

Meridian Institute

**Fostering Carbon Markets
Investment in REDD**

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Passion. Expertise. Results.

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Executive Summary

The entry into force of the Kyoto Protocol and the EU Emissions Trading System has generated a growing demand for emission reductions, partly met through the use of market-based mechanisms. The value attached to carbon instruments exchanged on the so-called “carbon markets” has been successfully attracting private- and public-sector capital directed to emission reducing projects and programs: in developing countries under the Clean Development Mechanism and, to a lesser extent, in countries with economies in transition under Joint Implementation and International Emissions Trading.

A policy framework seeking to leverage the carbon markets to mobilize funding for reduction of emissions from deforestation and forest degradation (REDD) should draw upon certain important lessons from these recent experiences in order to create appropriate investment conditions.

- *Public and private sectors buyers can play complementary roles.* Government buyers have the capacity to support enhanced risks and transaction costs i.e., play a critical role in building and ground testing host countries’ investment environment (capacity, institutions, regulations and procedures) for market-based REDD projects. Once suitable investment conditions are set, participation of private sector buyers would deepen and broaden financing capacity for REDD activities and catalyze involvement and empowerment of people at local level (e.g., lesson from the CDM in India) which could enhance ownership and sustainability of REDD activities.
- *REDD market mechanisms should support national programs as well as project- and program-based activities.* Whether under a Baseline & Credit approach or under an Allowance-based scheme, market mechanisms should recognize and reward carbon benefits from REDD activities of different scales. Expected benefits would include enhanced diversity of activities, developers and funding sources, as well as reduced environmental integrity risks.
- *Market liquidity is essential.* This suggests full integration of REDD in international and domestic climate policy schemes (i.e., no separate scheme for REDD) and a good level of *fungibility of REDD carbon instruments with main carbon currencies* (e.g., CDM credits).
- *Strong governance and risk mitigation provisions are critical to establishing a sound investment environment.* Host country and international institutions should work alongside to establish and manage a robust market infrastructure, ensure environmental and socioeconomic integrity of market-based REDD activities, and minimize undue transaction costs for developers and investors.
- *The transition to a market-based approach shall be carefully prepared.* Earlier activities – e.g., capacity and institution building and then pilot REDD activities under input-based approaches – are essential to create the type of stable enabling environment for private sector to engage in REDD under a market-based approach. Carbon finance can only be raised for REDD if there is no competition with input-based mechanisms for funding the same projects or activities (as a market-based approach would bear an “unfair” performance obligation compared to an input-based mechanism).

This report aims to review how carbon markets can be leveraged as a source of funding for reduction of emissions from deforestation and degradation (REDD) and to explore the conditions under which the private and public sectors are likely to engage in REDD carbon markets.

1 How do carbon markets provide incentives for reducing emissions?

Carbon instruments are standardized graded products that can be traded and used by agents with a (mandatory or voluntary) obligation to “cover” their greenhouse gas (GHG) emissions. The so-called carbon markets refer to overall transfers of carbon instruments, triggered by a situation of scarcity.

At present, agents responsible for demand of carbon instruments are:

- Developed countries with quantified emissions limitation and reduction objectives (QELRO) under the Kyoto Protocol;
- Companies with mandatory emissions targets under domestic emissions trading schemes (with the EU Emissions Trading System currently acting as the benchmark); and
- To some extent, entities and individuals wishing to offset their emissions on a voluntary basis¹.

The supply of carbon instruments typically follows the implementation of emission reduction activities that will: generate carbon instrument *ex nihilo* (in a “baseline & credit” or an offset scheme such as the Clean Development Mechanism); or free up carbon instruments created *ex ante* to materialize a cap put on emissions (allowance-based system).

The value attached to carbon instruments – priced on the carbon markets – has been successfully attracting private and public sector capital directed to emission reducing activities, especially under the CDM. Two typical funding routes have emerged:

- The “buyer” approach: purchase of carbon instruments
- The “investor” approach: direct financing of emission reducing activities

Sections 2 and 3 look at the conditions under which the private sector has been engaging in carbon credits transactions on each route; so far the engagement of the private sector in REDD is limited. The analysis is therefore applying the lessons from other segments of the carbon market to REDD. Section 4 analyses the specificities of carbon markets-based engagement by public sector buyers. Section 5 draws relevant lessons for the post-2012 international climate policy framework.

¹ The level of demand experienced and forecasted on the voluntary markets is a level of magnitude below the compliance markets. Though the voluntary carbon markets are playing a pioneering role in market-based initiatives to foster investment in REDD, they are unlikely to mobilise sufficient funding to finance widespread REDD and will thus not be explored in this report.

