003). While approach 1 provides only data on the area of each land use category, and not on the change between them, approach 2 tracks conversions for key categories (land use changes significant in terms of their absolute level, uncertainties, and trend) between two points in time. Approach 3 goes one step further in spatiotemporally tracking changes between all key categories across several periods. In general, approach 3 is considered the most appropriate approach for REDD (See GOF-C-GOLD 2010). However, only a very few Annex I countries are currently using it due to its complexity.

sampling density jointly, they could establish tier 3 emission factors at lower costs. Following this line, cooperation in establishing GHG inventories between national, jurisdictional, and project-based activities could increase accuracy reducing the implementation costs for individual entities.

Accounting Periods

REDD+ activities are being implemented at different pace. Some might have already started, others are scheduled to be implemented in the near future. Achieving temporal consistency in emission accounting across different scales will certainly become a challenge the more stand-alone activities are operating in a national domain. One way to overcome this challenge is to standardize the future accounting periods at the national level. Projects and jurisdictional schemes could be encouraged to anticipate these periods by providing corresponding data sets or remote sensing products as a common basis for emission accounting at different levels.

4.5 Baselines or Reference Levels

Emissions reductions (or removals) must be calculated against some future reference level²⁰, that is to say that deforestation and associated emissions must be reduced beyond what would have happened in the absence of REDD+ policies, projects or other measures. Reference levels or baselines, by definition, can never be observed or measured. It is widely agreed that setting baselines is technically and politically challenging because in essence it means predicting and agreeing on an unknowable future, and then using this as the basis for allocating financial flows and determining the overall environmental effectiveness of REDD+ efforts. These challenges are further compounded in nested framework because baselines at different scales must be consistent and coherent.

Baselines could usefully be separated into two elements: future *rate* and future *location* of deforestation and its associated emissions, as they are under the approved VCS methodologies for avoided deforestation. Each is discussed in turn including specific recommendations on each.

Baseline Deforestation Rates

The future rate of deforestation will depend on many factors including governance decisions, population growth, markets for land, agricultural and forest products, infrastructure development, amongst others. Methodologies at the project level under the VCS, for example, allow for the projection of deforestation rates based on historical averages, linear projections, non-linear projections or modeling.

²⁰ The term reference level is more frequently used in the context of national or jurisdiction-wide accounting, while baseline is the most common usage for project-level accounting. However, the concept, referring to a business-as-usual projection of emissions is equivalent.

National reference levels are an area of contention and negotiation within the UNFCCC process and a key element of discussions moving towards COP17 in Durban, South Africa, in December 2011.²¹ Reference levels for countries may be based on a historical average or some other means of projection adjusting for national circumstances, including linear projections or modeling approaches or the use of some agreed development adjustment factors.²² This jurisdiction-wide baseline rate will be the product of negotiation, as were the Annex 1 targets under the Kyoto Protocol, though ideally the process for setting these rates would have a strong technical grounding and transparent criteria (c.f. Busch *et al.* 2009). Given that national reference levels will be determined, at least in part, by a politically negotiated outcome, there is potential for divergence with technically derived project-level baseline rates.

Baseline Deforestation Location

The challenge in a nested system is that an overall jurisdiction-wide rate is not evenly distributed across the forest landscape. Even countries with high rates of deforestation will comprise areas with a high probability of being cleared and others at much lower risk; protecting and managing the former will reduce emissions, while the latter will not.²³ For this reason, determining where and when deforestation is likely to take place within the jurisdiction is critically important.²⁴ Within a nested framework there are two broad pathways to develop and integrate baselines from projects and from jurisdictions²⁵ - i) disaggregate or bottom-up; or ii) consolidated or top-down.

Disaggregate or Bottom-up Baseline Development

Currently, project-based accounting approaches, such as those under the Voluntary Carbon Standard methodologies, establish project-level baselines, predicting rates, location and timing of expected deforestation, with a baseline that must be periodically updated. This baseline is based on analysis of deforestation agents and drivers in a broader reference region that mirrors conditions at the project location. One approach to baseline determination in a nested structure would be for government regulators (or authorized third/party auditors) to review, approve and register these project-originated baselines, gradually building up a patchwork or mosaic of areas within their jurisdiction. Consistency of these nested baselines could be further enhanced by establishing methodological guidance on how to establish consistent projective reference emission levels at the subnational level. Those preconditions could encompass a systematic listing of

²¹ See Cancun COP decision, Paragraph 71(b).

