

## Tropical Deforestation Emission Reduction Mechanism

### Executive Summary

Tropical deforestation is a major source of greenhouse gas emissions, threatens biological diversity, and has devastating impacts upon forest dependent peoples. Human induced climate change is projected to cause significant adverse effects on tropical forests where there is a decline in precipitation. As a consequence it is vital that means are found to incentivise and reward reduced deforestation in order to assist in the task of preventing dangerous climate change and thus achieve the ultimate objective of the United Nations Framework Convention on Climate Change (UNFCCC).

A proposal for a hybrid market linked Tropical Deforestation Emission Reduction Mechanism (TDERM) under the UNFCCC and its Kyoto Protocol is outlined that can effectively incentivise and reward efforts to simultaneously meet the twin goals of:

- Reducing emissions from deforestation in tropical developing countries.
- Protect biological diversity and ecosystem services intrinsic to tropical forests.

The mechanism proposed here would raise sufficient funds to bring about substantial reductions in deforestation and related emissions, which would be additional to the deep Annex I Party emissions reduction targets required in future commitment periods of the Kyoto Protocol which are necessary, but not sufficient, to limit warming to below 2°C above pre-industrial levels. The TDERM proposed here avoids many of the difficulties of proposals to reward and incentivise deforestation reductions that are directly linked to the market.

### General Issues in Designing a Mechanism

In order for a mechanism to be successful its design and operation will need to take account of and resolve a number complex scientific, technological, and methodological and equity issues. These issues include:

- The potential scale affects of deforestation on the carbon market. Directly connecting efforts to reduce deforestation to the Kyoto trading system carries with it a large risk that high volumes of low cost deforestation credits enter the market, increasing supply and lowering the price and poses a substantial risk of destabilizing the carbon market.
- The need for a substantial volume of reliable finance. Raising funds through the carbon market offers the possibility of substantial volumes of funds at scale to reward or incentivise reduced deforestation.
- The need to reduce leakage effects, hence the need for widespread coverage of tropical deforesting countries and for national-level accounting. A focus on capacity building for countries to develop a national emissions approach with effective monitoring and verification and institutional support is essential for any mechanism.

- Uncertainty in deforestation emission estimates substantially exceeds uncertainty in measuring industrial greenhouse gases.
- Intrinsic problems with the establishment of baselines and hence in estimating ‘real’ reductions. Establishing credible historical emission baselines from which to estimate reductions in deforestation rates will likely be difficult, due to the poor quality of data and the lack of comprehensive monitoring in many countries.
- The need for monitoring and verification of emissions and of changes in deforestation and degradation activities. Consistent monitoring systems that meet a set of internationally agreed standards will need to be established in developing countries to ensure the integrity of emission reductions from deforestation.
- The potential for impermanence of accounted emission reductions from deforestation. Any mechanism developed to provide incentives to reduce emissions from deforestation needs to ensure that reductions are permanent and that where this is not the case, for whatever reason, corrections can be made.
- The need for an emissions accounting approach that provides incentives to reduce emissions and protect biodiversity. It is important that the accounting system for deforestation emissions provides incentives to protect forest and to reduce emissions. The overall methodological approach should ensure that only the carbon losses from deforestation activities are taken into account in the estimation of emissions and not any potential carbon gains resulting from subsequent land uses. A significant source of greenhouse emissions from deforestation comes from peat lands and palm oil production and it is essential that the accounting approach provides incentives to protect peat land forests.
- The need to protect the rights of indigenous and forest peoples and to ensure that these peoples receive an equitable and fair share of the incentives and rewards for reducing deforestation.
- The need to avoid perverse incentives. It is important that any mechanism does not create incentives to increase the rates of deforestation before the system starts.
- The need to address the drivers of deforestation and assist developing countries to implement national policies and measures to ensure effective governance for forest protection.

### **Tropical Deforestation Emission Reduction Mechanism: Hybrid Market-Linked Fund**

The Tropical Deforestation Emission Reduction Mechanism attempts to address many of the issues outlined above and fund sustainable and lasting reductions of emissions from tropical deforestation in participating countries to meet both climate and biodiversity objectives in the second commitment period of the Kyoto Protocol and beyond.

