

“SINKS” IN THE CDM ? IMPLICATIONS AND LOOPHOLES

1. INTRODUCTION

One of WWF’s global priorities is the reversal of disastrous tropical deforestation, the conservation of primary forests and sustainable use of timber and forest products. In all its land use projects and overarching policy, WWF attempts to halt soil degradation and supports agricultural production systems that enhance soil fertility, contribute to build up of soil organic carbon and increase nutrient cycling. WWF thus supports sustainable sound agricultural practices that *inter alia* lead to agroforestry, sound farming systems and protection of valuable grasslands in order to combat unsustainable use of firewood. Halting the current rate of tropical forest destruction - annually about 4 times the area of Switzerland - is one of the largest environmental challenges in the next decade. Forests harbour more than three quarters of the Earth’s terrestrial biodiversity and provide many other far-reaching benefits to human and wildlife communities.

Climate change caused by emissions of greenhouse gases resulting from the burning of fossil fuels is an additional threat to the existence of many forest ecosystems. Recent research, such as that conducted by the Hadley Centre (UK) and the German governmental Advisory Council, backed the earlier findings of the IPCC Second Assessment Report (1995) that up to one third of global forests may be detrimentally affected, if not destroyed, by climate change in a few decades time.

So far, it has not been agreed whether the Clean Development Mechanism (CDM) will allow crediting of carbon offsets in forest and land use projects in developing countries. Presently, WWF is endorsing a "positive list" of energy technologies under the CDM as a constructive advice for investors and hosts on which emissions reductions technologies should be favoured. WWF has explicitly focussed its approach on supporting sustainable renewable energies and cutting edge demand side efficiency technologies.

WWF is opposed to the use of sinks in the CDM under current circumstances, because relying on the CDM to address destructive land use changes and deforestation can not solve these problems. On the contrary allowing carbon credits, even for environmentally friendly land use and forest projects in developing countries under present conditions, is very likely to aggravate net environmental damages to ecosystems.

Therefore as a global conservation organisation which necessarily must consider the full complexity of both climate and forestry issues, WWF does not believe that anticipated trade-offs between climate and forest protection are ethically, socially or environmentally acceptable.



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2. INTEGRITY OF EMISSION REDUCTIONS

Any credited and accounted-for carbon reduction should be permanent – i.e. the avoided carbon should neither appear as an emission elsewhere in the region nor later in the natural system. These fundamental principles address the need for integrity of carbon credits for emissions reductions.

Shifting Deforestation?

Most forest-rich developing countries are net deforesting nations. Deforestation and land degradation, however, very often has causes which cannot be addressed by environmental policy alone. For example illegal logging, unequal land distribution, poverty, fuel wood demand, and population growth are all driving forces which put pressure on native and forest lands.

In many regions of tropical Asia, Latin America and Africa, shifting cultivation is the main cause for deforestation. As shifting cultivation is a practice of the many landless poor, even environmentally accepted sink projects such as conservation of threatened forest areas in one region may increase pressure on land in another region.

Poor people in forest rich tropics keep on clearing land for survival reasons as they lack fertile agricultural soil or just do not own land. They would simply switch to adjacent regions. However such leakage of deforestation activities from one place to another, so far cannot be determined or measured.

Therefore, forest conservation efforts may be extremely useful for a certain region as biodiversity is concerned but may not be carbon-neutral if one considers the broader region or even national boundaries. Without addressing the underlying causes of land

degradation, forest sink projects under the CDM are not likely to yield net greenhouse gas benefits.

The World Resource Institute recently found out that deforestation in Brazilian forests very likely is much higher than reported by the officials. Thus, the atmospheric effect of net carbon removal from the system in each sink project can be extremely uncertain.

Permanence of emission reductions?

Undoubtedly, forest ecosystems play a major role in mitigating climate change because they harbour more carbon than the entire atmosphere. On a global net base forests sequester substantially more carbon than they release following land use change, clearing and burning.

However, many new research results suggest that this temporary terrestrial carbon sink may turn into a source in the next decades if global carbon emissions stay on the rise. Forest ecosystems will ultimately become carbon-saturated. Even without global warming each forest ecosystem will finally reach a state of atmospheric equilibrium where on average carbon uptake is balanced by carbon releases.

Rising global warming will speed up soil organic matter turnover, decomposition of leaf litter and respiration of trees. Moreover, non-biotic factors such as forest fires triggered by increased droughts will contribute overall to forests becoming sources rather than sinks of greenhouse gases.

Credits for any sink projects must therefore ensure a high degree of sequestration permanence over at least 100 years, the mean atmospheric life time of carbon dioxide. So far this is not possible. Therefore under

conditions of increasing climate change forests are only temporary and vulnerable carbon repositories rather than long-term sinks.

As long as emissions reduction targets for the main polluting countries are modest and do not prevent long-term climate change, only carbon dioxide reduction measures at source, that leave fossil fuels in the ground, are thus eligible to fulfil the criteria of permanence of emissions reductions. In fact, by allowing sinks in the CDM and transferring carbon from below to aboveground, governments would be making the global forest carbon repository even less resistant to climate change.

Carbon credits for whom and what?

Developing countries do not have quantitative emission targets. Therefore, deforestation is not debited. But allowing carbon credits for reforestation schemes would directly give incentives for further clearing lands. Reforestation under the CDM would be undertaken and/or financed by a government or a company seeking carbon credits.

