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Ready for the Market?
Assessing prerequisites for market-based REDD+ activities

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Abstract

With forestry related activities being responsible for about 17% of the global CO_2 emissions (IPCC 2007), the pressure towards establishing an international mechanism for reducing emissions from deforestation and forest degradation and to enhance forest carbon stocks in developing countries (REDD+) is extraordinarily high. While the details on the design of the mechanism are still to be agreed on under the United Nations Framework Convention on Climate Change (UNFCCC) and the question of financing remaining particularly contentious, the focus of attention gradually shifts from the international to the national level.

Against this background, this policy paper aims at identifying and assessing the prerequisites developing countries should fulfil in order to access a future market-based REDD+ mechanism. These readiness elements are identified through a literature review and by taking into consideration first experiences from ongoing REDD+ readiness initiatives. In a second step, an analysis using the criteria of legitimacy, effectiveness, efficiency and equity (LEEE criteria) is made. Finally, three emission trading schemes are briefly analysed with regards to their potential as REDD+ markets and the requirements for such credits.

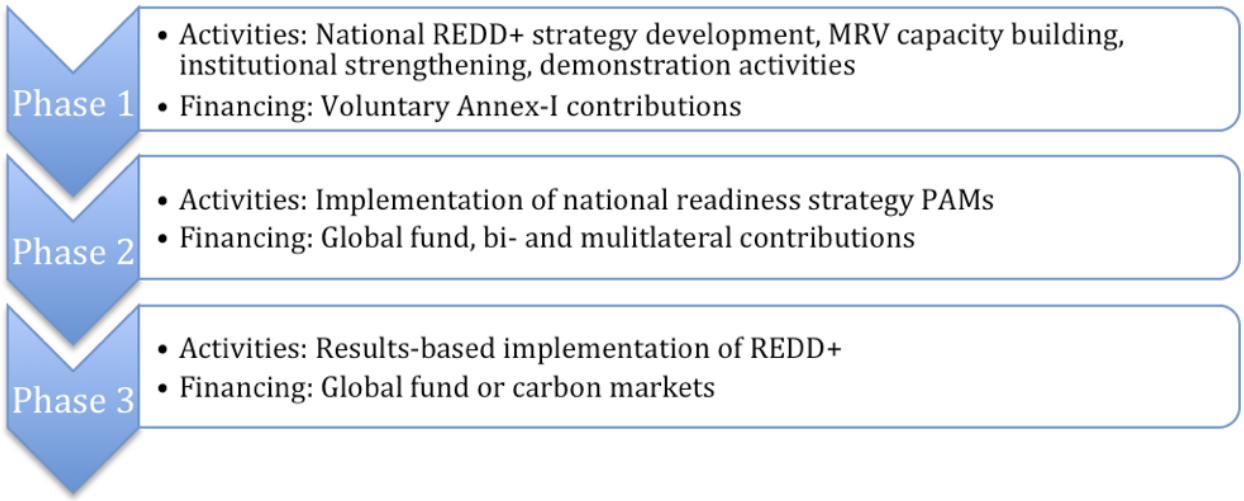
The analysis revealed that countries will have to fulfil a large number of requirements in all three readiness building blocks (technical readiness, institutional and legal readiness, and policy readiness) in order to produce legitimate, effective, efficient and equitable outcomes. While countries can be expected to significantly progress in terms of technical readiness in the near future, institutional and legal readiness will prove more difficult to achieve. The authors conclude that given the large differences between countries in their progress towards REDD+ market readiness, a general integration of REDD+ credits into carbon markets is currently clearly out of reach and should be considered at a later point of time, possibly after 2020. In the meantime, a REDD+ market separate from existing carbon markets could be established on a step-by-step basis. Advantages associated with such an approach comprise a prompt start of results-based activities in advanced countries while at the same time allowing for gaining important insights into the functioning of a REDD+ market without jeopardizing the integrity of the existing carbon markets. In progressing towards such an approach, a well-balanced treatment of all three readiness elements should be aimed at.

1 Introduction

The rationale behind the envisaged mechanism to reduce emissions from deforestation and forest degradation and to enhance forest carbon stocks in developing countries (REDD+) is simple: By giving forest carbon stocks an additional monetary value, an incentive for the protection of forests is established, allowing developed countries to support developing countries in protecting their forests. The details on the design of such a mechanism are currently being discussed at UN-level, with the debate on how efforts in forest protection should be financed remaining the most contested topic. A decision on whether financing should come from carbon markets or if a fund-based approach would provide the capital for forest protection in the long-term has not been taken yet and the 17th Conference of the Parties at the end of 2011 in Durban postponed a final decision on financing.[1]

From the very beginning the question on financing has been linked to the question whether developing countries are prepared enough for producing robust emission reductions. This debate has led to a number of important proposals for the design of the mechanism at the international level. One highly recognized proposal is the **phased approach** developed by the Meridian Institute for the Government of Norway (Angelsen et al. 2009). By taking into account the large differences between tropical forest countries regarding their preparedness for participating in a future REDD+ mechanism, this approach combines fund-based and market-based design elements structuring them along three phases (cf. Figure 1)

Figure 1: The Phased Approach



Source: Adapted from Angelsen et al. (2009).

Phase one allows countries to access international funding for developing national REDD strategies for activities such as institutional strengthening, developing of national strategies, and demonstration activities. In phase two, a global fund would be installed to finance the implementation of Policies and Measures (PAMs) developed in phase one. Continued support under this instrument would be dependent upon results, while

[1] At the Durban conference Parties agreed to launch a work programme in 2012 to further analyse options for the mobilisation of finance. The results of these activities will be considered by the Conference of the Parties at its eighteens session (UNFCCC 2012, Decision 2/CP.17 paras 127 to 131).

performance would not necessarily be monitored but only measured with proxy indicators. Following these two steps that are intended make countries ready for REDD+, a performance-based instrument would be introduced in the third phase with financing being dependent on quantified forest emissions and removals against an agreed reference level. In this phase, financing could either come from the global compliance markets or a large international fund as in the previous phase (Angelsen et al. 2009). With the Cancun Agreements, the phased approach was officially introduced at UNFCCC-level and an international framework for REDD+ was established.

With the phased approach being officially adopted, the question which criteria developing countries should fulfil to participate in the individual phases becomes crucial. This is particularly relevant in the event of an integration of REDD+ into the carbon markets which is one possible financing option in phase 3.

Against this background, this policy paper identifies and discusses different readiness elements for a market-based REDD+ mechanism. First, the main readiness elements are identified through an extensive literature review accompanied by first experiences from ongoing REDD+ readiness initiatives such as the World Bank Forest Carbon Partnership Facility (FCPF) and the United Nations collaborative programme on REDD (UN-REDD). In a second step, the authors look at the implications these readiness elements may have on the legitimacy, effectiveness, efficiency and equity of the REDD+ activities. Subsequently, the paper analyses selected emission trading schemes regarding their role as potential markets for REDD+ credits and assesses how the readiness elements identified are being addressed. Finally, the authors draw conclusions on the implications of their findings for the future inclusion of REDD+ into the carbon markets.

2 Criteria for assessing REDD+ market readiness elements

In the climate debate, three criteria are commonly being used to assess different policy design options and their implementation: effectiveness, efficiency and equity (see for instance: Stern 2008). Following the approach applied by Angelsen (2009a) and others, our assessment of the requirements developing countries should meet for participating in a future market-based REDD+ mechanism is based on these criteria with particular consideration given to positive as well as negative impacts (so called co-benefits and co-costs) potentially resulting from the implementation of REDD+ activities. In order to give special attention to the acceptance of REDD+ activities by local communities and individuals, the criterion of legitimacy has further been added to guide our assessment.

2.1 Legitimacy

The concept of overall political legitimacy refers to the acceptance of rules by a community. Instead of following these rules due to compulsion or pure self-interest, the community obeys them. Fritz Scharpf distinguishes between input and output-oriented legitimacy (Scharpff 1999, cited in Lederer 2011). Since output-oriented legitimacy is strongly connected to the results the instrument delivers, these aspects will in the following be covered through the criteria of effectiveness, efficiency and equity. Therefore, the criterion of legitimacy will be restricted to aspects of input-oriented legitimacy. Of particular relevance is the adequate participation of stakeholders in the decision making process, including open access to information, transparency of procedures and accountability. It is assumed that these elements promote the acceptance of the instrument established and are therefore pivotal for the success of REDD+ activities on the ground (Lederer 2011).

2.2 Effectiveness

Effectiveness refers to achieving the objectives of climate mitigation actions. Deforestation and forest degradation are among the largest sources of greenhouse gas emissions. According to the Intergovernmental Panel on Climate Change (IPCC), more than 17 per cent of global CO_2 emissions are stemming from the forestry sector (IPCC 2007). Expectations that a future REDD+ mechanism could contribute to substantially reduce these emission are high. Therefore, the requirements for countries to participate in the mechanism should be established seeking to maximise the mechanism's effectiveness. Critical aspects comprise the additionality of activities as well as the issue of carbon leakage and permanence, issues that will be treated in more detail later on (see also: Arens et al. 2010).

2.3 Efficiency

Efficiency refers to the cost-effectiveness of climate mitigation actions. REDD activities are expected to deliver relatively low-cost emission reductions, allowing to substantially reduce the overall costs of meeting GHG reduction targets (Stern et al. 2006). While this assessment might hold true when comparing REDD+

to other mitigation activities, costs for setting up institutions and building capacity in host countries, collection of data and compensating for lost income are substantial. Maintaining these costs at acceptable levels must be one of the aims when establishing criteria for country participation.

2.4 Equity

The concept of equity is very broad. While in the overall climate debate the question of equity revolves around the vulnerability of developing countries and responsibility of developed ones (Stern 2008), the concept is expanded to the subnational level when used in REDD+. More specifically, it refers to the adequate distribution of costs and benefits stemming from the activities implemented under the mechanism (Angelsen 2009a). Requirements for country participation should be established taking equity concerns into account.