2 What are private carbon credits buyers looking for?

2.1 A liquid market for transacted assets

A well functioning market should provide the possibility to buy or sell at any point in time at the prevailing market price; it is essential that participants can engage in transactions as and when they opt to do so in order to establish sound market strategy and manage their risk. Hence, liquidity is (one of) the most important criteria private sector participants use to gauge its success and attractiveness. Liquidity also guarantees a more effective and robust price signal as it contributes to minimizing price volatility risks.

The same principles apply in the carbon markets: participants will favor those carbon instruments which provide the best liquidity prospects².

Potential demand is a strong driver for liquidity. In other words, liquidity of a carbon instrument will be directly correlated to its utilization domain: the potential emissions volume it is susceptible to cover and, to some extent, the number of final buyers entitled to use it.

At the moment, the two largest sources of demand for carbon instruments are undoubtedly EU ETS participants and Annex B countries under the Kyoto Protocol. The possibility to use CDM (and JI) credits in both systems has created a significant potential demand for such carbon instruments, on the back of which active and innovative financial activities have developed, with close to US\$ €9 billion³ of capital raised by dedicated investment vehicles at the end of 2008.

According to market participants – both financial intermediaries and compliance buyers – the qualitative fungibility of CDM credits with EU allowances has been critical to the success of the CDM. Indeed, the so-called Linking Directive has effectively capped the absolute demand level from the EU ETS. But CERs (and ERUs) can essentially be used in lieu of EU allowances⁴. The CER market has been able to benefit from the increasing dynamism experienced in the EUA market (for instance through “swaps” between EUAs and CERs). A clear market price has thus emerged for CERs which establishes a clear value to that new class of asset, and thereby provides sufficient confidence for market participants to engage in CDM credit transactions.

In the context of REDD, the important take away from the CDM experience is that the essential fungibility between EUAs and CERs was critical to ensuring strong linkages between EUA and CER markets and therefore liquidity on the CER market.

² Such a preference is only reinforced by lessons from the recent credit crisis which highlighted the potential implications of illiquid markets (e.g., impossibility for some market participants to close their position on sub-prime products).

³ Source: Carbon Funds Outlook (ICF International, 2009) - http://www.icfi.com/markets/energy/doc_files/carbon-procurement-guide.pdf

⁴ provided they have not been generated by afforestation or reforestation projects

2.2 A rightful and creditworthy counterparty

Whether a buyer will engage in any transaction depends on its evaluation of the risks that the seller does not deliver on what is agreed under the terms of the contract.

For purchases of carbon credits to be made on the basis of secure contracts, private sector investors strongly favor engaging with well identified developers of carbon credits generated by clearly defined projects. Private sector carbon buyers have developed the capacity to identify and manage the risks associated with entities (whether a commercial organization or not) involved in implementing and monitoring project activities that contribute to reducing emissions.

They classically perform due diligence on:

- whether a seller possesses clear legal title to the carbon credits; and
- the capabilities – technical, financial, administrative, managerial, etc. – of the developer (and its potential partners) to implement the project and deliver expected credits according to plans.

On that basis, buyers will be able to establish whether and under which conditions an appropriate risks/rewards balance can be found under the transaction and include adequate provisions in the contract to define and enforce respective responsibilities of the parties.

For such conditions to be met in the context of REDD carbon market mechanisms, it will be important that:

- host countries ensure that land tenure, land use rights, and judicial processes are clear and transparent;
- relevant laws regarding carbon credit ownership and transfer exist, apply to REDD projects, and can be enforced; and
- direct project crediting is allowed, whether in conjunction with or instead of country-level crediting.

2.3 Direct responsibility only for those performance risks that can be effectively addressed under a carbon credit transaction

Numerous and variegated risk factors can affect performance of a project activity to generate the expected volume of emission reductions and generate it on time.

As outlined above, buyers systematically assess such risks. They will generally be most interested in low-risk projects and will manage them to some extent through contractual liability arrangements. The more liability and risk taken on by a seller the more attractive the credits become for a buyer, and the higher attainable prices will be. Buyers will implement proper mitigation options on residual risks they have to bear (e.g., portfolio diversification, hedging, etc.).

However, in any transaction, certain unmitigated risk factors will remain, either because the cost of mitigating those risks is too high or because they can be controlled by neither the seller nor the buyer (for instance, a market downturn

affecting customers' demand for electricity produced by a power plant developed under the CDM). However, for the transaction to move forward, the buyer needs to quantitatively evaluate the likelihood and impact of such risks occurring and positively determine that residual risks does not outweigh the potential benefits attached to the transaction. The buyer can also decide to transfer the risk onto a third party, for instance through insurance solutions.

