



A Review for REDD Mitigation Mechanism

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Forests supply valuable ecosystem services. The land-use-change in particular has a major role in determining sources and sinks of carbon. Deforestation is in fact one of the major drivers of climate change accounting for ~12% of global anthropogenic CO₂ emissions. However, the loss of forest amounts to more than 13 million ha per year with various consequences.

The Reduction Emission from Deforestation and Degradation (REDD) mechanism was devised as a cost-effective mitigation strategy in 2007. REDD was confirmed as a core instrument in the text of the final accord of the 15th UN Conference of the Parties (COP) in 2009. Nevertheless, REDD's implementation revolve around several political and scientific challenges. On one side, the recent COP 16 left no clear targets or strategies, but unveiled the emerging of new bottom-up financial approaches and the lack of a successor to the Kyoto protocol. On the other side, the main scientific concern for an efficient REDD remains the estimation of the avoided carbon reduction in forests with high accuracy.

In this context, a review of past and current deforestation estimates in terms of surface change, carbon densities, and carbon fluxes has been prepared. The relative literature is scarce. This applies, for example, to national historical rates of deforestation, which are important for tracing REDD national baselines. New capabilities and improved earth observation data used to achieve a complete forest change assessment are briefly discussed. In addition, REDD mitigation potential estimates have been examined. Foreseen carbon saving estimates vary notably, but show a relative positive perspective for climate mitigation. Eventually, a simple attempt has been made to study six future REDD implementations within various IPCC scenarios.

Results from the literature review and an analysis on robustness of land-use changes in the new benchmark RCP scenarios will be presented at the conference.