²² See Parker et al 2009 for a summary of proposals.

²³ E.g., a country with a high 2% p.a. rate of forest loss would still be expected to have 80% of today's forests standing in 2020, meaning that some areas of forest are near certain to be cleared, while others for reasons of suitability or access, will almost certainly not be deforested.

²⁴ Inefficient targeting has been pointed to as a weakness of forest conservation incentive or payment for ecosystem services programs, with compensation largely flowing to areas that were not significantly at risk of deforestation (see Pattanayak et al 2010, Wunder et al 2008). Poor spatial allocation of baseline deforestation rates could lead to similar distortions, potentially putting at risk a country's overall REDD outcomes.

²⁵ Depending on the scale of the jurisdiction there may be advantages to an intermediate step, disaggregating reference emissions levels to smaller subnational or regional scales to reflect differences in circumstances as well as inter-regional equity issues, as has been proposed for the Brazilian States (see EPRI 2010) and by Cortez et al 2010.

agents and drivers to be considered, a certain type of modeling approach, validation techniques, or policy scenarios, amongst others.

This approach has the advantage of being deployable in the short-term, harnessing the interest of project-level entities to invest in the design and modeling work required, gaining time while more complex processes are consolidated at state or national level. If these baselines are rigorously and conservatively constructed as assessed by independent validation to agreed standards *and* if the scale of the sum of project activities is likely to be a limited proportion of overall jurisdiction reductions then this approach may be an acceptable interim step to catalyze REDD+ activities. Under these conditions, it would be expected that project-level reductions would be consistent with the national baseline and not represent severe distortions.

The disaggregate approach has the disadvantages of nearly certainly leading to inconsistencies across baselines, especially if and when projects come to have overlapping reference regions. Even the best of modeling exercises, will produce varying outcomes and this is further aggravated by the fact that project-level entities have a strong incentive to maximize predictions of baseline emissions. Integrating these different baselines might become nearly impossible in cases where the reference region or leakage belt of one project includes the project area of subsequent project. This will in turn cause shortages of suitable reference areas for additional baseline development and updating. It also dramatically increases the transactions costs of project development, with each project having to replicate investments in data collection, model design and validation.

Consolidated or Top-down Approach

To ensure consistency and streamline project development, a country or state could choose to develop spatially explicit regional baselines as the basis for calculating emissions reductions. In essence this may simply be a scaling up of the sorts of baseline approaches developed for the project level under VCS methodologies, to larger jurisdictional geographies. This is the approach currently being developed for example in two regions of Peru²⁶ and in Colombia.²⁷ Under a top-down approach a regional baseline would zone or stratify the forest landscape to predict the rate, location and timing of future deforestation and calculate emissions reductions from specific project areas against this model, allowing projects to “cookie cut” out of a broader baseline map.

The consolidated approach has the advantage of creating a clear, internally consistent framework for determining emissions reductions from project-level activities, ensuring that these will add up consistently with region-wide emissions levels. Having agreed regional baselines in place would also achieve significant economies of scale for project development, allowing a greater share of investment to flow to communities and landowners for emissions reductions activities, rather than complex technical exercises.

Consolidated approaches, however, are likely to require significant investments and longer lead times due to the scale of the efforts involved. They may also prove contentious and politically charged since what can often

²⁶ San Martin and Madre de Dios. Regions are decentralized entities under the Peruvian system, analogous to states or provinces.

²⁷ Cortez et al 2010.

be a fairly opaque technical exercise will determine apportionment of rights to potentially valuable carbon assets across the landscape and rights holders.

The VCSA is currently carrying out a process to establish new guidance for regional baselines to be used to support both project and jurisdiction-level accounting.