In the context of REDD activities, several risk factors are challenging to take on for both parties to a transaction, in the absence of a wider enabling environment:

- *The risk of non-permanence of emission reductions* – This risk is fundamentally different in REDD compared to A/R in that REDD activities reduce emissions from a source, in the same way as energy efficiency in a fossil-fuel based power station. Permanent climate benefits are created even if deforestation rates were to increase to pre-REDD levels. However, a “rebound” effect cannot be excluded that would raise deforestation rates above the baseline after the end of the REDD project “lifetime”. This creates a potential liability for REDD projects that need to be addressed. However, holding the seller or buyer directly liable in perpetuity would reduce significantly attractiveness of REDD to potential private sector investors.
- *REDD is subject to material risk of leakage* – Potential responsibility of parties involved in a REDD credit transaction would be twofold in that regard. First, the project activity should be designed so as to prevent leakage: a sound and effective REDD project should address the very causes of deforestation or forest degradation so as to suppress and not displace the problem. However, there is only so much an individual project can achieve in the absence of similar incentives or obligations outside of the project boundaries. Second, under a typical CDM project, the project developer is responsible for monitoring leakage emissions. In the case of REDD, a project developer has limited capacity to monitor activities outside of the boundaries of its project and to determine whether a specific event would actually correspond to leakage. Yet, it is important that project developers be required to contribute to monitoring and minimizing leakage emissions (e.g., monitoring of leakage is a requirement for REDD projects under the Voluntary Carbon Standard; if leakage cannot be managed and monitored, a project would not qualify).

Overall, certain risk factors exist that can materially affect the actual carbon emission reduction benefits of REDD projects. However, in several cases, buyers and sellers have limited ability or capacity to address such risks for which it would be ineffective to hold them solely responsible. Accordingly, for individual REDD project activities to take place, a wider enabling framework is required at national and, possibly, international level, for which options are explored in Section 5.

3 What are private investors in carbon credit projects looking for?

3.1 A predictable, practical and transparent process to determine a project's creditable emission reduction benefits

A conservative, reliable and accurate approach to quantifying emission reduction of a project is essential to ensure environmental integrity of carbon credit projects and, more generally, of an offset scheme. Effectiveness of emission reduction benefits brought by offset projects – including under the CDM – has been increasingly questioned and challenged over the recent years.

In general, the environmental integrity and quality of carbon credits, including REDD credits, can be ensured through (Ecosecurities, 2007)⁵:

- The use of rigorous and standardised methodologies for measuring and monitoring emission reductions (including accounting for leakage and any non-permanence risks), coupled with independent verification by a third party; and
- Demonstrating the additionality of emission reductions, which ensures that carbon credits are not issued for activities that would have occurred under business-as-usual conditions.

While such a framework is critical to the viability of offset credit schemes as a mechanism to tackle greenhouse gas emissions, the need to strike a balance between accuracy and practicality is becoming increasingly evident: evolutions of the CDM are insightful in that regard. The rightful and laudable quest for ensuring strict additionality of projects and exact estimation of each tonne of CO₂ they reduce has created a challenging environment for CDM projects. The two main concerns relevant to the present analysis are:

- The very frequent revisions of the rules applicable to CDM projects, especially baseline and monitoring methodologies; and
- Requirements to demonstrate additionality that prove to be quasi impractical in an increasing number of cases (e.g., simply inappropriate for certain projects, need to establish subjective assumptions, data needs that can't be met, etc.)

Evolution of this methodological framework has unfortunately created undesirable consequences as it affects the visibility a project developer can have over (i) the chances of successful registration of a project activity and (ii) the volume of carbon credit a project will generate. It is even responsible for perverse effects as it triggers a higher level of uncertainty over the carbon revenues of a project; and this prevents projects for which such revenues are essential (i.e., the "most" additional projects) to be financed and implemented.

Developers and investors will only engage in REDD carbon credit projects under:

- a stable methodological framework; and
- one that would allow for reasonably sure and straightforward assessment of additionality and estimates of carbon credit benefits.

⁵ Policy Brief: REDD Policy Scenarios and Carbon Markets (Ecosecurities, December 2007)

3.2 Timing of costs and revenues shall allow for a tenable cash flow structure

Experience from the CDM and the voluntary market shows that financial requirements to support design, development and implementation of carbon credit projects until they start generating revenues plays an important role in the type of projects undertaken and the likelihood of a successful completion and registration.

Experience of offset projects developed out of REDD activities (in the voluntary market so far) shows that significant resources need to be deployed upfront to help structuring and development of the project. Transaction costs for REDD are likely to include the costs of quantifying existing carbon stocks, measuring and monitoring changes in carbon stocks (including the monitoring of leakage), external verification of monitoring results, and the preparation of project documentation and its external validation and potential registration fees. In some cases, the development of project-specific baseline or monitoring methodologies may be necessary (Ecosecurities, 2007).