Equity considerations are further closely linked to the thematic area of co-benefits, which was formally recognized by the Conference of the Parties in Bali 2007 by stating that "reducing emissions from deforestation and forest degradation in developing countries can promote co-benefits (…)" (UNFCCC 2009). One of these co-benefits are positive impacts on biodiversity since reduced deforestation also means decline of habitat destruction and loss of biodiversity (Karousakis 2009). There are several other co-benefits associated with REDD+, such as socio-economic benefits through the financial flows or improved governance and respect of the rights of forest-dependent groups through changes in the policies of host countries. Furthermore, REDD+ could also lead to improvements in the capacity of forests and societies to adapt to climate change (Dkamela 2011). If designed accordingly a national REDD+ architecture can actively promote such benefits. On the other hand, implementation of REDD+ could also have adverse effects on the environment and livelihood of the local population. Without appropriate regulations, REDD+ activities could result in the conversion of forests into plantations at the cost of biodiversity. Similarly, REDD+ may have negative implications for forest dependent communities and indigenous peoples, who could see their access to forest resources curtailed without being offered a viable alternative. (see also: Arens et al. 2010). These potential adverse effects make it imperative to establish appropriate criteria for country participation.

3 Building blocks for REDD+ Market Readiness

While there is consensus among UNFCCC REDD+ negotiators that developing countries will have to meet specific requirements in order to participate in a future REDD+ mechanism, the eligibility criteria are yet evolving and clarity is still lacking particularly with regard to a market-based REDD+ mechanism. By considering those elements already agreed on at UN-level and taking into account further requirements a market-based mechanism may demand, we will analyse the market readiness elements and their implication for the access to a future REDD+ mechanism. Following Aasrud et al. (2010) who define market readiness as "the necessary technical, policy and institutional frameworks that a country and/or its entities need to access and employ, through market mechanisms, private and public financing for low-carbon development" (Aasrud et al. 2010), three main market readiness building blocks will be analysed:

- Technical readiness,
- institutional and legal readiness and
- policy readiness.

While overlapping between these building blocks may at times be inevitable, the differentiation is deemed helpful for analytical reasons as well as for the identification of capacity requirements in developing countries.

3.1 Technical readiness

Technical readiness refers to the technical elements countries need to be capable of handling when accessing a market-based REDD+ mechanism. Elements revolve around the availability of data and their processing but are also linked to providing basic technical definitions. Technical readiness elements are closely linked to the effectiveness of the REDD+ mechanism.

3.1.1 Setting reference levels

Reference levels[2] can refer to two things: on the one hand, they can describe the business as usual (BAU) scenario, a prediction of what would happen without REDD+ activities. Here, reference levels expressed in tCO_2e establish a benchmark for estimating country's performance in reducing their forest related emissions. On the other hand, reference levels can refer to a crediting or compensation baseline that allows to assess the mitigation actions results which will be used for determining the appropriate REDD+ financial revenues (Meridian Institute 2011a). In order to avoid terminological confusions, we will use the term reference level only to the former definition, while the term compensation baseline will be used when referring to the latter.

Compensation baselines can be established by adjusting national historical or projected reference levels to international biophysical or economic disparities. It is a political process which will potentially influence the distribution of revenues across REDD+ countries (Meridian Institute 2011b). Accordingly, the question on how to establish compensation baselines will have to be agreed on at UNFCCC level and is not directly linked to the national REDD+ architecture, therefore going beyond the scope of this paper.

[2] Generally, the term reference level is being used for national or subnational accounting, while in the context of project-level accounting the term baseline is being used more commonly (Chagas et al. 2011).

At the national level, however, developing countries willing to participate in a future market-based REDD+ mechanism will need to establish robust reference levels that ensure additionality of emission reductions and minimise leakage. The process of setting reference levels includes several steps and requires data and analysis to determine the historic emissions and removals which may lie outside the current capacity of many developing countries (Meridian Institute 2011a). We will first present the current status of the negotiations at UNFCCC level and their requirements for the establishing of reference levels before discussing further prerequisites REDD+ countries should meet and what these requirements mean for the country's capacities.

Requirements at UNFCCC level

At the UN-level, the debate on REDD+ has for a long time centred around the question whether reference levels should be set at national or subnational **scale**. Since subnational reference levels are restricted to a smaller geographical area or to the boundaries of a project they do only require a limited set of data allowing for near-time and cost-effective implementation. In terms of effectiveness, however, subnational reference levels are highly problematic since they are especially vulnerable to the spatial displacement of carbon emissions (leakage). The problem of intra-national leakage can be effectively controlled for when national reference levels are established, allowing governments to pursue a broader set of policies and giving them a stronger sense of ownership (Wertz-Kanounnikoff / Angelsen 2009). These and further arguments led the UN negotiations on REDD+ to tend towards a national approach while not totally excluding the application of subnational reference levels. Hence, the Cancun Agreements request future REDD+ countries to develop national reference levels which can be combined from subnational reference levels. Subnational reference levels however will only be accepted as an interim measure (UNFCCC 2011, Decision 1/CP.16 para 71 (b)). At the Durban climate summit, these requirement were again confirmed (UNFCCC 2012, Decision 12/CP.17 para 11).

When setting reference levels, different **reference periods** can be used allowing for historical, historical adjusted or projected reference levels. The country's historical emissions represent a useful foundation for establishing scientifically robust reference levels, as historic data is expected to be reliable in predicting what will happen in the short term future. Another advantage in terms of reproducibility is that they are based on a simple and transparent calculation. Such an approach would further allow countries to better understand the drivers of deforestation and forest degradation and their extend and location which is crucial for the development of national REDD+ strategies (Meridian Institute 2011b). However, especially for countries with high forest cover but small rates of deforestation, an adjustment of the historical reference level to specific national circumstances could further improve accuracy and predictability of future deforestation and forest degradation activities. These and other arguments have also been recognized at UNFCCC-level where COP 15 established that reference levels should take into account historical data and be adjusted for national circumstances (UNFCCC 2010, Decision 4/CP15 para 7). At the 17th Conference of the Parties in Durban, Parties repeated this decision and further emphasized the need to include details on how the national circumstances were used to adjust the reference level (UNFCCC 2012, Decision 12/ CP.17 para 9).

COP16 decided to integrate the whole range of REDD+ activities in a future mechanism – possibly rewarding countries for reducing emissions from deforestation and forest degradation, conservation of forest carbon stocks, sustainable management of forests as well as enhancement of carbon stocks. Since then, countries have to set the **scope** of their reference level accordingly. Following the guidelines for submission of information on reference levels included in the "Guidelines for submission of information on reference levels", "significant pools and/or activities should not be excluded" (UNFCCC 2012, Annex of Decision 12/CP.17)

and if a pool or activity is omitted, REDD+ countries have to include the reasons for its omission (UNFCCC 2012, Annex of Decision 12/CP.17).

With regard to **data accuracy,** the guidelines agreed on at SBSTA 35 in Durban requests Parties to submit transparent, complete, consistent and accurate information that allows to technically assess the data, methodologies and procedures used for the construction of the reference level. Furthermore, the information provided should be guided by the most recent IPCC Guidance and Guidelines.

Further requirements for participating in a market-based REDD+ mechanism

Since the requirements agreed on at UNFCCC-level are not directly linked to a specific financing option, further preconditions might be needed if REDD+ is to be financed via the carbon market. The possibility to adjust reference levels to national circumstances as contained in the UNFCCC Decision 12/CP.17 (UNFCCC 2012, Decision 12/CP.17 para 9) -comes with the risk of generating emission reductions that are not additional ("tropical hot air"). This could undermine the effectiveness of the mechanism and the credibility of national systems (Angelsen et al. 2008). Therefore, upward adjustments of the reference level should only be possible when the country justifies the adjustment on an empirical basis. Adjustments could further be proved in form of a third party assessment (Meridian Institute 2011b).

Furthermore, the possibility to use subnational reference levels as an interim measure may be problematic. In a market-based REDD+ mechanism which rewards parties for results-based action monitored at national level, a benchmark established at national level would be the only level fully consistent with this approach (Greenpeace 2011).

Implications for the market readiness of REDD+ countries

The requirements established at UN-level as well as those stemming from the fact that a market-based mechanism imposes additional access criteria have important implications for countries willing to participate in REDD+. First, countries will have to make key decisions on the scope and on the definitions of their reference levels. A common forest definition has to be found and the scope of the activities to be included in the reference level as well as the reference time period have to be determined. After having made the fundamental decisions on the design, the data for the construction of the reference level has to be compiled and analysed. Two different types of data exist: first, rates of deforestation and tree planting as well as rates of forest degradation and enhancement of forests by activity type have to be collected. Second, this activity data will then be combined with emission factors of deforestation and degradation as well as removal factors for carbon stock enhancement. The combination of the data leads to a historic emissions estimate which can than be adjusted to national circumstances (Meridian Institute 2011b).

3.1.2 Technical readiness for Measurement, Reporting and Verification (MRV) of carbon

Commonly, measurement, reporting and verification (MRV) is being related to two things: to the actions on the ground and to the financial support for these actions. While both types of MRV will be of central relevance for the implementation of REDD+ activities (Herold / Skutsch 2009), in this section only MRV of carbon will be looked at.

Requirements at UNFCCC level

The urgent need for MRV was agreed on at UN-level with the Cancun Agreements stating that "results-based actions should be fully measured, monitored and verified" (Decision 1/CP16, para 73), and that "these actions require national monitoring systems" (Decision 1/CP16, footnote 8). One year earlier, at COP 15 in Copenhagen, Parties agreed that a combination of remote sensing and ground-based forest carbon inventory approaches should be used (Decision 4/CP 15, para 1 (d)(i)).

Further requirements for participating in a market-based REDD+ mechanism

The **IPCC Good Practice Guidelines (GPG)** provide clear methodological guidance for MRV of REDD+ related actions. They require that two variables are measured in order to calculate total forest carbon: in variable one (*forest area change)*, the geographical extension of the forest and changes due to deforestation and reforestation has to be recorded. GPG proposes three different approaches for estimating this first variable. Approach 3 in the Guidelines tracks land conversions between land categories resulting in a spatially explicit land-use conversion matrix and is therefore the only approach applicable to REDD+ (Angelsen et al. 2009). Measuring techniques are based on remote sensing and comprise sampling or wall-to-wall mapping allowing to identify and trace land cover and land use changes.