Reforestation naturally occurs on areas that have been recently under forest. Therefore, deforested land in theory is eligible for immediate reforestation - and carbon credits. And as the Kyoto protocol allows credits only for “human induced” activities who could be blamed for an increase of “natural” forest fires or forest die-back in remote areas, which could in turn be restored by human interventions? In the worse case, old growth forests would be destroyed and replaced by fast-growing plantations.

3. THE LOOPHOLE - BILLION TONS FOR CONSERVATION?

The main concern on the use of sinks in the CDM, however, is the potential size of the loophole using sinks in the CDM. In WWF’s and the public’s view the CDM has not been created to give industrialised countries the opportunity to grow its domestic emissions unabated. It has also not been created to circumvent technological change in the main sector of the problem of climate change – emissions caused by burning fossil fuels.

The CDM rather has been created in order to help developing countries to achieve sustainable development and to support faster access to and dissemination of clean technologies. The Kyoto Protocol's spirit of domestic action, is incorporated in the requirement that the CDM provide only “part of” a country's target.

Emissions reduction targets of developed countries amount to about 0.2 billion tons (Gt) carbon equivalents per annum in the first commitment period by 2008 - 2012. Potential forest conservation and carbon sequestration rates in developing countries dwarf these modest set of targets, whose implementation domestically are likely become diluted by the use of other Kyoto mechanisms as well.

If the case of forest conservation, as requested by some parties, would be eligible for credits obtained under the CDM, the Amazon should be closely analysed.

The Amazon Example

The Amazon contains a carbon stock of about 60 Gt in the vegetation. Due to the high deforestation rates of the Amazon, let’s assume the baseline would be defined as destruction of 50% of the forests in the coming decades under a “business as usual

scenario". For simplicity reasons, that would mean the international community or the yet-to-be-created board of the CDM would agree that about 50% of current carbon stocks would go up in smoke under the lack of any CDM forest protection activities in the Amazon. Second, let's assume that the international community agrees on applying a theoretical principal of discounting or devaluing the conserved carbon in conservation activities by a ratio 1:2 in order to address the various risks and uncertainties of sinks. Thus for each tone of carbon credited, two ones must be saved in reality.

Taken these "limitations" into account, carbon credits could be generated worth a total of 15 Gt.

Let's further assume, one twentieth of the entire area of the threatened Amazon forests would be conserved in the first commitment period of 2008 – 2012. The carbon credits generated from saving about "only" 5% of the threatened forests of the Amazon - and for simplicity omitting additional credits for the saved soil carbon - would total 1.5 Gt carbon. This represents almost 30% of all greenhouse gas emissions of all industrialised countries in the base year of 1990 or approximately 6% of the entire assigned amount of ANNEX 1 countries in the commitment period 2008 – 2012. But this example covers only one sink activity - conservation, and only one region - the Amazon which accounts for "only" 15% of all carbon in tropical forests.

As a result of this conservation success, only in the Amazon, industrialised countries could thus emit in each of the 5 years of the commitment period more than 1.1 billion tones of carbon dioxide into the atmosphere. This amounts to substantially more global warming than all the Hot Air taken together from Russia and the Ukraine.

If forest conservation would be allowed in the CDM, who could stop industrialised countries exploiting this potential fully, given abatement costs of as low as \$US 0.1–5 per ton carbon as reported from AIJ pilot phase projects? These options are considerably cheaper than investing in cutting edge energy efficiency and renewable energy in developing countries not to mention domestic action.

Rewarding the laggards?

Aside from the enormous loophole of carbon credits from forest conservation activities there are further severe implications involved. Not one tonne of carbon is saved which is *additional*. Crediting forest and land use conservation as such implies the acceptance of at least partial destruction under a "business as usual scenario". This undermines national forest protection policies and rewards forest terrorism - '*Give me credits for conservation or I cut the forests down*'.

Cynically, industrialised countries in turn be rewarded as a result of deforestation in the tropics. Developing countries, however, that have undertaken efforts to conserve their forests will be penalised as they will not be eligible for these weak baselines. Crediting forest conservation thus seriously undermines the rationale for good housekeeping in developing countries and domestic nature conservation policies.

4. CONCLUSIONS

Although in the short term crediting conservation activities may regionally help some communities to reduce deforestation in a limited way, it does not contribute to the ultimate goal of climate *and* forest protection in the long term - to substantially reduce the

emissions to the atmosphere the single reason for the threat of climate change.

If greenhouse gas emission targets for developed countries would be ambitious enough to allow actual reductions of emissions at source domestically and to address sink activities under the CDM, WWF could revisit the issue in subsequent commitment periods.

But with current modest targets under the Kyoto protocol and with a number of further loopholes lurking around the corner, the inclusion of sinks under the CDM would wreck the integrity of the Protocol. It would substantially contribute to emissions increase over 1990 levels in developed nations without addressing root causes for deforestation and poverty in developing nations and without providing safety for the future of forests being threatened by climate change.

However, the inclusion of certain categories of sustainable forestry for biofuels under the CDM could help to address a variety of problems that are faced by developing countries. Sustainable biomass projects can help to meet increasing fuel wood demand, reduce pressure on native lands and help the expansion of renewable energy in developing countries. Ultimately, WWF favours this alternative compared to the use of sinks in the CDM.