At the same time, carbon revenues are the main – if not only – type of revenues for REDD carbon projects, unlike a number of other project types benefiting from additional revenue streams (e.g., sales of generated power). Accordingly, carbon credits from a REDD project not only need to be high enough to recover development and transaction costs, but any delay in the payment schedule (for instance due to data access problems or delay in external validation/verification) can have significant impact on the profitability of the operation and the ability of the project developer to complete the project.

In essence, developing REDD projects may require investors to put a material share of the value of the transaction at risk upfront, in order to cover these transaction costs. In the absence of an appropriate in-country enabling environment (e.g., institutions capable of helping with project design, data collection, etc.), investors' exposure might be rated too high and deter them from investing in REDD activities.

4 What differentiates the public sector in its approach to carbon credit transactions

4.1 The public sector: a buyer, not an investor

Public sector funding channeled to the carbon markets by Annex 1 governments essentially consists of acquisition of carbon instruments via emission reduction purchase agreements (ERPAs). Public buyers – whether through governmental purchasing programs or carbon funds – do not provide direct financing to CDM and JI projects. The private sector represents more than 90% of carbon finance available for upfront financing; less than 10% comes from the public sector, essentially in the form of prepayments for carbon credits purchased under ERPA, not as debt or equity (ICF International, 2009).

Accordingly, for REDD projects or sub-national programs to be financed through the carbon markets, the private sector (either locally or in developed countries) and the local public sector will likely be indispensable in providing the upfront capital required⁶.

4.2 A high risk appetite and mission to assist projects

A number of governmental carbon credit purchasing initiatives have played a pioneering role in the development of carbon markets.

Governmental purchasing programs (e.g., Netherlands, Denmark, Belgium, etc.) as well as carbon funds managed by multilateral financial institutions (e.g., World Bank, ADB, EBRD, EIB, etc.) have been early movers in a number of domains: purchase of verified emission reductions before the Marrakesh Accords; transactions with first CDM projects, first JI projects, first bio sequestration projects; first transactions on post-2012 carbon credits; etc.

Although different in many respects (primary objectives, size, coverage, eligibility criteria, etc.), these initiatives share common principles:

- Create a “seed” demand for carbon instruments;
- Accept to take on certain risks that would exclude private sector participation (for instance, credit risk of the counterparty);
- Mobilization of technical assistance funding to support transaction costs.

In that regard, public sector buyers have been playing an important development role in a number of developing countries (for the CDM) and countries with economies in transition (for JI). Their action, in addition to specific efforts channeled through carbon facilities (e.g., Multilateral Development Banks, UNDP), have supported the emergence of project pipelines, and built local institutional capacity and expertise (technological, CDM/JI methodologies and project cycles).

⁶ The World Bank and other multilateral finance are currently setting up forest credit lines for developing countries or considering to do so.

Overall, carbon market transactions involving Annex 1 public buyers have contributed towards creating a sound investment environment for the development of emission reduction projects.

4.3 Higher sensitivity to wider sustainability implications

While private sector participants to the carbon markets are primarily focused on the value and destination of the carbon instruments they transact on, public sector buyers generally pay more attention to the overall integrity of the projects and programs that generate the carbon instruments they purchase.

This means in no way that the private sector supports arguable projects while public sector buyers would commit only to high quality projects. But emission reduction activities with a positive contribution to socio-economic development of the host country – including transition towards a lower carbon economy – are generally granted higher priority and/or premium by public sector buyers.

Potential socio-economic stakes of REDD will likely drive public sector buyers towards adopting specific eligibility criteria to select those activities they will source carbon instruments from.

4.4 Engagement with public sector sellers

Public sector buyers of carbon instruments are generally more comfortable transacting with governmental or public sector agencies in host countries.

While this is not an absolute rule, due diligence and contracting processes in force in the private sector are generally tailored to deal with private sector entities. Private buyers are less familiar and at ease with public sector financial structure and administrative procedures. It is hence hard for them to correctly evaluate the risks attached to a carbon credit transaction.

Moreover, private buyers generally consider they have less leverage over public entities than public sector buyers do. This makes them more sensitive to risk factors outside of their control – and difficult to anticipate – such as politics, poor governance, or public sector budgeting and resource allocation processes. Accordingly, private sector buyers are generally reluctant to enter into a commercial relationship the terms of which they might not be able to enforce onto the seller.

Public sector buyers have developed collaboration relationships with governmental and other public agencies in developing countries through aid and development efforts – either bilaterally or as part of multilateral initiatives. Compared to most private sector buyers, they have developed a better capacity to assess the risks involved in such transactions and to take on some of these risks (see section 4.2)

4.5 Interest in national and sub national programs if supported by an adequate investment framework

Governmental institutions in Annex B countries have developed commercial relationships around transactions of Assigned Amount Units (AAUs) under the International Emissions Trading (IET) mechanism (Article 17 of the Kyoto Protocol).