The second variable comprises the carbon density of the forest carbon stock exchange estimation or emission factors. Here, IPCC-GPG provides three levels (Tiers) of data accuracy and level of detail. While Tier 1 relies on global default data, Tier 2 requires national data, for example from forest carbon inventories. The highest level (Tier 3) demands detailed measurement of carbon stock changes for different carbon pools (Herold / Skutsch 2009). This includes below ground biomass, dead organic matter on the forest floor and soil carbon. While moving from Tier 1 to higher tiers improves accuracy and reduces uncertainty, complexity and costs of monitoring do also increase. Consistent with the phased approach developed by Angelsen et al. (2009) different levels of accuracy of emissions factors are needed in the different phases of REDD+. For a market-based REDD+ mechanism, which is only eligible in phase 3, at least Tier 2 should be used in the monitoring of key categories (Angelsen et al. 2009).

Implications for the market readiness of REDD+ countries

Several implications follow from these requirements. To monitor forest area change, countries have to review, consolidate and integrate existing data. If existing historical data is insufficient, countries will have to develop expertise in processing and in the interpretation of remote sensing data. Furthermore, understanding of deforestation drivers and emissions from biomass burning can help to better monitor changes in forest carbon. Further implications derive from the task to measure changes in carbon stocks: the existing information has to be consolidated, technical monitoring expertise has to be developed and estimations at Tier 3 have to be conducted. Since this means including carbon pools such as soil carbon, which cannot be estimated from the standing vegetation, on the ground measuring will be necessary (GOFC-GOLD 2011).

3.1.3 Existing Experiences from ongoing readiness initiatives

In the last years, important experiences have been made with the setting of reference levels and the establishing of monitoring systems for forests. Unilateral initiatives and those supported by Annex 1 countries as well as international programmes such as the Forest Carbon Partnership Facility and UN-REDD can help understanding the challenges countries are confronted with.

Unilateral and Bilateral Initiatives

Brazil, the country with the world's largest remaining area of tropical forest is neither a member of the UN-REDD programme nor of the Forest Carbon Partnership Facility (FCPF). In 2008, the government of Brazil started a national-level REDD programme based on the Amazon Fund. Since its inception in 2008, this fund administered by the Brazilian Development Bank BNDES received more than 100 billion US$ with the major part of the contributions coming from the government of Norway. While the REDD programme is not linked to carbon markets and offset credits are not issued to the funding providers, the programme's experiences are of great importance due to its performance-based approach. To estimate the performance, a national reference level based on a rolling average historical deforestation rate is used. The average is calculated using deforestation rates over a ten year period and is updated every five years (The REDD Desk 2011a).

The National Institute for Space Research (INPE) through its Brazilian Amazon Forest Monitoring Programme (PRODES) has been producing annual data on deforestation since 1989. The images produced by PRODES are publicly available and are widely used by NGOs and private institutions. Different research groups have developed techniques to detect and estimate deforestation and forest degradation by fire, logging and other activities (The REDD Desk 2011a). Brazil has further planned a stratified ground sampling network with permanent sample plots, which will be used for ground-truthing of satellite data. Together with PRODES this network makes Brazil the developing country with the most advanced monitoring system in the world (Morris / Riddle 2011).

China has its own remote sensing system and a ground inventory system based on fixed ground sample plots and regular measuring. Both monitoring systems are similar in sophistication to those used in the Annex-I countries (Morris / Riddle 2011).

In other REDD+ countries, forest monitoring programmes are still being developed. Under the partnership with Norway **Guyana** is developing a national MRV system along a capacity building roadmap approach comprising three phases: a national strategy development (2010), country readiness (2011/2012) and implementation (post 2012). Phase one consists of gathering information and filling data gaps, while in phase two capacities for historical forest monitoring and carbon monitoring at IPCC Tier 2 are conducted and a reference level is set. In the final implementation phase, the roadmap aims at establishing a consistent and continuous MRV system and the opportunities for moving towards Tier 3 carbon reporting may be assessed (Herold / Bholanath 2011). The first steps along this roadmap have been completed in March 2011 with a report that assesses historic levels of land cover and deforestation rates (Guyana Forestry Commission / Pöyry Forest Industry 2011). Technical challenges are, however, high: Donor country Norway had to revise the baseline by nearly 40% (Global Witness 2011). Currently research is being carried out to assess Guyana's degradation levels (The REDD Desk 2011b).

The Forest Carbon Partnership Facility

The Forest Carbon Partnership Facility (FCPF) is a global partnership of donor countries, carbon fund participants and a large number of tropical and sub-tropical countries administered by the World Bank. The programme was launched at the 13th Conference of the Parties in Bali and became operational in 2008 with the aim to assist tropical and subtropical forest countries to develop and implement the policies and systems for REDD+. The FCPF comprises two separate mechanisms: The Readiness Mechanism and the Carbon Finance Mechanism. With the readiness mechanism (Readiness Fund), the FCPF assists countries in developing a national reference scenario based on historical emissions and (where feasible) an assessment on how these

emissions will evolve in the future. FCPF is further supporting countries in establishing a (measuring) monitoring, reporting and verification (MRV) system for forestry emissions.

These technical components are among the challenging aspects for FCPF countries when formulating their Readiness Preparation Proposal (R-PP), a document which provides a framework for the activities countries need to implement for achieving REDD-Readiness. FCPF comprises thirty-seven REDD countries, of which thirteen have so far submitted R-PPs. Most countries needed external support for example to ensure that requirements such as the IPCC Good Practice Guidance are met from the start on. Currently, only a few countries, for example Mexico, have the adequate data and the internal capacity to develop historical deforestation and forest degradation reference levels. In their RPPs, most countries propose to use historical data and to undertake projections into the future on how drivers of deforestation and forest degradation might change over time. With regard to a national MRV-system, most countries are in the early stages of determining its design and still rely heavily on external technical expertise. Data accuracy is still limited and a Tier 3 system may only be achieved over time (FCPF 2010).

UN-REDD

The UN-REDD programme was launched in 2008 with the aim to assist and support REDD+ countries to prepare and implement national REDD+ strategies. The programme has 42 partner countries of which 13 are receiving direct support for national programmes provided through the Food and Agriculture Organisation of the United Nations (FAO), the United Nations Development Programme (UNDP) and United Nations Environment Programme (UNEP). UN-REDD does also provide readiness support in the development of reference levels and monitoring. First experiences from the Asian-Pacific region show that it is important to strike the right balance between the number of parameters to be measured, time available for measurement and cost-effectiveness. In Pacific Island Countries, a regional approach is needed to address capacity gaps since for most small countries costs would by far exceed potential REDD+ benefits (FAO et al. 2011).

3.1.4 Dealing with capacity gaps for reference level setting and MRV

As the experiences from ongoing readiness initiatives show, most developing countries still need external support in dealing with the requirements for establishing reference levels and setting an MRV-system. A report prepared by GOFC-Gold assessing national forest monitoring capabilities in 99 tropical non-Annex I countries draws a similar picture (Herold 2009). With a focus on the capacities for the monitoring of forest area change and the role of remote sensing technology, the study analysed international reporting and communications to the FAO, UNFCCC and the World Bank along with information from global data products, inter alia reflecting availability of data, current carbon stocks and technical challenges for implementing annual forest area change monitoring. The study's results indicate that further investments are needed in almost all countries to bridge the capacity gap in developing national measurement and monitoring systems in the long term. While almost all 99 countries could provide estimates of forest area and changes in forest area, the majority of countries were not able to meet the IPCC reporting principles accuracy and completeness when estimating their greenhouse gas (GHG) emissions and forest loss. Less than 20% of the countries studied have submitted complete GHG inventories and only three countries are considered to have very good capacities for monitoring forest area change and for establishing forest inventories (Herold 2009).

Countries have different possibilities in dealing with these data and capacity gaps when developing their national forest inventories. While using default data does not result in the data (Tier 3) needed for participat-

ing in a market-based REDD+ mechanism, professional inventories might be too expensive, seriously causing efficiency concerns. Furthermore, professional services might not be available at the scale needed. Under such circumstances, community forest monitoring can represent a cheap yet reliable alternative. First experiences indicate that training of communities in the mapping and monitoring of forests is cost-efficient and can lead to accurate data. In order to ensure environmental integrity, utilization of the data gained from community monitoring could be restricted to monitoring of deforestation and enhancement of carbon stocks, while reduced degradation is excluded (Skutsch et al. 2009). Applying such a conservative approach can also be considered more generally when dealing with uncertainty and incompleteness of data (GOFC-GOLD 2011).

3.1.5 LEEE implications

Ensuring high degrees of technical readiness in REDD+ countries is particularly important for safeguarding effectiveness and efficiency of REDD+ activities. Reference levels have to be set with the highest accuracy and predictability possible, since inflated baselines, leakage of emissions and non-additionality of REDD+ activities would not only drastically reduce effectiveness but could also seriously raise efficiency considerations, since funds could be spent more efficiently for other activities. A clear trade-off between effectiveness and efficiency is evident: setting reference levels at national scale and with the largest scope can be time consuming and expensive, possibly increasing the readiness costs and delaying REDD+ activities. Subnational reference levels would however increase the risk of leakage, putting environmental integrity in danger. Since delay of REDD+ action is not an option, the integration of such activities in a market-based mechanism would however have to wait until countries can set reference levels accordingly.

Technical capacities to MRV changes in forests are likewise essential for ensuring efficiency and effectiveness, since capacity gaps could seriously endanger environmental integrity. Engagement of communities represents a promising way to efficiently close the capacity gaps identified in most REDD+ countries. Furthermore, community monitoring does not only represent a cost-effective way to observe changes in forests but can also increase legitimacy of the activities on the ground. If the concept of monitoring is expanded from the mere measuring of carbon to the measuring of social and environmental impacts, it is also pivotal for ensuring that equity and co-benefits are respected (cf. section 3.2.4).

3.2 Institutional and legal readiness

Establishing national-level institutions[3] able to deliver forestry related emission reductions at scale in an effective, efficient and equitable way will determine the success of any REDD+ mechanism (Streck et al. 2009). A national REDD+ architecture has to define responsibilities and capacities of the different actors involved and the rules of their interaction. Strengthening forest governance will be one central prerequisite for the long-term success of REDD+ activities.