4.6 Leakage

Leakage has been defined as an “unanticipated decrease or increase in GHG benefits outside of the project’s accounting boundary... as a result of the project activities.”²⁸ Reducing the risk of leakage is frequently cited as an important reason for moving to jurisdiction-level accounting.²⁹ Project-level activities intrinsically have the potential to displace emissions, through activity-shifting, market or other effects, to areas outside their project boundaries. Increasing the scope of the accounting boundaries is therefore one way to reduce leakage, by ensuring that these effects are captured within the bounds of the accounting system.³⁰

Jurisdiction-wide accounting, in principle, resolves the problem of leakage within its boundaries because all reductions and removals for similar activities are accounted for. However, leakage poses risks to the environmental integrity of projects, and overall jurisdictions where they nest, inasmuch as it reduces the true net emissions reductions that a given project activity achieves. In jurisdictional accounting frameworks, allowing a project to claim credits for reductions on site, without adequately accounting for increased emissions it may have produced off-site, will undermine the outcomes of the entire jurisdiction and essentially create an externality, or liability, for the jurisdiction and other stakeholders. Accurate accounting should allow for attribution not just of emissions reduction achieved at the project scale, but also consequences of leakage beyond project boundaries. Current approaches to dealing with leakage under project-level accounting standards (e.g., CDM, VCS) include:

- Improving design of project activities to minimize leakage risks (reducing displacement of farming and grazing activities, generating employment alternatives, maintaining or replacing baseline supplies of good and commodities);
- Accounting for leakage within a monitored “leakage belt” that covers the range of displaced agents and their activities;
- Establishing discount factors for certain kinds of leakage that are intrinsically difficult to measure and monitor (e.g., market leakage tables, VCS).

²⁸ IPCC 2000: 246.

²⁹ See e.g., Murray *et al.* 2009.

³⁰ See Schwarze *et al.* 2002.

At the jurisdictional level, leakage may be dealt with in a number of additional ways:³¹

- Require leakage assessment, as per the project-level approaches described above. This option has the advantage of encouraging improved project design to reduce leakage risk and increase sustainability and, in principle, allows for a more accurate attribution and allocation of reductions. On the other hand, it increases complexity and transactions costs for projects.
- Establish a flat rate discount for projects, which recognizes uncertainties and minimizes risks of over-crediting projects at the expense of overall jurisdictional performance.
- Establish a “leakage tax,” with a volume of verified credits or portion of proceeds used to finance leakage mitigation measures (e.g., investments in rural development alternatives, land titling, improved forest governance) at the jurisdiction level.
- Ignore leakage from projects. Jurisdiction could assume responsibility for leakage and may choose to adopt this approach in order to incentivize project investment, within certain caps or restrictions on the overall volume of project crediting.

Cross-boundary leakage may occur, but is beyond the control of individual project proponents or jurisdictions. Jurisdictions may choose to require leakage assessments to include cross-boundary effects, especially if they occur in neighboring jurisdictions without comparable accounting frameworks. However, the international climate negotiations have in principle excluded accounting and liability for international leakage (e.g., between Annex I and non-Annex I countries).

4.7 Phased Approach

One of the key advantages of nesting is that countries and jurisdictions can begin implementing REDD+ in a step-wise approach, moving progressively from independent accounting of projects to nested projects within subnational jurisdictions, and finally to a full-fledged national accounting system.

While nesting might only be adopted by some countries once a national accounting framework is fully established, a sequenced or phased approach to REDD+ as part of national readiness development is possible with clear procedures and regulations for supporting early action. This phased approach to nested REDD+ would be consistent with the REDD+ implementation phases acknowledged in Cancun.

The language used by the Cancun UNFCCC decision on subnational activities allows countries to make use of subnational accounting and monitoring as an interim measure to a national REDD+ system. While the decision does not explicitly affirm the continuation of subnational approaches once the national system is established, it is reasonable to assume that countries will still be able to make use of subnational approaches so long as the overall accounting of emissions ultimately occurs at the national level. Similarly, the UNFCCC decision in Cancun recognized the implementation of REDD+ through progressive phases, with the last associated with the

³¹ See also Jenkins et al 2009, and Schwarze et al. 2002.

complete establishment of a national MRV system that allows for results-based actions. Countries will therefore be able to engage in REDD+ activities even before a fully-fledged accounting system (i.e. national reference level and national MRV system) is in place.

