

Scholz, Imme; Schmidt, Lars

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Reducing Emissions from Deforestation and Forest Degradation in Developing Countries: Meeting the main challenges ahead

As consensus on methodological issues related to Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD) is growing, UNFCCC talks can now move forward on policy approaches. The most important topics here are how to finance REDD and how to design a REDD transfer system. In both cases, policy design is of enormous relevance not only for REDD but for the integrity of the post-2012 climate agreement as a whole.

A full integration of REDD into the future International Emission Trading Scheme (IETS) would require industrialised countries to commit to emission reductions substantially higher than 25–40 % by 2020, compared to 1990, in order to achieve significant reductions from the two chief emission sources (fossil fuels and tropical deforestation). As long as high overall reduction targets are unlikely and unclear, full integration bears the risk of leading into dangerous climate change.

Market-linked approaches are more adequate. Most promising are the proposals by the Climate Action Network International and Norway to use proceeds from sales of emission allowances from global or regional carbon markets.

REDD transfer systems should be designed so as to address the underlying causes of deforestation; otherwise mitigation effects will not be permanent. This requires a broad range of country-specific policy reforms which cannot be dealt with at the level of the convention. Instead, the United Nations Convention on Climate Change (UNFCCC) should provide a guiding framework for the design of national transfer systems and delegate operation to a subsidiary body, such as a forest fund. Developing countries should submit REDD strategies and should be compensated on the basis of a set of individual performance indicators.

Why reducing emissions from deforestation matters

Accounting for approx. 20 % of global annual anthropogenic greenhouse gas emissions, deforestation is a major contributor to anthropogenic climate change. It is now widely acknowledged that if dangerous climate change is to be avoided, reduction of emissions from deforestation must be a core component of the post-2012 climate agreement. With a view to achieving this end, the concept of "Reducing Emissions from Deforestation and Forest Degradation in Developing Countries" (REDD) is currently being developed under the auspices of the UNFCCC. The basic idea of REDD is simple: Developing countries willing and able to reduce their deforestation rate keyed to a reference time period will receive financial compensation. Transfers will be based either on foregone opportunity costs or on the value of carbon market prices. Estimates of what is needed to significantly slow or stop deforestation range from 12 to 30+ bn US\$ a year. This provides an unprecedented (pessimists say, the last) opportunity to save the world's tropical forests at scale.

What has originally been developed to reduce carbon emissions could also deliver enormous co-benefits in terms of biodiversity conservation, poverty alleviation through sustainable rural development, improved natural resource management and adaptation to climate change. To deliver as many of these benefits as possible, REDD must be designed in an integrated manner. Here,

the discussion of policy approaches under UNFCCC is of enormous importance. Most prominent on the agenda is the question of how to finance REDD. Developing countries expect developed countries to provide several billion US\$ a year and many parties have suggested using the IETS for funding. The integration of REDD into the IETS, however, creates a number of serious problems, which has sparked a controversial debate on this issue. In response, alternative solutions to providing sufficient funding for REDD have been developed, but so far they have received little attention in party submissions to the UNFCCC on REDD.

In the first section, this paper will thus elaborate on approaches to finance REDD from an integrated point of view as an input to the upcoming REDD workshop in Accra and beyond. The lead questions are:

1. How to raise sufficient funds for REDD without jeopardizing the reduction of fossil fuel emissions in Annex-1 countries and sectoral reductions by major emerging economies?
2. How to design a funding solution that is acceptable to most parties and simple enough to be negotiated by Copenhagen 2009?

The second section deals with the design of a REDD transfer system. This topic has received little attention in negotiations, and few concrete proposals have been made by observer organizations. Spending REDD trans-

fers is a delicate issue, and doing this effectively could well prove to be more difficult than the actual raising of funds. The guiding questions here are:

1. Will transfer payments for carbon alone reduce deforestation, and what is the time horizon we should aim for?
2. How to respect country sovereignty over land-use decisions and at the same time prevent misuse of transfer payments?
3. How to design a global agreement that sufficiently considers the specific needs and circumstances of developing countries?