While the design of the institutions will depend on country-specific needs and circumstances, national REDD+ institutions will be required to fulfil a series of functions in order to make the mechanism work. Four main tasks and functions can be identified:

1. defining overall responsibility and coordination,

[3] "Institutions are the conventions, norms and legal rules that form the actors and regulate the relationships between them" (Vatn / Angelsen 2009).

2. setting an institutional framework for MRV,
3. dealing with forest tenure and carbon rights and
4. overseeing safeguards and establishing national standards.

In the following, these main tasks of national institutions will be presented and implications be discussed.

3.2.1 Overall Responsibility and Coordination

In REDD+ countries, overall responsibility for REDD+ and its implementation lies with the national government. Coordination could therefore be assigned to the highest level possible or alternatively be assigned to a ministry, a **task force** or commission. Tasks would comprise, but are not limited to the development of a national REDD+ strategy and its implementation as well as the communication with relevant stakeholder groups and ministries. This can be particularly challenging due to the potentially conflictive interests of the stakeholders involved when activities are implemented across sectors (Vatn / Angelsen 2009).

Furthermore, a **national REDD+ focal point** should be established for coordinating relations between the national REDD+ implementation and the international REDD+ mechanism. In a market-based approach, the national institutions would further have to oversee relations with the international carbon markets. If REDD+ actions would be implemented at the subnational level, REDD+ countries would need to appoint a specific national REDD+ authority and develop approval criteria that take into account national priorities and the legislative context (Streck et al. 2009).

3.2.2 Institutional Framework for MRV

REDD+ countries need to designate one or more entities responsible for the collection of data necessary for measurement, reporting and verification. These entities can be new public agencies or be built by recurring to existing organisations. Entities should be established at a high level in the hierarchy and receive full support from the entity responsible for coordinating REDD+ activities and the government (Chagas et al. 2011). Existing capacities have to be carefully assessed before decisions on establishing new institutions can be made. Furthermore, vertical coordination as well as international cooperation to bundle capacities may be useful (Bernard / Minang 2011).

3.2.3 Dealing with Forest Tenure and Carbon Rights

REDD+ is about changing the conventional way in which people use forests. This makes it necessary to have clearly defined forest tenure structures in countries where REDD+ activities will be implemented, since "forest tenure determines *who* can use what resource, for *how long* and under *what condition*" (Streck 2009 p. 154). In most developing countries, however, forest tenure is not clearly defined or at least not formalised and there is a considerable gap between formal right holders and actual land users (Savaresi / Morgera 2009). Claims are often contested between the state and civil society, with the state often claiming statutory ownership rights over most forests and not recognising forest dwellers' claims of customary rights. Furthermore, claims are often overlapping between companies and forest dependent peoples, with the latter frequently being the less powerful and thus less successful claimant (Sunderlin et al. 2009).

Clarification of tenure is not only a prerequisite for implementing forest protection activities in general terms, but it is also of pivotal importance to protect forest dependent people whose rights may be threatened through those activities. This particularly concerns landless people, who are among the poorest segment of

the population and do often heavily depend on forest livelihoods (Vatn / Vedele 2011). In such a setting, secure tenure rights could give local people more leverage in relations with governments and private sector actors. From an investor's perspective, financing of REDD+ activities implemented in a country with insecure and contested forest tenure rights poses several serious threats. Possible tensions with local communities could bring reputational risks for the investor as well as high delivery risks of REDD+ commitments. Both types of risks might limit private sector engagement making it difficult to leverage the necessary funding (Cotula / Mayers 2009). According to Dutschke et al. (2008), both robust tenure systems and a minimum level of enforcement are necessary for engaging private investors. Broad tenure reforms, which recognize customary claims and clarify property rights could give fundamental support to the implementation of REDD+ (Sunderlin et al. 2009).

Intrinsically linked to the issue of forest tenure is the question on the **ownership of the carbon** stored in the trees. Since the main idea behind REDD+ is to reduce forestry-related emissions by giving trees an additional monetary value, carbon will become a new form of asset. With the implementation of REDD+ activities on the ground, new legal rights are being created: carbon rights. While a single definition is still missing, the term "carbon rights" can be used to describe the property rights to the carbon stored in biomass as well as to the right to the benefits arising from the transfers of these rights, for example through emissions trading (Peskett / Brodnig 2011).

According to Pesket and Brodnig (2011) the relevance of establishing carbon rights varies depending on the level of implementation and accounting of REDD+ activities in the countries. If REDD+ activities are being implemented exclusively through policies at the national level, allocation of carbon rights is not necessarily needed. However, if the government authorises the implementation of carbon projects that are being accounted for at subnational levels and crediting and trading of carbon rights is allowed subnationally, establishing of property rights in carbon will be pivotal (Streck 2009). In most countries, the entity that has the right to the forested land will also have the right to the carbon stored in the forest. Hence, in cases where the government controls land and forests, carbon rights would stay with the government, while private forest owners would be authorized to trade the carbon stored in the forests they own. In other countries such as Bolivia, however, all subsoil resources are owned by the state (Doherty / Schroeder 2011). In such cases, the legal title to the forest carbon is divorced from the forest tenure ownership and considered a public state-controlled commodity. There are several concerns associated with this approach. Effectiveness may be undermined, since drivers of deforestation and forest degradation would not be targeted directly and REDD-incentives may not reach rural actors (Corbera et al. 2011). Furthermore, if carbon rights can be traded and sold separately from the land ownership it raises the question whether carbon owners can force landowners to manage the land in a certain way, particularly threatening poor forest communities (Global Witness 2011). Therefore, in cases where carbon is treated separately from the question of forests tenure, the protection of social and environmental safeguards becomes even more central.

Generally, forest tenure and carbon rights can be regarded as two intertwined aspects that are elementary for most REDD+ activities. Clarification of tenure with due consideration of customary rights would provide a solid basis for the implementation of several REDD+ activities in developing countries. However, clear carbon ownership is a necessary precondition only for the implementation of particular REDD+ activities. It should be noted that formal recognition of these rights is not sufficient but that their enforcement must be ensured in order to really make a difference.

3.2.4 Overseeing Safeguards and Establishing National Standards

While the term safeguards is generally being associated with the objective of preventing and mitigating social and/or environmental damage, in the context of REDD+ the concept also includes the aim of promoting benefits (Moss / Nussbaum 2011). This definition is linked to the broadening of the mechanism's scope, which has been expanded from REDD to REDD+. By including the "conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries" the original assumptions of unconditional benefits on biodiversity and other ecosystem services which where originally considered as co-benefits became obsolete. Therefore, the term *co-benefits* has been replaced by *safeguards* now including both, avoiding negative impacts as well as enhancing positive effects (Pistorius et al. 2011).

In order to achieve these goals when implementing REDD+ on the ground, national governments in REDD+ countries will have to establish national standards as well as social and environmental safeguards in line with international requirements. This is particularly important if countries are to develop a system with direct payments to carbon right holders (Vatn / Angelsen 2009).

Requirements at UNFCCC level

Concerns about potential adverse effects of REDD+ activities led civil society organisations as well as indigenous peoples and forest dependent communities groups to actively promote the establishing of REDD+ safeguards at the international level. At the Cancún conference, Parties agreed on a list of safeguards (UNFCCC 2011, Appendix 1, para 2). When developing their national strategies and action plans, countries are inter alia requested to ensure that indigenous peoples' and local communities' rights are being respected and their full and effective participation is guaranteed. Furthermore, Parties agreed that REDD+ activities have to be consistent with the conservation of natural forests and biological diversity, and countries are to ensure that activities are not used for the conversion of natural forests but serve to enhance social and environmental benefits (UNFCCC 2011, Appendix 1, para 2). In addition, Parties in Cancun requested REDD+ countries to develop a "system for providing information on how the safeguards […] are being addressed and respected throughout the implementation of the [REDD+] activities…" (UNFCCC 2011, para 71 (d)).[4] In Durban, it was decided that guidance on how REDD+ countries should establish Safeguard Information Systems (SIS) is to be developed.

Implications for REDD+ countries

Different implications follow from these safeguard requirements, one central element being the **involvement of stakeholders** potentially affected by the REDD+ activities and ensuring **their rights are being respected**. Public participation can be of great importance to inform governments on the needs and values associated with forests and improve the design of REDD+ activities. Furthermore, active participation could help in creating ownership among stakeholders and could thus increase accountability, legitimacy and credibility of public authorities (Morgera 2009). However, explicit guidelines on how countries should give communities the possibility to actively participate in REDD+ decision making are still lacking. Since the Cancun agreements make indirect reference to the United Nations Declaration on the Rights of the Indigenous Peoples (UNDRIP), the concept of Free, Prior and Informed Consent (FPIC), which has been adopted by UNDRIP, seems best suited for ensuring the "full and effective participation" of affected communities. This concept

[4] Other safeguards included in the Decision are ensuring permanence and avoiding leakage of emission reductions. These aspects have already been adressed in section 3.1 and will therefore not be considered in this section.

includes several aspects: broadly, "free" means communities cannot be forced to participate in decision making while the term "prior" stresses the fact that consultation have to take place before activities are implemented or land for such activities is being allocated. "Informed" means communities have to be given understandable information on potential impacts of the planned activity and on their participation possibilities. Furthermore, governments must inform communities on the results of the consultations and the final decisions. The term "consent" requires communities to approve the activities in question before they are being implemented (IIED 2011).

Since FPIC is a relative new concept of international law and policy, it is not yet well established as a principle in most national legal systems and often neglected (Anderson 2011). REDD+ countries would therefore need to establish respective principles and develop institutions and procedures that allow for the participation of affected communities. Once respective legal provisions on participation of REDD+ activities are in place, FPIC would represent a legal obligation binding both, the national government and proponents of REDD+ activities (Morgera 2009). While it can be expected that the requirements at international level will be further developed in the future, the diversity of potential REDD+ countries makes it necessary to leave enough room for individual design of the participation mechanisms by ensuring safeguards are respected.

The safeguards on the **preservation of biological diversity** contained in the Cancún Agreements explicitly mention the risk of *conversion of natural forests* (UNFCCC 2011, Appendix I para 2 (e)). An operational basis for the implementation of this safeguard is, however, missing. In order to make the safeguard more operational, UNFCCC negotiators will have to agree on adequate definitions and specify concepts such as Sustainable Management of Forests (Pistorius et al. 2011). However, as it is the case for social safeguards, UNFCCC should provide safeguard provisions that are as specific as possible while at the same time taking into consideration existing differences between REDD+ countries.