The following phases for implementing a nested REDD+ approach may be envisioned:³²

- An initial phase in which countries and jurisdictions would establish: (i) national or jurisdictional criteria for approving pilot REDD+ projects, including some basic rules for the reconciliation of these projects with the jurisdictional or national accounting, once this is in place; (ii) a plan to control deforestation and degradation; and (iii) possibly a target for reducing (emissions from) deforestation and degradation.
- A second phase in which additional institutional and technical capacity is put in place, such as the implementation of a national or jurisdictional monitoring system and the development of a registry for tracking emission reductions and units issued for subnational projects.
- A third phase in which a national or jurisdictional reference-level and MRV requirements are fully developed and reconciliation (including grandfathering) of subnational projects when the national or jurisdictional system begins.

Countries may therefore opt to engage in subnational activities prior to the establishment of a national accounting system or wait until such system is established and then assess the opportunity and merits of integrating other forms of accounting compatible with the national one. For those countries willing to start on subnational implementation of REDD+ prior to the establishment of a national accounting system, it would be important to establish some guidance at the domestic as well as international level. These could include guidelines for the development of subnational projects (willing to be nested with future jurisdictional accounting system) and for the establishment of robust and transparent reconciliation processes for projects and the jurisdictional accounting.

³² See De Gryze and Durschinger 2010, and Garrit 2010.

Figure 2

Phases	Progress	Progression of REDD+ through phases as agreed in Cancun	Potential progression of nested REDD+ through phases
Phase 1	Early action period	Establishment of a REDD+ plan/strategy and defining institutional and technical needs	Establishing guidelines for developing pilot subnational activities
Phase 2		Strengthening of monitoring systems and designing a REDD+ registry system	Endorsing and tracking of subnational activities
Phase 3	Full system established	Establishing a national/subnational reference level and MRV systems	Reconciling subnational activities with the national and/or jurisdictional system

International Guidelines

At the international level some guidelines could be helpful to further spur subnational action ahead of a national accounting system. This could come, for instance, as an acknowledgement by the International REDD+ System that project activities could be recognized under the International REDD+ System provided these projects receive country/jurisdictional approval (under a national or subnational REDD+ system) and abide by the rules and principles set-out by the International REDD+ System. This would stimulate private and governmental actions, with the former more prone to initiate investments and the latter to establish some basic domestic guidelines to guide these early efforts.

Domestic Guidelines

At the national or subnational level, countries would first need to make a policy choice as to whether or not to allow for recognition of early efforts. When the choice is made in favour of incentivizing early action, some basic rules and an incentive system could be put in place to guide projects. These could include:

- Requiring projects to follow basic technical, social and environmental standards that allow projects to qualify for the future national REDD+ system. That includes, for instance, making use of conservative baselines and based on jurisdictional (pre-agreed) parameters, so as to allow for a smoother transition to the national REDD+ system;
- Providing project developers the certainty that, if the pre-nesting standards are followed, projects and emission reductions or removals will be taken into account and grandfathered into the national REDD+ system; and

- Ensuring projects and emissions can be accounted for and tracked properly during the early phase. Without an appropriate database to register and collect information about the projects, their baselines and emission reductions, the task of reconciling pre-nesting activities with the national REDD+ system once established may become insurmountable.

Governments may establish their own official voluntary standards which would apply for projects seeking future recognition, or may refer to one or more of the existing voluntary carbon standards, such as the Voluntary Carbon Standard (VCS) and the Climate, Community and Biodiversity standard (CCB). They could also determine the period of validity of the baseline of a projects being grandfathered to a fully nested system or devise other rules to ensure smooth progression to broader jurisdictional accounting.

Governments may also lay down some basic procedures explaining how existing voluntary projects may be adjusted to meet the requirements of the official pre-nesting standard. This may include, for instance, dedicated provisions that indicate what modifications or additional information is required from existing voluntary projects to qualify under the official standard.