Raising sufficient funds for REDD: market-based vs. market-linked approaches

The integration of REDD into the IETS (full fungibility, i. e. market-based approach) is problematic for several reasons. The value of the majority of REDD credits (=1 t CO₂e) is expected to be below 10 US\$ each. Value is calculated on the basis of opportunity costs, which are generally low compared to the costs of other mitigation options. This would no doubt create a huge offset mechanism, delaying fossil emission reductions in Annex-1 countries and crowding out credits from a sectoral Clean Development Mechanism (CDM). In addition, a high carbon price is absolutely necessary to prevent the construction of as many new coal power plants as possible, both in the developed and developing world. Otherwise, without certainty on the operability of Carbon Capture and Storage technology (CCS), lasting energy structures will be put in place, that will make it impossible to limit average global warming to 2°C.

To prevent such a scenario, developing countries demand higher reduction targets by Annex-1 countries (more than 25–40 % until 2020, as recommended by the IPCC). From a political perspective, this seems unlikely. So far, the EU has promised to reduce its emissions by 20 to 30 % by 2020, depending on other Annex-1 commitments. Future US commitments are uncertain. Taking into account the looming US recession, ambitious reduction targets seem rather unlikely, regardless of who succeeds the present US administration. Other options to prevent vast amounts of "cheap" credits entering carbon market include caps and banking. All three options are, however, subject to negotiation, i. e. no one can guarantee that these safety catches will be adopted.

As a result, full fungibility of REDD with the IETS should be ruled out for precautionary reasons. Nor are the potential financial gains that can be achieved by other means worth the risk they entail of leading into dangerous climate change.

An alternative option is market-linked rather than market-based approaches. These include the "Dual Markets Approach" proposed by the Center for Clean Air Policy (CCAP) and the "Tropical Deforestation Emission Reduction Mechanism" (TDERM) promoted by Greenpeace. Additionally, the Climate Action Network International (CAN) and Norway have separately proposed to sell or auction emission allowances at the international or national level to leverage funds for REDD (but also for ad-

aptation and technology transfer). All three approaches could raise sufficient funds without the risk of beating down carbon market prices. They use the dynamics of the carbon market with partial or no fungibility with the IETS. The CCAP Dual Markets Approach suggests creating a separate REDD trading scheme. Demand for REDD credits is generated by transferring a share of Annex-1 commitments to the new market. The amount will depend on the overall target of Annex-1 countries, in order to ensure significant reductions in fossil fuel emissions. To guarantee developing countries a certain amount of revenue, and thus provide an incentive to reduce deforestation, Annex-1 countries would commit themselves to buy REDD credits from a specific country (or several countries). The Greenpeace TDERM introduces a new trading unit (Tropical Deforestation Emission Reduction Unit – TDERU) which would be used by Annex-1 countries to fulfil part of their reduction targets. To guarantee a continuous, predictable flow of revenues, a minimum purchase level of TDERUs would be set. Equally, an upper limit of TDERUs would be set, again depending on the overall reduction target of Annex-1 countries, to prevent large-scale offsets. Greenpeace does not propose any particular limit, but annual revenues would range from 7–34 bn US\$, given a price of 29 US\$ per ton of CO₂e and an upper limit on TDERUs of 5 %.

The proposal advanced by CAN International and Norway is different. No REDD credit unit or market would be created, and thus Annex-1 commitments would have to be met by domestic emission reductions and with the help of the flexible mechanisms (CDM, Joint Implementation, IETS). Instead, either the allocation of emission allowances at the international level (Assigned Amount Units – AAUs) or regional or national carbon trading schemes (such as the EU ETS) would be used to generate sufficient funds for REDD. While emission allowances in the EU carbon market are already auctioned in part, allocation of AAUs to the countries under the Kyoto Protocol is free of charge. According to CAN International, selling AAUs at a price of 30–40 US\$ apiece would raise 3.75 bn US\$ for every percent of AAUs sold. Selling a fraction of AAUs, e. g. 20–30 %, would result in a total of 75–112.5 bn US\$ a year available for adaptation, REDD and technology transfer. These revenues could go into respective UNFCCC-administered funds.