The TDERM would provide funding for forest protection driven by a mandatory minimum contribution from Annex I Parties to meet a percentage of their emission reduction obligations. A new unit for Annex I countries to be used for compliance with emission obligations would be created – “Tropical Deforestation Emission Reduction Units (TDERUs)” set at a market rate by the *Tropical Deforestation Emission Reduction Mechanism*. The proceeds of the sale of TDERUs would be used by the TDERM to fund and reward reductions in emissions from participating developing countries and provides a reliable source of funding to reduce deforestation.

In order to guarantee a volume of funds, Annex I Parties would be required to meet a fixed part of their emissions obligations (X%) using TDERUs purchased from the mechanism. No

strong recommendation here is made for 'X' except that it needs to be set at a level that ensures sufficient funds to significantly reduce deforestation and that the setting of this number needs to be done in conjunction with the establishment of the post-2012 emission reduction targets on industrial greenhouse gases for the Annex I as whole. This is essential to avoid the negative scale effects on the carbon market (which would likely lower the overall price of credits and undermine efforts to invest in cleaner energy technologies).

In addition to the mandatory minimum level of contributions (X%), Annex I Parties could elect to purchase and hold up to a maximum of Y% of their base year emissions by purchasing TDERUs from the Mechanism. The setting of an upper limit on the amount of TDERUs that can be used towards compliance with emission obligations by Annex I Parties would transparently address the scale effect issues discussed previously.

The Mechanism would be required to disburse its funds for verifiable reductions in deforestation emissions by developing countries, who participate according to their differentiated capacities.

The major elements of the proposed *Tropical Deforestation Emission Reduction Mechanism* are:

- ***A new international trading unit.*** A new Tropical Deforestation Emission Reduction Unit (TDERU) would be created for use in the Kyoto trading system by Annex I Parties to meet their emission reduction obligations. The new units (TDERUs) would be issued by the proposed *Tropical Deforestation Emission Reduction Mechanism*.
- ***Mandatory minimum.*** Annex I Parties would be required to purchase and to hold a minimum amount of TDERUs, equivalent to X% of their base year emissions (times the number of years in a compliance period – 5 years). This would ensure that the Mechanism has a significant level of funding.
- ***Limit on supply.*** The supply of TDERUs would be limited to an agreed maximum percentage (Y%) of Annex I base year emissions to be issued annually. The Y% limit would need to be set to ensure sufficient funds were available to substantially reduce deforestation. A carbon price in the Kyoto second commitment period of €20/t CO<sub>2</sub>e, and Y=3% limit could generate around €14 billion/year.
- ***Sale price set by auction.*** The price of TDERUs could be determined by auctioning or by setting a price linked to the world market price for Kyoto units.
- ***Proceeds of TDERU sales used to reward or incentivise reductions in all eligible countries.*** The Mechanism would use the proceeds from the sale of TDERUs to reward and incentivise deforestation reduction activities in all eligible developing countries, through modalities tailored for the wide range of different capacities of countries, including those with low deforestation rates. The modalities and rules for rewarding and incentivizing countries would ensure that funds would be distributed to the appropriate stakeholders to ensure both equitable benefit sharing and that they are provided with the right incentives to maintain forests over time.
- ***Portfolio performance approach to overall emission reductions.*** The Mechanism would be required to reduce deforestation emissions (measured in CO<sub>2</sub> equivalent tonnes) by a multiple of the total TDERUs issued and as a portfolio of its overall activities. The portfolio performance approach should permit the Mechanism to tailor investments to the widest range of countries, capacities and circumstances, whilst

ensuring that overall emissions are reduced substantially. A discount factor is used between TDERUs and the emission reductions from deforestation as a proxy for pragmatically resolving several kinds of uncertainty such as emissions estimation, baseline, and permanence concerns. It is very likely that there will be significant difference between the price obtained for a TDERU (€/tCO<sub>2</sub>e) and the average cost of reducing deforestation: if €20/tCO<sub>2</sub>e were the price of TDERU then a factor three discount would imply that average costs of reducing deforestation by the mechanism would need to be around €6-7/tCO<sub>2</sub>e. Within the portfolio performance approach the use of discount factor would enable the Mechanism to expend resources on preventing deforestation in countries where it is not yet a large problem, yet still yield an overall substantial reduction in emissions from the entire portfolio of activities.