A number of Annex B Parties with economies in transition (EIT) suffered an economic downturn in the 1990's resulting in a significant decrease of their emissions compared to 1990 emissions levels (generally taken as a reference for their QELROs). Such countries thus have abundance of surplus AAUs (e.g., close to 6 billion for Russia and Ukraine together), a consequence of shrinking economies, not of initiatives to lower the carbon intensity of these economies. This has created reluctance amongst other Annex B Parties to purchase AAUs from EIT countries, primarily because of environmental integrity issues that raises and related political sensitivity. Governmental buyers don't want to engage in AAUs transactions the proceeds of which would not help implementation of emission reducing programs or activities, as it would be expected in an emissions trading system with constraining caps.

As a consequence, Annex B selling countries have developed, in collaboration with buyers, so-called Green Investment Schemes (GIS). A GIS refers to a mechanism for achieving environmental benefits from selling excess AAUs under Art.17, in order to preserve environmental integrity of IET. Under a GIS, a Party to the Protocol expecting that the development of its economy will not exhaust its Kyoto assigned amount can sell excess AAUs to another Party. The proceeds from the AAU sales should be "greened", i.e. channeled to the development and implementation of projects and programs:

- either directly achieving equivalent volumes of GHG emission reductions (hard greening),
- or building up the necessary framework for this process or achieving wider environmental benefits such as climate change adaptation (soft greening).

A GIS defines an institutional and procedural framework to: contract with buyers on sale of AAUs; select "greening objectives" and activities eligible to be financed under the scheme; and monitor, verify and report on financing, implementation and environmental benefits brought by such activities.

In practice, despite years of preparations and discussions, very few GIS transactions have actually taken place. In designing and implementing GIS programs, selling countries have to overcome many barriers (e.g., putting in place the legal framework, authorizing the transfer and sale of "national assets", negotiating a satisfactory price, requiring parliamentarian authorization, etc) which make Art. 17 transactions slow and cumbersome. While serving as Annex 1 compliance tool, these transactions have done little to create a liquid carbon market. This suggests that treaty-based carbon transactions serving as government compliance instruments that are difficult to negotiate and conclude.

For REDD to be effective, an appropriate enabling environment needs to be established at national level in developing countries. Certain REDD activities are best implemented at national or sub-national scale, with local governmental and public agencies playing a major role in their design and implementation. Building on experiences developed under GIS, a similar transactional environment could be devised so as to ensure the proceeds from the sale of REDD carbon instruments would be channeled into supporting effective REDD activities⁷.

⁷ This support could be in the form of soft programs such as capacity building, monitoring, mapping, or more concrete technical assistance with REDD activities

Such a framework would greatly enhance developed countries' interest for REDD market mechanisms as a reliable option to effectively reduce global GHG emissions, thereby increasing their willingness to engage in such transactions.

But it would also help towards filling a possible "gap" left by private sector buyers in the type and breadth of REDD activities that could be financed through the carbon markets. The categories of national and sub-national activities that would be financed through "REDD GIS" would necessarily be developed and implemented through local public bodies. As explained in section 4.4, public sector buyers are in a better position to engage with such stakeholders, in particular to define and enforce respective responsibilities of the parties engaged under such transactions.

However, there is an important difference between Art. 17 GIS and national REDD crediting schemes that would assign carbon credits ex-post rather than ex-ante. REDD credits would only be issued once the emission reduction benefit has occurred and been verified. Environmental credibility is thus less of an issue. This suggests that mobilizing of advance finance would be a significant problem. The advance sale is risky for a developing country government (as it would need to guarantee effective delivery of credits). And as a result, credits can hardly be assigned to sub-national entities stimulating investment before they occur (too risky).

In summary, the main lessons learned from GIS are:

- Government-to-Government transactions will have in most cases to be based on treaties that are difficult to negotiate and require ratification. These transactions are doing little to create a liquid market.
- Governments can raise finance for emission reduction programs if there is an upfront allocation of credits. The raising of finance from the private sector on the basis of government driven sectoral ex-post crediting programs is difficult⁸.

⁸ As discussed in the previous section, this is possible on the project level. On the national level, probably only multilateral financial institutions would make available upfront finance.

5 Attributes of an international policy framework to foster carbon markets investment in REDD

5.1 Investments from both public and private sector buyers are required

Public and private sector carbon market buyers and investors can play complementary roles in fostering investment in REDD activities.