As we can see, all three approaches are a viable alternative to funding REDD. While it is tempting to use the Dual Markets Approach or TDERM to raise funds for REDD via the Emission Trading Scheme, we argue that the proposal by CAN and Norway is the best solution to serve climate, biodiversity and poverty reduction.

With no fungibility, emission reductions from avoided-deforestation would be additional to Annex-1 reductions.

REDD funding would be decoupled from the overall reduction target. A 20 % reduction target by Annex-1 countries (until 2020) would have to exclude any REDD offsets (target too low) and could not generate any money. Selling a fraction of AAUs or emission allowances from domestic carbon markets, however, would still provide funding.

Systems with partial fungibility must address accounting and permanence more stringently to avoid hot air. This does not imply that a non-fungible system should be lax on these issues. However, non-permanence in the case of a non-fungible approach would mean wasted money and fewer additional emission reductions. In the case of a partly fungible system, it would also impact on the overall reduction effort.

High accounting and compliance standards could, however, delay the participation of many countries, which could result in little political support as well as in international displacement of emissions. This issue has been addressed by CCAP and Greenpeace. Discount factors keyed to the quality of accounting and countries' capacities as well as the portfolio-performance approach would provide solutions for this. However, they would also create additional issues to be negotiated within a very short timeframe.

Finally, using carbon credit units (Dual Markets) means paying for a carbon service, which makes it harder to incorporate issues such as biodiversity and poverty considerations. By contrast, the CAN/Norway proposal would make it possible to better address other relevant issues related to deforestation and provide funding for adaptation and technology transfer as well.

To summarize, negotiations on financing REDD should strongly bear in mind the following points:

1. Financing REDD directly via the IETS would put stabilization of greenhouse gases in the atmosphere at 450 ppm at risk, which could thus lead to dangerous climate change. This must be avoided, also since forests are anything but immune to the adverse impacts of climate change.
2. Market-linked approaches represent a viable alternative to providing several billion US\$ per year. The criteria for selection should be simplicity in design (few subjects to be negotiated), implications for methodological issues, and impact and dependency on the overall reduction target.
3. Even though the Dual Markets approach and TDERM are very comprehensive, the proposal made by CAN and Norway is most promising. The European Commission's proposal to raise funds for tropical forest preservation from EU ETS auction proceeds goes in the same direction. Several regional funding efforts may provide a realistic fall-back option in case a global solution should not be possible, although the latter would be more desirable.

Can REDD turn the tide without addressing the underlying causes of deforestation?

Human development is the root cause of deforestation and forest degradation. Conversion of forest land to other land-use systems is induced by underlying causes related to structural changes, namely demographic, technological and economic development as well as cultural variables and political decisions. Deforestation has often followed an inverse U-shape trajectory. It has

peaked when wood has been substituted as a primary energy source and/or policies for sustainable forest management and forest protection have been introduced. While it is highly questionable whether this classic trajectory would occur in developing countries under today's global economic pressures, we can simply not afford to let it happen. Apart from their role in stabilizing the global climate system, tropical forests provide manifold other ecosystem services, such as local provision of forest products to millions of people or maintenance of regional hydrological cycles for agriculture and hydro-power. In essence, tropical forests are a fundamental part of the global life support system upon which all human societies depend, regardless of their technological development stage.

Therefore, it is evident that first, for reasons beyond climate change mitigation, tropical forests must be preserved in the long-term. And second, human development in both North and South must be decoupled from land-intensive consumption patterns. Such changes will not come about by offering carbon payments alone, they require policy reforms in developing and developed countries. These reforms must address the underlying causes of deforestation, which include:

1. at the international level, commodity prices for fossil and mineral resources, palm oil, soy, beef and timber which are linked to foreign countries' consumption patterns, currency fluctuations and policies (e. g. agro-fuel quotas),
2. at the national level, national development plans, including infrastructure and subsidies for agriculture, deficient forest laws and lack of enforcement, no or insufficient land tenure systems, demographic development,
3. at the national and sub-national level, unemployment and poverty, lack of social security systems, and corruption.