Hence, international provisions will have to be reconciled with national regulations and countries will need to develop particular biodiversity safeguards and make decisions on which and how benefits are to be reached. In order to implement those safeguards, country specific biodiversity principles will have to be established that take into account national circumstances and priorities. They can provide a foundation for further elaborating criteria and indicators that would allow for monitoring of the biodiversity safeguards (Pistorius et al. 2011). In defining national biodiversity standards, countries can draw important lessons from other existing UN Conventions. The UN Convention on Biological Diversity (CBD), for example, can support countries in developing national objectives and indicators. The REDD+ social and environmental standards (REDD+ SES) developed in a process facilitated by CARE International and the Climate Community and Biodiversity Alliance (CCBA) can further give assistance and orientation in developing national standards, which could direct and guide national implementation of REDD+ and demonstrate consistency with the UNFCCC safeguards (Dickson et al. 2009).

However, the development of social and environmental standards and principles at the national level will not automatically lead to their materialization on the ground. Reflecting these concerns about the provisions remaining mere *paper tigers* Parties in Cancun agreed to the development of guidelines for establishing **Safeguard Information Systems (SIS)** at the national level. In order to elaborate these guidelines, the Subsidiary Body of Scientific and Technical Advice (SBSTA) invited Parties and Observers to submit their views on the role of the SIS, the information Parties should provide and how these should be collected and provided. According to several submissions the main function of a SIS would be to provide regular information on how REDD+ safeguards are being addressed and respected. Several Parties and Observers call for

clear quality criteria such systems should comply with, such as transparency and comparability while others emphasised the need to consider national circumstances in the development of an SIS (Larsen et al. 2012), However, the SBSTA text resulting from the negotiations in Durban does not reflect the submitted views and recommendations and remains at a general level, mainly due to concerns about national sovereignty and potential administrative burdens on the part of developing country Parties (Larsen / Davis 2012). Therefore, the specific implications such guidance would have on REDD+ countries are at the moment unpredictable and will depend on further progress of the negotiations and their outcomes. REDD+ countries will have to thoroughly follow the advancement of the debate at the international level and simultaneously progress in establishing systems to monitor how safeguards are addressed in the implementation of REDD+ activities.

3.2.5 Existing Experiences from ongoing readiness initiatives

Institutional aspects lie at the core of readiness initiatives in REDD+ countries. Important experiences have been made with the identification of institutional and legal shortcomings and attempts of closing these gaps. In the following, we will compile experiences made by different readiness initiatives and see what these tell us for the institutional readiness of REDD+ countries.

Bi- and Unilateral Initiatives

Brazil is among the most advanced REDD+ countries. When developing an organizational structure for REDD+, an inter-ministerial mode was chosen, with the Ministry of Foreign Affairs, the Ministry of Environment and the Ministry of Science and Technology being mainly responsible for the national REDD+ policy agenda. At the subnational level, there are several state institutions designing and implementing policies and activities (The REDD Desk 2011a).

With multiple claims and conflicts over resources ongoing, tenure insecurity is considered to be the largest challenge for the successful implementation of REDD+ in the Brazilian Amazon. While specific regulations addressing land tenure and rights are still lacking, initiatives such as the Terra Legal Programme initiated in 2009 by the federal government aim at regulating land ownership of settlements in the Legal Amazon. The success of the program is, however, limited and the challenges in clarifying land tenure in the Amazon are high (Brito / Barreto 2011). Similarly, Brazil still needs to clarify who is entitled to the carbon rights, particularly whether forest dependent communities will have access to payments if activities are exercised on public lands (Corbera et al. 2011).

Brazil has not yet established a system for addressing safeguards. Most activities are, however, using voluntary standards such as the CCB Standard to achieve benefits beyond carbon. In a wide process coordinated by the Ministry of Environment, civil society organizations developed the “Social and Environmental Principles and Criteria for REDD+” which were presented to the Ministry of Environment in July 2010 and hence included into the national REDD+ regime under development (The REDD Desk 2011a). Subsequent to this process, the Observatório do REDD was established with the aim to accompany the formulation and implementation of public policies focusing on REDD+ and related projects and programs at federal and subnational level (Observatório do REDD n.d.).

UN-REDD

Under the lead of UNDP, the UN-REDD Programme aims at supporting countries in strengthening their institutional capacity and in developing respective policies (UN-REDD Programme 2011a). With regard to

the establishment of institutions to coordinate REDD+ activities, experiences from Asia and the Pacific show that coordination across multiple government agencies is strongly advisable. Positive experiences have been made with a stepwise approach, where core groups for decision making are established first and additional agencies are brought in at a later stage. Such an approach may be well-suited for several countries (FAO et al. 2011). UN-REDD's guidance requires REDD+ countries to establish regulations on forest tenure and the rights to own, manage and sell carbon rights and the subsequent certified or verified emission reductions (Anderson 2011).

With regard to the role of stakeholders, experiences show that their involvement is needed along the whole process through formal and informal mechanisms and can lead to unexpected positive results if implemented effectively. UN-REDD has formally incorporated the UNDRIP into its policy instruments (Morgera 2009), and developed the "Guidelines on Stakeholder Engagement in REDD+ Readiness with a Focus on the Participation of Indigenous Peoples and Other Forest-Dependent Communities"[5] together with the FCPF. First experiences with its implementation in Vietnam show that the implementation of the principle of Free, Prior and Informed Consent (FPIC) needs a much larger scale in REDD+ than in other activities (such as in the mining sector) and that there are several challenges associated with the process. Hence, a great variety of communication tools is needed for awareness rising along with local facilitators that communicate REDD+ issues in the individuals first language. Experiences have further shown that single events are not sufficient to secure FPIC but that an ongoing process has to be established (FAO et al. 2011). UN-REDD's experience from Cambodia has further revealed that a harmonisation of existing laws, policies and programmes is more effective and efficient than designing new policies and institutions. By comparing existing initiatives with REDD+ readiness priorities, synergies can be used and identified gaps can be closed (FAO et al. 2011). To further advance the implementation of FPIC, UN-REDD is currently in the process of developing UN-REDD Guidelines on Free Prior and Informed Consent (UN-REDD Programme 2011b). With regard to awareness raising and capacity building, the first years of UN-REDD showed that these processes require more time than originally assumed (FAO et al. 2011). While these are lessons from Asia and the Pacific, an in depth analysis for activities in Africa and Latin America is still ongoing. Preliminary lessons however highlight the need for knowledge sharing, coordination of activities as well as timing aspects as being of central importance (Katerere 2011).

FCPF

Providing support to countries in setting up their REDD+ national management arrangements, including environmental and social safeguards, is one of the core targets of the FCPF's readiness fund (FCPF 2011a). One central element of the FCPF`s Readiness Preparation Proposals (R-PPs) is a detailed analysis of the country's present situation and steps on how to proceed towards REDD+ readiness. These can provide important insights in two respects: on the one hand, the formulation process of the R-PPs sheds light on the challenges and aspects to be considered in the future implementation of REDD+ readiness activities. On the other hand, the content of the R-PPs provides information on countries' current REDD+ readiness. An evaluation commissioned by FCPF's governing body, the Participants Committee, identifies some key lessons from the R-PPs' formulation process. Aspects highlighted are cross-sectoral cooperation and the embedding of the REDD+ strategy in overarching policy frameworks, which have been identified to be essential for the mobilization of political will. Partnerships among often contentious stakeholders further proved key in re-

[5] available at: http://www.unredd.net/index.php?option=com_docman&task=doc_download&gid=5421&Itemid=53 .

solving policy-sensitive topics. The R-PP formulation process also showed that countries are making important experiences in how to best integrate stakeholders into decision making. With regard to the future implementation of REDD+, experiences indicate that knowledge in managing forest resources at the local level needs to be better reconciled with the ideas on REDD+ policy frameworks and incentive programmes at the national level. While the evaluation is mainly focusing on the formulation process of the R-PPs, the study also highlights the fact that the quality of the R-PPs has improved progressively over time, inter alia through increasing demands in the R-PP formulation templates provided by the FCPF (Baastel / Nordeco 2011).

Valuable insights can also be gained through reviews by institutions such as the World Resources Institute (WRI), which is regularly reviewing the R-PPs submitted to the FCPF in order to assess the extent to which governance issues have been addressed. In their findings, the authors indicate that countries are addressing an increasing number of governance aspects in their R-PPs. While often concrete steps on how to further proceed are proposed information and plans provided are currently not sufficient to achieve REDD+ readiness, according to the review. Particularly land tenure and stakeholder engagement represent issues that need additional consideration (Goers Williams et al. 2011).

With a view to social and environmental aspects, these shortcomings are also reflected by a study conducted by FERN and the Forest Peoples Programme. According to their assessment, most R-PPs prepared by FCPF partner countries lack adequate plans for policy and legal reforms to ensure forest dependent people's rights and improve forest governance. Accordingly, existing weaknesses in national legal frameworks are not considered appropriately, particularly regarding customary rights (Dooley et al. 2011).

These experiences from the first years of the Readiness Fund have been reflected by the FCPF, which is regularly improving the R-PP template to address these and other shortcomings. With the aim to improve the respecting of safeguards, in its last amendment of the R-PP template the FCPF approved the "Common Approach to Environmental and Social Safeguards for Multiple Delivery Partners" that constitutes an overarching framework for risk assessment in the REDD+ readiness preparation process. It requests countries to implement four guidelines established by the FCPF, inter alia through the implementation of a Strategic Environmental and Social Assessment (SESA), by establishing a Environmental and Social Management Framework (ESFM) and by respecting the FCPF Guidelines on Stakeholder Engagement in the REDD+ Readiness process (FCPF 2011b).

While setting of guidelines is therefore still under progress, the FCPF is progressing at high pace and with DRC, Nepal and Indonesia three countries signed the readiness preparation grant to receive support in implementing the activities proposed in their R-PPs. Furthermore, the Carbon Fund, which is meant to provide performance-based payments to REDD+ countries once readiness has been achieved, became fully operational in May 2011. However, the FCPF has still to develop the criteria for assessing if countries are actually ready for receiving performance-based payments. Establishing these criteria will prove challenging in the light of the diversity of REDD+ countries and their individual circumstances.

