

“Saving the Amazon Rainforest” by Sacrificing the Greenland Ice Sheet?

Why funding forest protection through the carbon market might mean the death blow to efforts to keep global warming below 2 °C

By Jörg Haas¹

Summary:

- There is no doubt that reduced deforestation needs international funding. But the issue is, where the reduced emissions from deforestation and forest degradation (REDD) will be counted in the climate regime: as a way of fulfilling the emission reduction obligations of developed countries, or additional to them. This decision may decide whether we can keep global warming below 2 °C.
- The range of GHG reduction obligations currently under discussion for industrialized countries alone is insufficient to keep global emissions on a trajectory to stay below 2 °C global warming.
- Substantial emission reductions are needed also in developing countries, and reduced emissions from deforestation are a great part of it. In order to stay on a 2 °C trajectory, these need to be additional to the GHG reduction obligations of industrialized countries currently under discussion, and not count as part of fulfilling these.
- Funding reduced deforestation through the carbon market will mean that these emission reductions are not additional, but only a specific manner how developed countries will be fulfilling their obligations.
- Only if one of the following conditions would be met, would funding reduced deforestation through the carbon market would be compatible with a below 2°C trajectory: either a) adequate GHG reduction commitments for developed countries well above the -25 to -40% range mentioned in the Bali decisions; or b) very ambitious reductions in fossil sectors of developing countries without funding through the carbon market. Both are highly unlikely.
- Reduced Deforestation needs funding, but the alternative to financing through the carbon market is a fund fed by proceeds from auctioning emission permits in the European Emissions Trading Scheme and similar national schemes.
- Funding reduced deforestation through the carbon market will likely result in large necessary reductions to remain unfunded and not happening, with the subsequent failure for stay on a emissions trajectory that may keep global temperature rise below 2 °C. We might thus “save the Amazon” by sacrificing the Greenland Ice Sheet.

Recent research has shown, that the Greenland ice sheet is a highly vulnerable “tipping element” in the climate system: It might need only a local warming of 3 °C² (uncertainty range 1,9-4,8 °C³) to tip its mass balance towards the negative. Widespread melting of the Greenland ice sheet may result in a sea level rise of several meters, which will wreak havoc in coastal cities across the globe. As polar temperatures are rising substantially faster than the global average, we will need to keep global temperature rise as much as possible below 2 °C to prevent the deglaciation of Greenland. In addition, we may witness large-scale rainforest dieback at global warming levels above 2 °C.

Last years IPCC Report⁴ made it clear: Only by aiming at stabilizing greenhouse gas concentrations at very low levels (below 450 ppm CO_{2eq}) we have a reasonable chance to keep global temperature rise below 2 °C above pre-industrial levels. The IPCC has also stated, that it will take two conditions to stabilize GHG concentrations at such a level:

1. Emissions in developed (Annex I) countries need to fall by 25-40% below 1990 levels by 2020, and 80-95% below 1990 by 2050
2. Emissions will need to “deviate substantially from baseline” in Latin America, Middle East, East Asia and Centrally Planned Asia by 2020, and in all developing (Non-Annex I) countries by 2050 (see box⁵).

Box 13.7 The range of the difference between emissions in 1990 and emission allowances in 2020/2050 for various GHG concentration levels for Annex I and non-Annex I countries as a group^a

Scenario category	Region	2020	2050
A-450 ppm CO ₂ -eq ^b	Annex I	-25% to -40%	-80% to -95%
	Non-Annex I	Substantial deviation from baseline in Latin America, Middle East, East Asia and Centrally-Planned Asia	Substantial deviation from baseline in all regions

The recent UNFCCC negotiations in Bali have followed this pattern: the parties have agreed in negotiations with the following objectives:

- (i) Measurable, reportable and verifiable (...) mitigation commitments or actions, including quantified emission limitation and reduction objectives, by all developed country Parties (...);
- (ii) (...) mitigation actions by developing country Parties (...), supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner. The ambition of -25 to -40% reductions in Annex I countries has been accepted by the Members of the Kyoto Protocol as part of the outcome of the negotiations in Bali⁶. Given the fact that the EU as a frontrunner of global climate negotiations has so far only agreed on up to -20 to -30%, it is highly unlikely that the agreed reductions in Copenhagen 2009 will be much higher than this range.

There is no doubt that reducing emissions from deforestation is urgent and that it needs reliable funding. But the big issue is, where the reduced emissions from deforestation and forest degradation (REDD) will be counted:

- If REDD will be financed through the carbon market, it will count as part of fulfilling (i), i.e. developed country commitments. It will only be a way how Annex I countries fulfil their obligations in the -25 to -40% range. Reduced emissions in the Amazon will be offset by higher fossil emissions in industrialised countries.
- If REDD will be financed by other means, these emission reductions are part of (ii), the actions by developing countries supported by industrialised countries. Only then, these emission reductions are additional to the -25 to -40% range.

Only if we get quite substantial emission reductions in addition to the -25 to -40% range discussed so far for industrialised countries, we have a reasonable chance to stay below 2 °C. and to save the Greenland Ice Sheet. Reduced emissions from deforestation are a likely candidate for such additional reductions and should not be squandered as a means for industrialised countries to fulfil their commitments in a cheap manner.

If REDD will be financed through the carbon market without an unlikely up scaling of Annex I commitments well beyond the -25 to -40% range, the necessary “substantial deviation from baseline” (IPCC) in developing countries needs can only happen in the fossil sector and be driven by other incentives than the carbon market. This is quite unlikely. Funding REDD through the carbon market will therefore likely mean that the necessary reductions will not happen, and that we will fail to stay on a 2 °C trajectory. We might thus try to “save the Amazon rainforest” by sacrificing the Greenland ice sheet, and with it major coastal communities around the world. Therefore, we need to find other reliable sources of funding for REDD. The EU commission recently has proposed to use a substantial part of the revenue from auctioning of the ETS certificates for the funding of reduced deforestation. This would provide a new source of funding that is not dependent upon national budgets that are insufficient. We need to advocate this alternative also for other industrialised countries emission trading systems, in order to save both the Amazon and the Greenland ice sheet!

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² Lenton, T. et al. (2008): Tipping elements in the Earth's climate system. PNAS, vol 105, No. 6, p. 1786-1793

³ IPCC (2007): Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge.

⁴ Bali Action Plan http://unfccc.int/files/meetings/cop_13/application/pdf/cp_bali_action.pdf

⁵ Gupta, S. et. Al (2007): Policies, Instruments and Co-operative Arrangements. In Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge

⁶ Review of work programme, methods of work and schedule of future sessions
http://unfccc.int/files/meetings/cop_13/application/pdf/awg_work_p.pdf