This broad range of underlying causes illustrates a couple of points. First, deforestation may well be beyond the control of national governments, thus requiring concerted international action beyond the UNFCCC. This should include revision of international trade policies, introduction of socio-ecological import standards and reforms of agro-fuel quotas and other relevant policies in the EU, the US and elsewhere. Second, combating deforestation requires an integrated approach, i.e. cross-sectoral action on different administrative levels, as most of the underlying causes lie outside the forestry sector. As a result, efforts to reduce or stop deforestation and forest degradation in the long run must be tailored to fit each developing country's deforestation profile and circumstances. Otherwise, countries may simply not be able to tackle deforestation in a comprehensive manner. To conclude, policy approaches that fail to sufficiently address the underlying causes of deforestation will neither accomplish lasting emission reductions nor benefit biodiversity conservation or other development goals, such as poverty reduction.

How to turn REDD transfers into lasting avoided deforestation

The challenge of translating these findings into the negotiation process and operationalizing a REDD transfer system that aims at triggering and supporting policy reforms is difficult, but one that can be met. First of all, Annex-1 countries and especially Non-Governmental Organisations (NGOs) must respect the national sovereignty of developing countries with regard to land-use decisions. At the same time, though, developing countries must acknowledge that certain conditions must be applied to the spending of REDD transfers to prevent misuse and guarantee effectiveness. These conditions should not be posed by Annex-1 countries alone, but should be developed together by all parties and observer institutions to the UNFCCC. However, due to the complexity and variability of deforestation, it should be clear that the UNFCCC can only provide a guiding framework for spending REDD funds. Using REDD transfers to seriously address deforestation and forest degradation requires a profound analysis of the underlying causes of deforestation within each country and must also bear in mind different given levels of institutional capacity. Any attempt to squeeze this complex issue into one comprehensive international agreement is either bound to fail or will result in an over-bureaucratic and thus ineffective mechanism. As a result, the UNFCCC should delegate operation of REDD transfer payments to a subsidiary body. This could be a new forest or REDD fund which would be able to reflect the different needs of countries in financing avoided deforestation. Here, the experiences of the World Bank's pilot activities under the Forest Carbon Partnership Facility could provide valuable experience.

To address deforestation in an integrated way, we suggest the following steps.

Using a transparent national consultation process, countries could develop and submit a national REDD strategy, including needs to establish technical readiness; underlying causes of deforestation; existing approaches to addressing deforestation; a strategy and further needs to slow/stop deforestation; integration of poverty and biodiversity issues; setting of performance indicators for measuring success.

An international steering committee could be established to approve national REDD strategies. Eligibility criteria would be provided by the guiding framework of the UNFCCC on REDD spending and decisions on methodological issues.

After establishing readiness, compensation would take place in accordance with performance indicators, which would include the amount of emissions from deforestation and forest degradation reduced, but also "soft indicators" such as law enforcement, implementation of poverty-alleviating strategies and land-tenure reforms. Performance indicators should be rated against a coun-

try's (institutional) capacity. In many countries, policy reforms and institution building will take time and will not lead to immediate emission reductions. These first steps are, however, necessary to reduce emissions in the long run.

If it is designed in this way, REDD would offer the opportunity to address deforestation and forest degradation in the most specific way possible. Developing countries would be able to design their REDD strategies to fit their existing needs and institutional capacity. Countries with existing avoided deforestation programs, e.g. based on payments for ecosystems services, may decide to expand them via REDD, while other countries may have to build institutional capacity first. Neighbouring countries should also be encouraged to submit a regional strategy to slow and stop deforestation.

In addition to REDD, more attention must be given to containing negative effects of policies by Annex-1 countries and major emerging economies like China and India, which are a major cause of tropical, but also boreal, deforestation.



Imme Scholz
Head of Department
Environmental Policy and
Management of Natural
Resources



Lars Schmidt
Researcher
at DIE

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