Participation of public buyers is essential to engage with governmental and public agencies in developing countries that play a critical role in the context of REDD. Governmental buyers have the capacity to support activities with a wide coverage (sub-national, national or even international) that will create an enabling REDD investment and implementation framework in the country and that will deliver an important part of the abatement potential associated to REDD.

Involvement of the private sector – either as projects financiers or carbon credits buyers – is expected to grow the collective capacity to identify, develop and sustain REDD activities. This is evidenced by developments in the voluntary carbon market, which has experienced significant activity in 2008 in the anticipation of an enabling REDD framework that would allow private sector engagement. These projects are at risk, if governments nationalize the carbon benefits of forests (i.e., claim that all REDD benefits belong to the national government, regardless of the ownership or rights to the forest and sources of funding). This is key concern of developers and investors that will hamper scaling up of REDD projects by the private sector as long as the local policy framework is not clarified.

With an adequate investment environment, private sector investors can contribute towards empowering local project developers and multiply the number of REDD projects in developing countries, thereby disseminating awareness and encouraging local communities to take ownership of and responsibility over effective implementation of REDD activities and fair distribution of their socio-economic benefits.

5.2 Different REDD market mechanisms should be supported

Two different overall policy scenarios for a future REDD regime could contribute towards carbon markets investment in REDD activities (from Ecoscurities, 2007).

- *National crediting under a UNFCCC agreement:* This scenario assumes the establishment of a baseline reference scenario and crediting for REDD on a national level. Any verifiable reduction below this baseline would result in REDD carbon credits (fungible with the larger post-2012 carbon market or traded on a separate REDD market) issued to central governments.
- *Project crediting under a UNFCCC agreement:* In this scenario, carbon accounting and crediting would occur at the project level (which could include sub-national governmental entities), similar to the current CDM approach. Such crediting could be embedded in a national accounting system measuring emission reductions against a national reference scenario. Project crediting could be used in

conjunction with a national-level monitoring and accounting system, with crediting at the national and sub-national level.

These scenarios are not mutually exclusive and can bring significant complementary benefits.

A national approach to REDD is required to implement wide programs and achieve economies of scale, and better account for leakage and permanence issues. As explained in earlier sections, public sector carbon credit buyers are best prepared to engage with developing countries on such REDD activities (which entail dealing with challenges like poor governance and risks posed by low levels of national preparedness). A GIS equivalent for REDD could provide an appropriate transactional environment for national-level activities and programs.

Conversely, a project-level approach, best suited to attract private sector buyers, could mobilize large amounts of carbon finance and a more flexible, decentralized system. If implemented in the context of adequate national and sub-national institutions and procedures to deal with baseline setting, monitoring, leakage, and permanence of emission reductions, crediting project-level activities financed by the private sector could embed REDD in the development path of a number of countries faced with significant deforestation and forest degradation.

Conciliating national and project crediting in a given country presents methodological and monitoring challenges to distribute emission reduction benefits in a fair and square manner. However, potential benefits of such a market-based framework – that would incentivize at the same time project- and national-level activities as well as attract public and private buyers – could be very important; options for resolving its practical design and implementation issues should be actively explored and examined in the international policy making debate.

In that regard, a third policy option could be explored: an allowance-based scheme for REDD, with upfront allocation corresponding to a national forest emissions target, and possibility to transfer some of these allowances to project- or program-based REDD activities based on their carbon reduction benefits (under an approach similar to Joint Implementation). Section 5.6 explores the benefits of such an approach.

5.3 REDD carbon credits need to be fungible with the main international carbon currency

Climate policy making at domestic and international levels is evolving fast and not necessarily in a coordinated way. It is hence difficult to determine the precise structure and interactions between the different carbon markets post-2012. However, it is likely that a project-based mechanism – the CDM or its successor – will play a central role in crediting emission reduction activities implemented in developing countries with a view to help governments and regulated entities in developed countries lower the costs of meeting their emission reduction targets. This “international carbon credit” will be the main currency linking the main carbon markets together (International post-Kyoto, EU ETS, US ETS, Japanese ETS, etc.).

In order to guarantee that REDD credits will reach a sufficient level of liquidity, it will be important to align their utilization domain and enhance their legal “fungibility” with international credits (see section 2.1).

Part of the answer is not for the international policy negotiations under the UNFCCC to give. Indeed, rules governing the type of carbon instruments (and underlying emission/emission reduction activities) in domestic emissions trading scheme in the main sources of demand – the EU, the US (regional at moment and possibly at a larger scale in the next 5 years), Japan – are established under national/regional policy making processes, which are separate from international policy making under UNFCCC. However, the emergence of a viable and credible scheme for REDD market mechanisms under the post-Kyoto agreement will undoubtedly influence domestic processes. More specifically, there is a critical window of opportunity in 2009 as the future US federal climate change legislation will be debated. A positive outcome on REDD at Copenhagen would undoubtedly have a positive impact on whether and to what extent the US scheme would accept REDD carbon instruments.