- **Pre-2013 incentives.** In order to provide incentives before the end of 2012 the TDERM could be established latest by 2009 and be authorized to issue for sale a limited volume of TDERUs ahead of the beginning of the second commitment period in 2013. For example forward sale of TDERUs equivalent to 0.5% of Annex I base year emissions at a price of €20/tCO<sub>2</sub>e could raise over. €2 bn/year. If these were spent on activities that reduced deforestation at a cost of ca €7/tCO<sub>2</sub>e this could reduce deforestation in the period before 2013 by about 0.6 million ha/year Sufficient progress could be made in developing the mechanism within a year that could justify holding an initial auction of TDERUs by the end of 2008.
- **Governance structure.** The complexity of the deforestation issue and the volume of funds that is required dictates that a robust governance system under the authority of the COP and/or COP/MOP is established to make decisions on policies, procedures, guidelines and criteria for incentivizing and rewarding reductions in deforestation emissions. Hence the TDERM proposal needs a governance structure which will support the operationalization of the Mechanism. Overall policy would be established by the COP and/or COP/MOP.
- **Equitable benefit sharing.** To implement the TDERM at the national level, appropriate governance structures and participatory processes are required that include recognising the rights of all indigenous and forest peoples. Incentives for reducing deforestation need to be distributed to the appropriate stakeholders to ensure equitable benefit sharing.
- **Different Capacities and States of Development and Governance.** The Mechanism would establish different modes of funding for rewarding deforestation reduction efforts depending on the ability to report, monitor and verify emission reductions reliably. The performance portfolio approach, and separate funding windows for countries with different capacities and states of development and governance, would allow the Mechanism to fund activities that prevent deforestation from expanding in places with currently low deforestation rates, as well as achieve substantial overall reductions in deforestation. Funding should not be limited to countries where reductions in deforestation emissions is cheapest, nor countries with greater monitoring capacities and associated lower risks of impermanence.

## Conclusions

Including deforestation reduction credits in the international trading system on a fully fungible basis has large risks. In any event, a market system would not be open, in the foreseeable future, to all countries in which deforestation occurs due to capacity limitations in relation to the fundamental issues of the scale of credits, emission monitoring, verification

and compliance, or in relation to governance issues. As it appears very likely that the great majority of countries in which deforestation occurs are unlikely to be in a position to meet these requirements a mechanism that provides for the broadest range of options is needed. The Tropical Deforestation Emission Reduction Mechanism allows all tropical deforestation countries to participate, even with their varying levels of capacity. The main benefits of the mechanism are:

- ***Benefits to climate and biodiversity protection*** - directs funds to actions that will meet both climate and biodiversity objectives.
- ***Scale effects on the Annex I emission targets*** - by limiting the amount that deforestation reductions can be used by the Annex I Parties to meet their commitments, the effects on fossil fuel and other greenhouse gas emissions reductions that are needed can be quantified and limited.
- ***Pragmatic accounting for uncertainties*** – the use of the portfolio approach combined with a discount factor deals pragmatically with the uncertainties relating to emissions estimation, baselines, and permanence.
- ***Ensures stability of market*** - due to the risks associated with full access to the trading system, the TDERM would issue, in effect, compliance units to Annex I Parties which could not be challenged at price and therefore not affect the stability of the overall market.
- ***Full access by the widest range of countries*** - provides funds to the greatest number of developing countries with tropical forests, including countries with varying capacities and governance structures, differing abilities to accurately report, monitor and verify emission reductions, and countries with high and low rates of deforestation.
- ***Reliable source of funds*** - a significant and steady stream of funds would be available through the mandatory minimum commitments made by Annex I Parties as part of their overall emission reduction targets.
- ***Engages indigenous and forest peoples*** - will motivate and facilitate greater control of forest resources by indigenous and forest peoples and will start to address the problem of local communities becoming sidelined.
- ***Capacity building and institutional support*** – reliable funding will be available which can support institutional capacity building needs of developing countries.