3.2.6 LEEE implications

A functional institutional structure will be pivotal for the efficient and effective implementation of REDD+ activities on the ground. When assigning the coordination REDD+ to a task group, the aim of integrating a maximum number of relevant ministries has to be reconciled with the aim of having an efficient decision making process that can maximize REDD+ effectiveness through early action. The support and involvement

of the highest political class can be particularly helpful to strike this balance, especially in countries with weak institutional structures. The decision on whether establishing new institutions for MRV or delegating REDD+ monitoring to existing bodies is more advisable in terms of effectiveness and efficiency will have to be decided on a country per country basis following a thorough analysis of the national situation.

Forest tenure and carbon rights have important implications on equity and political legitimacy of REDD+ activities, particularly if the integration of REDD+ into carbon markets is being considered. As has been shown, clarification of tenure is a prerequisite for protecting forest-dependent peoples from possible adverse effects of REDD+ activities and represents the basis for a participatory approach. More generally, recognizing the rights of indigenous peoples and forest dependent communities is essential for achieving ”local credibility” and support (Anderson 2011). While necessity of assigning carbon rights may depend on the particular design of the national system, dividing carbon ownership from land tenure poses additional risks to equity which have to be eliminated or at least reduced.

However, establishing national standards and overseeing safeguards will also be essential in more general terms. Overall political legitimacy can be significantly increased through stakeholder involvement and achieving of equity as well as co-benefits effects can be maximized. Experiences however show that countries are still far from meeting the requirements while the experiences of UN-REDD and FCPF show that appropriate participation of forest dependent communities is challenging.

3.3 Policy readiness

Technical readiness as well as institutional and legal readiness encompasses only parts of the prerequisites needed to implement REDD+ activities. Since REDD+ is a mechanism driven by actors at the national level, a strong commitment of governments in REDD+ countries is pivotal. The identification of the underlying causes of deforestation and forest degradation, the selection of the policy instruments best suited for the country specific situation as well as the establishing of a mode for channelling international revenues and benefit sharing are pivotal elements of this policy readiness.

3.3.1 Identifying drivers of deforestation

Understanding deforestation and identifying its drivers lies at the heart of any attempt to reducing forest emissions and increasing removals (negative emissions). Causes of deforestation are not only diverse but also spread across several levels. Angelsen (2009b) distinguishes between three different layers. At the lowest level (level 1) are the agents that induce the land-use change leading to forest degradation and deforestation. The main agents are large companies clearing land for agricultural use, cash crop smallholders and subsistence farmers practicing shifting cultivation. Their behaviour is influenced by decision parameters of an intermediate level (level 2), such as market access and commodity prices, representing the direct causes of deforestation. These are in turn affected by the underlying causes of deforestation located at a superordinate level (level 3): macrovariables and national as well as international policies (Angelsen 2009b).

To properly tackle deforestation, governments will have to identify its main drivers and relate them to the specific national situation. With the causes of deforestation and forest degradation in most countries being manifold, measures to reduce related activities will have to go beyond mere changes in the forestry sector and changes will have to be induced in other fields, such as agriculture and other economic sectors. While

mainstreaming of forest protection considerations into other policy fields will represent a complex and time-consuming process, countries will also have to make a choice on the policy instruments in the forestry sector.

3.3.2 Choosing the adequate forestry policy instruments

Under a future REDD+ scheme, a great variety of policy instruments may be available to individual REDD+ countries. Making a decision on which policy might work best is strongly linked to the identification of the underlying causes of deforestation as well as an analysis of the specific national circumstances.

Payments for environmental services (PES)

Payments for environmental services (PES) can be defined as "voluntary, conditional transactions between at least one buyer and one seller for well-defined environmental services or corresponding land use proxies" (Wunder 2009). Once established, a functioning REDD+ mechanism will in itself represent a PES-like system functioning either via public funding or carbon markets. In a national level PES system, individuals and communities voluntarily enter a contractual relationship with the buyer to receive payments for environmental services. For such a contract to be concluded, the level of payments the sellers receive for their environmental services has to be high enough to make the protection and enhancement of forests more attractive than their destruction. Difficulties in estimating these dynamic opportunity costs can be extraordinarily high, for instance when not dealing with a well-functioning market, where the *perceived* opportunity costs could deviate extremely from the costs a market would suggest. For some practices opportunity costs may even be inappropriate, for instance for illegal logging activities (Gregersen et al. 2010).

Furthermore, for such a system to function, exclusivity of land rights (tenure) and equitable benefit sharing agreements have to be established. However, these conditions are not met everywhere. In the Brazilian Amazon, for instance, 67% of the threatened forestland is subject to ill-defined or non-clarified tenure (Börner et al. 2011). PES may further pose large burdens on forest dependent peoples, since the costs for quantification of mitigation levels might be too high. Even if communities have the necessary resources to contract technical assistance, there may not be sufficient advisors with the adequate experiences. The experiences from Mexico show that most land users need professional assistance in order to access payments for water, biodiversity or carbon services (FAO 2012).

Concessions for forest protection

Another policy option for implementing REDD+ is recurring to existing commercial forestry management arrangements such as forest concessions, where the government concedes the right to use the forest and demands royalties or other fees in return (Costenbader 2011). The government can then freely distribute these revenues among local or regional governments and local communities. While this represents one major advantage for countries without an adequate legal REDD+ framework, corruption is one main concern with this approach. Government officials may make an arrangement with large companies and decide on a concession at the expense of local communities, which are not properly involved in the decision-making process. Even if local communities are actively and freely participating in the decision-making, the risk of uneven revenue distribution remains high (Costenbader 2011).

Community forest management

The advantages of consigning the management of forests to the communities living in and from these forests seems most obvious, particularly since there are vast experiences with communities managing forests. About

10% of the worlds forests are currently officially managed by communities (White / Martin 2002 cit. in Agrawal / Angelsen 2009). If informal use and control is being considered, this fraction is even higher.

In the past decades, the failure of national governments in managing forests due to corruption and lax law enforcement called for a stronger involvement of communities. Several initiatives aimed at decentralizing the management of forest and increase local community control while experiences have shown that communities can actually manage forests in a sustainable way (Agrawal / Angelsen 2009).

Community forest management including higher ownership and management responsibility and autonomous rulemaking has been identified to correlate strongly with positive forest protection outcomes and better equity outputs (Hayes / Persha 2010). However, there are also serious risks, including a rise in local corruption and increased vulnerability of communities. Therefore, national policies should prevent elites capturing the benefits accruing from REDD+ and ensure benefits are transferred to the individual community members. Governments will further need to develop procedures that ensure risks are being shared between communities and the government (Costenbader 2011). Furthermore, tenure may be an issue here. Even in cases where tenure reforms have been implemented, communities face numerous obstacles before benefiting from the changes on the ground, as Larson (2010) has shown in her comparative study. Challenges identified comprise unfavourable state policies, complex bureaucracies, as well as high upfront costs and the lack of credit facility (Larson 2010).

3.3.3 Channelling of international funds

A national REDD+ architecture would need to disburse resources to REDD+ actions and establish a system to allocate resources for emission reductions and carbon stock enhancement. In doing so, countries must ensure legitimate benefit sharing as well as compliance with national and internationally agreed procedures. Vatn and Angelsen (2009) identify four different options REDD+ countries have at their disposal when establishing their national REDD+ funding architecture.

The first option would be **national market-based funding**, where payments would be channelled from the international carbon markets to local projects through market directed intermediaries. This structure would be similar to the existing CDM market and the voluntary carbon market with activities being typically project-based**.** Expectations are high that such a project-based approach has advantages in terms of efficiency, since project developers may be able to identify those activities with the lowest opportunity costs while at the same time costs for bureaucracy will be held low. However, these advantages may be reduced when the scale of REDD+ increases. Furthermore, a project-based solution also poses some serious risks with leakage being one main concern due to the small scale of activities (cf. section 3.3.1). With regard to equity, the pivotal role private actors are playing in such an architecture raises some concerns, since these actors may be predominantly driven by the interest in carbon revenues rather than achieving other environmental and development goals. This could also influence regional distribution of projects since private actors are expected to be risk adverse and will therefore implement projects in areas with formalised property rights. The strong position of private actors may further marginalise the state and local authorities, particularly if the scale of REDD+ increases (Vatn / Angelsen 2009).

One second option is a **fund established separate of the state administration**. Here, funding could not only be channelled to individual projects but might include payments to national programmes. With a structure similar to the existing conservation trust funds (CTF), such an approach is expected to provide stable long-term funding and provide stability in times of political or economic uncertainty, making them better suited

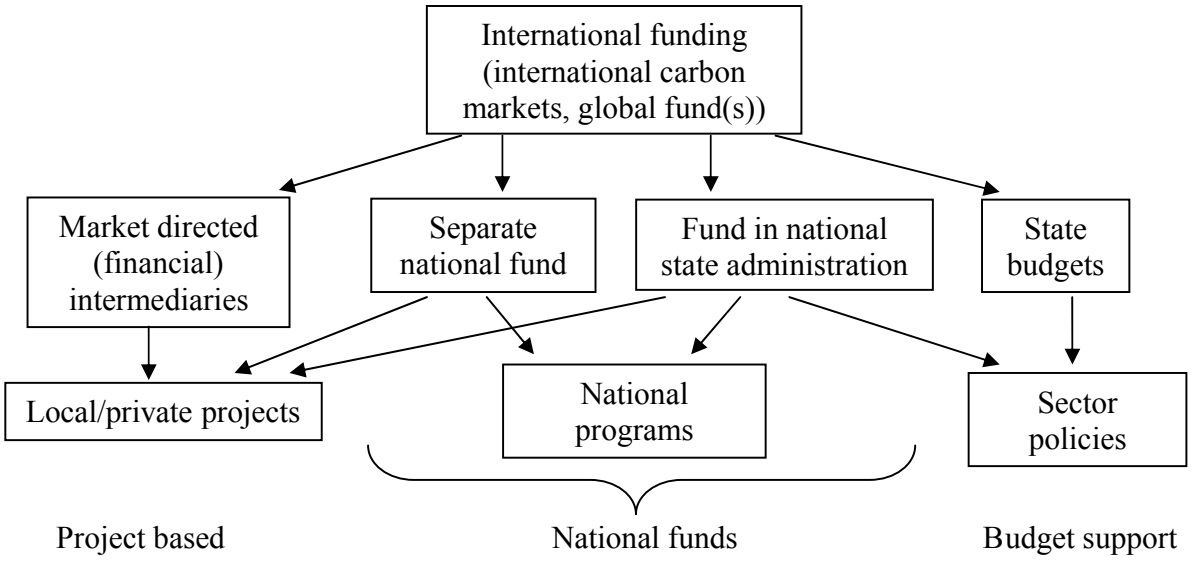
for the disbursement of REDD+ funds. With regards to efficiency, separate funds are also likely to be less bureaucratic than national funds (Spergel / Wells 2009). At the same time, however, legitimacy concerns might arise due to the fact that such a fund would sideline the country's decision making structures (Vatn / Angelsen 2009).