References

- Boyd, W., *Options Paper – Regulatory Design Options for Subnational REDD Mechanisms*, University of Colorado Law School (2010).
- Cortez, R., et al. *A Nested Approach to REDD+: Structuring effective and transparent incentive mechanisms for REDD+ implementation at multiple scale*, The Nature Conservancy and Baker & McKenzie (2010)
- De Gryze, S., and Durschinger, L. *An integrated REDD Offset Program (IREDD) for Nesting Projects under Jurisdictional Accounting*, Terra Global Capital, version 2.0 (2010).
- EPRI, *Brazil's Emerging Sectoral Framework for Reducing Emissions from Deforestation and Degradation (REDD) and the Potential to Deliver Greenhouse Gas Emissions Offsets from Avoided Deforestation in the Amazon's Xingu River Basin*, Palo Alto, 1021606 (2010).
- Garritt, T. *Making GCF/ARB REDD feasible for private sector investment*, GCF Representative (2010).
- GOFC-GOLD. *A sourcebook of methods and procedures for monitoring and reporting anthropogenic greenhouse gas emissions and removals caused by deforestation, gains and losses of carbon stocks in forests remaining forests, and forestation*, report version COP16-1, Project Office, Natural Resources Canada, Alberta, Canada (2010).
- IPCC. *Land Use, Land-Use Change, and Forestry*, edited by Watson, R.T., Noble, I.R., Bolin, B., Ravindranath, N.H., Verardo, D.J., and D.J. (2000).
- IPCC. *2006 Guidelines for National Greenhouse Gas Inventories*, Prepared by the National Greenhouse Gas Inventories Programme, Eggleston H.S., Buendia L., Miwa K., Ngara T. and Tanabe K. (eds). Published: IGES, Japan (2006).
- Jenkins, W.A., Olander, L.P., and Murray, B.C. *Policy Brief: Addressing Leakage in a Greenhouse Gas Mitigation Offsets Program for Forestry and Agriculture*, Nicholas Institute for Environmental Policy Solutions, Duke University (2009).
- Murray, B.C., et al. *Forging a Path for High Quality Compliance REDD Credits*. Nicholas Institute Report NI R 09-06 (2009).
- Parker, C., Mitchell, A., Trivedi, M., Mardas, N., Sosis, K. *The Little REDD+ Book*, Global Canopy Program (2009).
- Pattanayak, S.K., Wunder, S., and Ferraro, P.J. *Show Me the Money: Do Payments Supply Environmental Services in Developing Countries?* Review of Environmental Economics and Policy: 1–21 (2010).
- Pagiola, S., and Bosquet, B., *Estimating the Costs of REDD at the Country Level*, Forest Carbon Partnership Facility, Version 1.0 (2009).
- Pedroni, L. et al. *Creating incentives for avoiding further deforestation: the nested approach*, Climate Policy (2009).
- Pedroni, L. et al. *A Nested Approach to REDD+: How could it be implemented?* in “Pathways for Implementing REDD+”, UNEP RISOE Centre (2010).
- Schwarze, R., Niles, J.O., and Olander, J. *Understanding and managing leakage in forest-based greenhouse-gas-mitigation projects* in I. Swingland (ed.) “Capturing Carbon and Conserving Biodiversity: The Market Approach” London: Earthscan (2002).
- Wunder, S. et al. *Taking stock: A comparative analysis of payments for environmental services programs in developed and developing countries*, Ecological Economics 65:834–52 (2008).



**F O R E S T
T R E N D S**

The Family of Forest Trends Initiatives



*Using innovative financing to promote the
conservation of coastal and marine ecosystem services*

Ecosystem Marketplace

*A global platform for transparent information
on ecosystem service payments and markets*

Forest Trade & Finance

*Bringing sustainability to trade and financial
investments in the global market for forest products*



*Building capacity for local communities and governments
to engage in emerging environmental markets*



*Business and Biodiversity Offsets Program, developing,
testing and supporting best practice in biodiversity offsets*



*Building a market-based program to address water-quality
(nitrogen) problems in the Chesapeake Bay and beyond*



*Linking local producers and communities
to ecosystem service markets*

Learn more about our programs at
www.forest-trends.org