In that context, the international policy framework devised for REDD can help ensure that no liability and little restriction in usability (i.e., in value) will be attached to REDD credits, unlike what has been devised for A/R CDM projects (with tCERs and ICERs). The insurance and risk mitigation mechanism suggested in the following sections shall help towards achieving that objective.

5.4 Local and international governance shall help build acceptable and appealing REDD carbon instruments

Beyond international policy issues, the degree of integration of REDD carbon instruments in carbon markets will likely be determined by the degree of Annex 1 countries’ willingness, both political and economic, to use the REDD sector as a means of meeting compliance in developed countries. Environmental integrity, robustness, and transparency of a REDD mechanism, as well as supporting institutional and governance architecture, will be critical in that regard.

5.4.1 Risk mitigation provisions need to be institutionalized under a crediting mechanism

The international policy framework should institutionalize risk mitigation or insurance provisions to address permanence and leakage issues that are paramount to the performance and attractiveness of REDD projects. This would be of utmost importance under a project crediting scheme and, to a lesser extent, under a national crediting approach,

Following the approach that the Voluntary Carbon Standard (VCS) has proposed for AFOLU projects, a parallel that can be drawn and employed is the establishment of a national permanence buffer mechanism whereby a host country body (either government body or research entity) assigns a risk profile to each REDD project and subsequently deposits a percentage of the possible carbon stock accretions to a national buffer pool. If the risk profile remains the same, so does the percentage of carbon accretions that go into the pool. If the risk profile goes up or down in the future, the associated buffer percentage will follow in that respective direction. This will ensure that the liability of REDD activities that under/non-perform due to non-permanence issues is transferred from the investor/project developer to the host

country and hence make REDD activities more marketable by lowering the risk burden that the investors and developers carry. It will also help in lowering the risk profile of a country as a whole as the monitoring authority in charge of the buffer will be able to provide carbon accretion units from the buffer in case a percentage of the REDD project is lost.

5.4.2 Strong local governance is critical to enabling a low-risk investment environment

REDD activities – especially if financed through the carbon markets – involve complex arrangements between a wide range of stakeholders, all of whom need to have their interests accommodated in a balancing manner. Strong governance structures and transparent procedures on the design and implementation of socioeconomic benefit sharing shall then be defined and enforced in participating developing countries. This is all the more critical for large scale REDD programs and GIS-type of schemes and would therefore be a main concern for a scheme that relies on the issuing of credits on the national level.

In that context, the following elements should be supported directly or indirectly by the future international policy framework.

- In case of government-to-government carbon market transactions, under a national crediting or allowance-based REDD mechanism:
 - *Explicit national mandates to channel carbon markets revenues into GIS schemes:* It would definitely provide more comfort to governmental investors if host countries had an explicit mandate enshrined in governmental legislation (i.e. through a parliamentary law, executive order, etc) that the revenues will be directed to specific REDD schemes.
 - *Well defined roles of host country stakeholders:* Clarity of roles, particularly at the governmental level, will ensure that some accountability can be put in place and that lines of communication with relevant authorities are clear.
 - *Transparency of results:* Some type of communication mechanism (i.e. annual report, periodic status meeting, etc.) that transparently conveys the results of the national- or program level REDD activities will help reassure stakeholders (including GIS investors) that funds are in fact being channeled properly. This will help in facilitating a ripple effect and may help in lowering the risk profile of the host country on REDD issues, and in turn possibly bringing more investments.
- In case of REDD activities involving private sector sellers/developers under a project-based crediting scheme:
 - *Clear local legal framework:* Producers and sellers must possess clear legal title to the carbon credits. This requires host countries to ensure that land tenure and land use rights and relevant laws regarding carbon credit ownership and transfer are clear and transparent.

5.4.3 International supervision is desirable

Public and private sector investors as well as carbon market participants need a possible REDD market mechanism to be highly credible and accepted to fully engage in acquisition of such carbon instruments and mobilize significant funding. An international supervisory function is seen as critical to ensure the overall environmental and socioeconomic integrity of REDD market mechanisms and create a sound investment environment.

Such a body could play several roles (possibly shared with the UNFCCC secretariat).

- *Review of carbon reduction benefits of REDD activities:* Such an entity would be useful to assist developing countries with the independent review of emissions benefits of REDD activities and determination of the volume of REDD carbon instruments a project/program is entitled to receive.
- *Issuance and transfer of REDD credits:* In addition, it could assist with issuance, holding and transfer of REDD carbon instruments in an international “REDD credits registry” on behalf of host countries.