Another possibility is the establishing of a **fund within the national state administration** which would allow to channel revenues to individual projects, national programmes and sector policies. While such a solution generally receives strong support from national authorities, legitimacy granted by the private sector is, however, uncertain. In terms of effectiveness, such an architecture is expected to have positive effects on permanence.

Option number four is **specific budget support**, where revenues flow to the national governments to support national policies. Such an architecture would receive strong support and therefore legitimacy from national leaders, while support from the private sector might be much weaker and strongly depend on the government in place. It would further allow governments to coordinate policies across sectors and give them a stronger sense of ownership and possibilities to control leakage. In terms of equity, budget support poses the possibility to integrate different goals of REDD+ and achieve co-benefits. There is however, no guarantee that such goals are seriously taken into concern by the host government (Vatn / Vedele 2011).

Irrespective of the specific funding architecture chosen, countries would need to ensure benefits would be channelled to the local people directly affected by REDD+ activities.

Figure 2: Options for national REDD+ funding architecture



Source: Vatn and Angelsen (2009)

3.3.4 Existing Experiences from ongoing readiness initiatives

Bi- and Unilateral Initiatives

Among the main agents of deforestation in **Brazil** are the expansion of extensive cattle farming and agriculture. The underlying causes of these activities became apparent in 2007, when commodity price increases led to a significant increase of deforestation. Under the Action Plan for the Prevention and Control of Deforestation in the legal Amazon the federal government responded with a Decree that allowed to implement several activities to decouple the rise of cattle and soy prices and attenuate the increasing deforestation activities. Rural landholders in those counties with the largest deforestation rate were required to present a current description of their holdings and land use, with those failing to comply with the requirement having their access to government agricultural credit blocked. The decree further required state and environmental agencies to embargo illegally deforested landholdings, prohibiting the sale and purchase of goods from embargoed areas. This experience from Brazil highlights the importance of detecting the underlying causes of deforestation and its cross-ministerial mitigation activities as well as the significance of high-level support for forest protection activities (EDF 2009).

With the Amazon Fund administered by the Brazilian Development Bank (BDES), a separate national fund has been established to complement national efforts in reducing deforestation with funding from developed country governments and private companies. The Fund has attracted considerable attention due to its performance-based approach. However, the performance-based distribution of funding has since been limited to the national level, while the disbursement system at the project level functions similarly to traditional conservation trust funds (Caravani 2011). The fund supports projects in several areas, including management of public forests, sustainable forest management and environmental control, monitoring and inspection. Up to 20% of the fund can be used to support the development of monitoring systems in areas beyond the Amazon biome (Amazon Fund 2011). By January 2012 US$ 37,8 million have been disbursed (Fundo Amazônia 2012).

FCPF

Component two of the template for developing a R-PP requires countries to carefully analyse their national situation and to identify the drivers as well as the underlying causes of deforestation (FCPF 2011b). Countries however often need analytical support to successfully fulfil these requirements and to select the appropriate policies. FCPF countries such as Guyana and DRC have therefore mobilized foreign expertise in the process of writing their R-PPs and conducted trainings to improve analytical capacities (FCPF 2010).

FCPF experiences highlight the need to consider combined policy approaches for tackling deforestation in areas with diverse drivers of deforestation within one country. Nepal's government is for example proposing community-based programmes in the country's middle hills, where the forests are exploited for fuel wood and building material by villagers but is exploring other approaches in the lowland region, where agricultural expansion and immigration are the main drivers (FCPF 2010). The capacities to select the appropriate policies by taking into account factors such as opportunity costs to produce monetary estimates are currently not existent in many countries. Several FCPF countries are however integrating such factors in their R-PPs with the assistance from external consultants (FCPF 2010).

3.3.5 LEEE implications

Policy readiness of REDD+ countries has important implications for all four LEEE elements. The identification of drivers of deforestation is not only a prerequisite for an effective and efficient tackling of forest destruction but has also serious repercussions on legitimacy and equity. Overestimating particular drivers while neglecting others will not only result in misallocation of funds but may also undermine overall legitimacy of the policies. Furthermore, REDD+ can only be implemented in an equitable way if the policies also address the underlying causes of deforestation and not just its agents. This is particularly relevant when dealing with subsistence farmers practicing shifting cultivation and other forest-dependent peoples, who need viable alternatives to the extensive exploitation of forest resources.

The choice of the right **forestry policy approach** also has different repercussion on the efficiency, effectiveness, equity and legitimacy of the national REDD+ structure. While a national PES system is often expected to deliver the most effective results due to its market-based approach, the diversity of individual opportunity costs may lead to over- and underpayments of participants, drastically reducing its effectiveness. Geographical differentiation of payments and the combination with community forest management may mitigate these risks. Due to their limited size, forest concessions will generally have only a reduced carbon impact, particularly in the long run. Such an approach may further be problematic with regards to equity in cases where the activities affect forest dependent communities living in the area, making safeguarding principles particularly relevant. In the short run, however, conservation projects can lead to more efficient results provided that land ownership of the respective area is clarified and undisputed (Costenbader 2011). Systems based on community forest management can be expected to deliver efficient results, especially if combined with community forest monitoring. The legitimacy of such an approach may also be larger since acceptance of activities among individuals may be higher if promoted with the assistance of the local authorities. With any of these three approaches discussed the government will have to ensure that the system is designed in such a way that participation of those who need the revenues most urgently is safeguarded. Furthermore, aligning the REDD+ strategy with other low carbon development plans can further increase effectiveness of the activities.

The question on the appropriate forestry policy approach is strongly linked to the choice of a system for **channelling the international funds**. As this brief overview showed, every single financial design option has its advantages and shortcomings with regard to effectiveness, efficiency, equity and legitimacy. These shortcomings should be carefully assessed taking into consideration the national circumstances. Furthermore, it should be noted that options are not mutually exclusive and a combination of systems might represent the best solution. In any case, REDD+ countries will need to identify the architecture best suiting its national conditions. It has to be further kept in mind that developments at the international level will influence and potentially limit the options countries have when designing their national funding system.

4 The integration of REDD+ in Emission Trading Systems

If REDD+ activities are to generate credits, markets for such credits are needed. While the UN is still discussing whether REDD+ activities will be financed via carbon markets or through an international fund, individual schemes have already adopted individual positions towards the inclusion of REDD+ credits. In the following, we will briefly analyse the different REDD+ positions with particular attention to the readiness elements these schemes require REDD+ countries to fulfil for market participation.

4.1 California's Cap and Trade Programme

With its Global Warming Solutions Act of 2006 (AB 32) the State of California established a programme to reduce California's greenhouse gas emissions to 1990 levels by 2020. One central tool to reach this target is a cap and trade scheme, which will cover about 85% of the states greenhouse gas emissions. The scheme will extensively rely on offsetting allowing covered entities to fulfil up to 8% of their obligations through offsets, including internal offsets from Californian entities not covered by the scheme. In the first commitment period, entities will be allowed to fulfil up to 2% of their emission obligation with credits stemming from sector-wide emission reductions in developing countries. This limit will be lifted to 4% in the subsequent commitment periods. While this regulation can be expected to produce a large demand for sector-based offset credits, no sector has yet been approved for inclusion (Climate Action Reserve 2012).

Art § 95994 of the cap and trade system`s final regulation order includes six general requirements for sector-based crediting programmes, which can be ordered along the three readiness building blocks discussed above. Regarding technical readiness countries willing to participate need to have a transparent MRV system in place and have developed an emission reference level against which performance can be measured. There are also some requirements associated with institutional readiness of the host countries. Hence, eligible programmes need to have established requirements that ensure credits are real, additional, quantifiable, permanent, verifiable and enforceable, as well as a mechanism to ensure public participation and consultation. With regard to policy readiness, the regulatory order requires the host jurisdiction to develop a plan for reducing the emissions from the respective sector. One additional requirement that may not always be applicable takes into account the fact that emission reductions achieved through project activities might have to be reconciled with the overall sector-level accounting from the jurisdiction (CARB 2011). While these requirements do already provide general orientation, the regulation does neither specify how these requirements can be met nor which sector-specific requirements will further be relevant.

The same holds true for the forestry sector, which will be the first sector to be included in the scheme. While REDD-specific regulations are still being developed, California signed Memoranda of Understanding with the states of Acre (Brazil) and Chiapas (Mexico) in November 2010. In February 2011, the REDD Offsetting Group (ROW) was established to develop recommendations on REDD regulations. On the one hand, the working group is examining the legal and institutional elements needed for California to recognize REDD-based emission credits. On the other hand, the technical experts are examining the legal, policy and technical elements (including social and environmental standards) sectoral REDD programmes should achieve in order to be recognized in California`s cap and trade scheme. ROW is expected to present its final recommendations in summer 2012 (ROW n.d.).

4.2 US federal: The Waxman-Markey bill

The Waxman-Markey Bill, also known as the American Clean Energy and Security Act, can be regarded as one of the most promising approaches to curb greenhouse gases at the US-federal level. However, after having been approved by the House of Representatives the bill failed to pass the Senate. Despite this breakdown and the fact that its approval will foreseeable remain highly uncertain for the next years to come, the bill is illustrative since it considers the integration of forestry offset credits into the proposed cap-and-trade systems to fight deforestation.

The bill contains several country eligibility criteria that can be clearly grouped along the three building blocks discussed above. Regarding technical readiness, countries are required the "technical capacity to monitor, measure, report and verify carbon fluxes from deforestation using internationally accepted methodologies such as those established by the Intergovernmental Panel on Climate Change" (2 A). The bill further contains several requirements with regard to the institutional and legal structure of the country such as "strong governance and mechanisms to equitable distribute deforestation resources". Policy readiness is addressed by requiring a forest sector strategic plan, which inter alia assesses drivers of deforestation and identifies adequate policies as well as steps to improve data collection and processing (para 3 A-C). On the basis of these requirements, a list of eligible countries would be established and regularly updated.

Further requirements can be derived from the provisions for the individual activities which are described in greater detail and address different aspects including the participation of forest-dependent communities, protection of environmental sustainability and technical issues such as reference level setting and MRV of forest changes.

In sum, the bill addresses several of the relevant aspects discussed in the above sections on REDD+ readiness. However, since acceptance of credits would be finally dependent on the REDD+ country being listed by the government, the government would have some room for assessing whether conditions for participating in the mechanism are actually met, before allowing its credits to access the market.

4.3 The European position and the EU-ETS

The European Union has adopted a critical position towards the use of forestry credits. Accordingly, the EU Emissions Trading Scheme (EU-ETS) does not accept CERs generated by afforestation and reforestation projects under the CDM (temporary certified emission reductions - tCERs and long-term certified emission reductions - lCERs). The main reasons for this decision are related to concerns regarding environmental integrity. Particularly the question on permanence is considered incompatible with a company-based trading system, since this could impose great liability risks on Member States (von Unger et al. 2012). Such concerns have ultimately led to the decision of the European Commission not to include forestry credits into the EU-ETS before 2020 (European Commission 2008). Regarding the application of forestry credits for government compliance the Commission adopted a slightly different position. Under the Effort-Sharing-Decision (ESD), which establishes binding targets for sectors not covered by the EU-ETS and which is, unlike the EU-ETS, not directed towards installations or individuals but to the Member States, tCERs and lCERs are accepted.

While neither of the two instruments is currently accepting credits from REDD+ activities, the Commission announced to test the recognition of deforestation credits for government compliance. However, the Commission's communication from 2008 specifies some pre-conditions that have to be met before the inclusion of forests in carbon markets could be considered as a realistic option. Besides appropriate emission reduction targets from Annex I countries that are considered necessary to generate sufficient demand for credits, the communication also mentions the need to properly monitor and verify the emissions as well as the necessity to resolve the permanence and leakage problems. The risk of solely focusing on carbon stocks without properly regarding other important ecosystem services is further mentioned as an issue to be resolved before inclusion of forest credits in carbon markets should be considered (European Commission 2008).

This position has also been expressed at UN-level. In its submission from November 2011, the EU supports the aim of phasing REDD+ credits into the international carbon market in the medium to long term under the condition that an international agreement with ambitious reduction targets be in place, environmental integrity of markets is preserved, robust MRV requirements are met and safeguards included in appendix 1 of the Cancun Agreements are fully respected (Poland / European Commission 2011). Hence, the European Union continues highlighting the concerns associated with forestry credits while supporting the integration of such credits into the carbon markets in the long run.

5 Conclusions

This policy paper aims at identifying and assessing the elements needed for developing countries to access a future market-based REDD+ mechanism. These readiness elements, which have been structured along the three building blocks of market readiness developed by Aasrud et al. (2010), were identified through a literature review and by taking into consideration first experiences from ongoing REDD+ readiness initiatives. In a second step, the elements were analysed using the criteria of legitimacy, effectiveness, efficiency and equity (LEEE criteria). Eventually, our focus shifted to the demand side and three emission trading schemes were briefly analysed with regards to their potential as REDD+ markets and the requirements for such credits.

Technical Readiness	Institutional and legal Readiness	Policy Readiness
Setting national reference levels	Defining overall responsibility and coordination	Identification of drivers of deforestation and forest degradation
Measurement, reporting and verification of forest carbon	Setting an institutional framework for MRV	Selection of the adequate forestry policy instrument
	Dealing with forest tenure	Channelling of international funding
	Dealing with carbon rights	
	Overseeing of safeguards and national standards	

Table 1: Readiness elements structured along the three readiness building blocks

Assessing three readiness building blocks

Our analysis revealed that **technical readiness** can be regarded a central prerequisite for market readiness. Its elements represent a foundation for results-based REDD+ activities with particular relevance for safeguarding effectiveness and efficiency. Hence, countries willing to participate in a market-based REDD+ mechanism should be required to set accurate and predictable reference levels at the national level in order to maintain the environmental integrity of the instrument. These reference levels should be accompanied by national monitoring systems that deliver robust measurement, reporting and verification of REDD+ related activities.

Institutional and legal readiness of countries showed to have high relevance for all four LEEE-criteria of legitimacy, effectiveness, efficiency and equity.

1. In order to safeguard these principles, governments will have to establish national-level institutions that are able to perform several tasks and functions. The task of assuming the overall responsibility and coordination of REDD+ activities should be assigned to the highest level possible, facilitating cross sectoral implementation of activities and allowing fast intervention in cases of undesired repercussions.
2. REDD+ countries will further need to set an institutional framework for MRV either by establishing new institutions or by recurring to existing ones. Functioning institutional structures for oversight of

REDD+ and a good institutional framework for MRV are both particularly important for ensuring the effectiveness and efficiency of REDD+.

3. With REDD+ aiming at inducing changes in the conventional way of using forests, clearly defined forest tenure structures represent another prerequisite for the implementation of REDD+ activities, which are also pivotal for ensuring rights of forest dependent people are being respected.
4. With tenure in most developing countries not being fully formalised, establishing such a structure represents a challenging task, whose complexity is further increased with the assignment of carbon rights at the subnational level.
5. Overseeing of biodiversity and social safeguards as well as the establishing of national standards represents another series of tasks with crucial importance for the implementation of REDD+ activities. In establishing national principles, procedures and standards, REDD+ countries could be informed by concepts developed within and outside of the UNFCCC. More broadly, REDD+ countries will have to thoroughly follow the progress at the UN-level while at the same time advancing in the establishing of their own concepts for monitoring safeguards under close participation of civil society.

Policy readiness has been identified as a third set of prerequisites that complements the technical, institutional and legal readiness of REDD+ countries and has relevance for all four LEEE-principles. Governments need to develop a thorough understanding of the process of deforestation and forest degradation, be able to identify its manifold causes and identify those policy instruments best suiting their national situation. Furthermore, a system on how revenues are allocated has to be established, depending on the type of REDD+ activities the governments intends to implement. Irrespective of the funding architecture chosen, countries would further need to ensure benefits are channelled to those directly affected by REDD+ activities.

Analysing provisions for REDD+ in existing emissions trading systems

The readiness elements identified guided our subsequent **analysis of three carbon trading schemes:** the European Union's ETS, the newly established Cap and Trade Programme in California and the offsetting scheme foreseen in the Waxman-Markey bill. The analysis revealed very different positions regarding the use of forestry credits generally and the potential of these schemes as markets for REDD+ credits in particular. While the EU maintains a very critical stance towards forestry credits and excludes REDD+ credits from its ETS, both American schemes allow or would have allowed the use of REDD+ credits for compliance. Regulations are, however, not entirely defined yet. While documents of both schemes address several of the readiness elements identified in our study, these are not elaborated in more detail and the Waxman-Markey bill remains at a mere general level while California is still in the process of defining concrete regulations.

Experiences of REDD+ pilot schemes

REDD+ countries face, however, significant difficulties in fulfilling the above-mentioned requirements, as our **analysis of existing readiness initiatives** suggests. Capacity gaps concerning elements of all three readiness building blocks were identified. Regarding technical readiness, requirements for establishing robust reference levels and providing reliable MRV are still exceeding current capacities and data availability in most REDD+ countries. However, different options for closing these gaps are currently being explored and the experiences with community monitoring as well as technical advances in remote sensing point towards

improved data availability in the near future. By contrast, institutional and legal readiness will prove even more difficult to achieve. Installation of functional institutions able to successfully coordinate and oversee REDD+ activities, development of strategies on how to deal with forest tenure and carbon rights as well as the establishment of national safeguards and standards will in most cases only be possible with external assistance and may take a long period of time. However, external support alone will not suffice to overcome these challenges but a serious commitment of governments for achieving policy readiness through the correct identification of drivers and the choice of respective policies is equally necessary. Here again, capacities are still insufficient.

With REDD+ countries displaying large differences in their progress towards meeting the requirements for participating in a market-based REDD+ mechanism, a general integration of REDD+ credits into carbon markets is currently clearly out of reach. Without totally excluding the possibility of including REDD+ certificates in future carbon markets, such step should be considered at a later point of time, possibly in 2020, after a thorough assessment of the progress made by REDD+ countries has been conducted. Furthermore, outstanding issues such as additionality and permanence will have to be solved if REDD+ certificates are to be used for offsetting purposes.

The way forward

In the meantime, a **separate REDD+ market** could be established on a **step-by-step basis**. Following this approach, countries meeting clearly defined admission requirements could successively be authorized to enter the market to implement result-based REDD+ activities while countries not yet prepared for the market would continue receiving readiness support on a fund basis. There are several advantages associated with such an approach.

1. Fast-start activities that immediately reduce forestry-related emissions can be combined with the goal of expanding the REDD+ market in the long-run.
2. Important insights into the functioning of a REDD+ market could be gained and current knowledge gaps filled, without jeopardizing the integrity of the existing carbon markets.
3. REDD+ countries would continue receiving support in their activities related to all three readiness building blocks.
4. REDD+ countries would be incentivised to implement the required steps, potentially triggering progress towards market readiness.
5. The progress of readiness activities could be carefully monitored and evaluated, while experiences with REDD+ implementation could be gained and implementation difficulties and potential solutions be identified.

In pursuing such an approach, future REDD+ activities must ensure that progress in the realm of institutional and legal readiness keeps up with the improvements of technical readiness. More generally, a well-balanced treatment of all three readiness building blocks' elements with due consideration of their particular implications for achieving LEEE-outcomes should be the aim of any future REDD+ readiness activity.

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