The utility of such roles is evident in a crediting scheme (i.e., similar responsibilities as the CDM Executive Board). Nonetheless, under an allowance-based mechanism, countries lacking capacity and resources to handle such aspects internally would significantly benefit from it. Overall, such a body would mitigate some of the host country risks.

In case of a project crediting approach, the supervisory body could *oversee national mechanisms to insure against leakage and non permanence*. Establishment and management of national “buffers” put in place by host countries could be reviewed internationally to ensure that project/program performance risks are adequately and fairly covered.

Last, the supervision body could review socioeconomic impacts of widespread implementation of REDD. It shall examine and assess effectiveness of measures taken locally to avoid adverse effects on local communities and ensure fair redistribution of socioeconomic benefits of REDD activities. This could for instance take the form of a “Civil society REDD board” with experts and representatives of indigenous rights and local communities involved in/affected by deforestation.

5.5 REDD carbon mechanisms requires sound supporting institutions and systems

5.5.1 Robust and flexible forest emissions inventory systems are essential

Reliable emissions inventory systems shall support identification of relevant REDD activities, and monitoring of their implementation and carbon reduction benefits. This is critical to support adequate program or project crediting.

International negotiations shall hence define and enforce essential provisions for national inventory systems of forest emissions in developing countries, including:

- Goals and main attributes of inventory systems.

- *Support to defining emissions baselines:* data gathering and quantitative analysis to define historical trends and current data on emission estimates from deforestation supplemented with data on emissions or changes in carbon stocks. On this issue, it is crucial to ensure that baselines are constructed with methods that are consistent within and across countries and conservative in their assumptions and outcomes, given the recognition of broad uncertainties.
- *Need for inventory systems to work at both national and sub-national levels:* in order to monitor and help credit the widest range of REDD activities: project-based and program-based; at local, regional or national levels.
- Adequate resources and capacity required to establish and maintain such systems

5.5.2 *Capacity building should be enshrined in international climate policy to kick start carbon market-based REDD*

As discussed in several instances above, building capacity for an effective REDD mechanism in developing and least developed countries is critical to effectively support and credit REDD activities. Readiness includes all capacity and institution building, training and technical equipment needed to establish adequate inventory systems (see above), claim REDD credits and distribute the proceeds (Dutschke, M.; 2008).

In that regard, Multilateral Financial Institutions (MFIs) can make an important contribution and be assigned corresponding roles and responsibilities in the future international agreements. Experience built through implementation in Annex B countries of the provisions of the Kyoto Protocol – especially on inventory systems, registries and GIS frameworks – shall inform that process. The World Bank, UNDP, UNEP, and possibly the GEF, are prime candidates for providing such support, which they do already to some extent.

5.6 Carbon markets would prefer an allowance-based option

From a carbon markets perspective, a sectoral Cap & Trade approach based on *Forest QELROs* for developing countries and *Forest AAUs* presents several advantages over the Baseline & Credit scenario:

- Putting a cap on forest emissions and transacting carbon units within that fixed volume guarantees the environmental integrity of the scheme (provided the cap have been wisely set, see earlier points on this issue) and will be seen as more credible and practical than a crediting approach where units are created *ex-nihilo*.
- In the allowance-based approach, a very accurate quantification of emissions benefits from REDD activities at project or program level would not be critical to safeguarding environmental objectives⁹. Indeed, experience with JI and GIS teaches us that terms of the transaction should be fair to both the investor and the host country and reflect the true benefits of the emission reduction activities implemented; but a more flexible approach to some components of the project

⁹ A robust inventory system would however be critical for the overall system.

cycle – such as additionality demonstration – is acceptable under an allowance-based scheme. In the case of REDD, it would greatly reduce transaction costs and could become critical a factor for attracting carbon finance investment.

- The resulting credits from the JI-type approach could help towards linkage of corresponding REDD carbon instruments within wider carbon markets. For instance, a JI approach would likely alleviate some of the European Commission concerns associated to forestry projects and facilitate use of REDD credits by EU Member States and eventually (after 2020) in the EU Emissions Trading System.
- Another key difference from an investor's perspective is that the resulting carbon accretion from the REDD programs in a Baseline & Credit approach would only be issued after the physical carbon accumulation takes place and is monitored; conversely through a GIS-type mechanism, the AAU can be traded and the GIS project funds deployed to the REDD project ahead of the physical carbon accumulation through the REDD activity. Under project-based (JI type) approach, a project activity will be credited ex-post but possibly faster than in a Baseline & Credit environment. Such differences in timing of the carbon instrument transfers would affect significantly the financial balance and cash flows of a project.

Nevertheless, the international policy negotiations should not ignore potential benefits of the Baseline & Credit approach which might be easier to implement in those countries with low level of capacity.