

Scientists prove paying to spare tropical forests offers cost effective way to cut greenhouse gases

Laxenburg, Austria – 24 July 2008. A team of scientists working in Austria, Brazil and the US today publishes a study that shows paying land-owners to reduce tropical deforestation is a cost effective way of cutting greenhouse gas emissions compared to other current options, such as carbon capture and storage from coal power plants.

Moreover, this so-called REDD (Reduced Emissions from Deforestation and Degradation) approach also protects bio-diversity, regulates rivers, maintains the environment of some of the world's poorest people, and brings other important environmental benefits.

Tropical deforestation is estimated to account for about a quarter of all man-made carbon emissions and ranks as the second largest source of greenhouse gas emissions. The team of scientists looked at the economic case for pursuing REDD in the context of a Post - Kyoto Protocol policy regime. Until recently climate control discussions have focused more on better-known carbon abatement methods in the energy and industrial sectors as well as afforestation in contrast to avoiding deforestation.

Dr Michael Obersteiner of the International Institute for Applied Systems Analysis (IIASA) and one of the research team, said, "We believe the economic potential of avoiding deforestation really needs to be addressed now. Our findings show that there is a huge global benefit to be gained from a carefully constructed program that clearly identifies regions such as the Congo Basin, the Amazonian Rainforest and South East Asia's species rich tropical forests where the lowest cost emission cuts could be made."

Using three different economic models, the scientists found that a 50% reduction in deforestation over 25 years could cut 1.5-2.7 billion tones of carbon dioxide (CO₂) emissions from the atmosphere each year. It could be done at a competitive annual cost of US\$17 - \$28 billion.

A figure of 2.7 billion tones is a globally significant amount of CO₂, roughly equivalent to that emitted each year by the entire US electricity industry, itself about a third of US emissions, according to an article in the Wall Street Journal.

However, the scientists also found that even a more modest program of cutting deforestation by 10% in the same period, 2005 to 2030, could still save 0.3-0.6 billion tones of CO₂ at an annual cost of US\$0.4-\$1.7 billion. This amount is comparable with the current financing available through the UN's Clean Development Mechanism or regular total flows of overseas development aid from the OECD countries. To achieve the same result by carbon capture and sequestration from a fossil-fuel power plant would cost up to 20 billion Euros (over US\$30 billion at current rates).

"We do have to bear in mind uncertainties affecting other costs that we have only implicitly tried to calculate, such as setting up, implementing and verifying that projects really have cut deforestation," added Dr. Ewald Rametsteiner from IIASA and part of the research team. "There are also institutional barriers such as identifying ownership of land in some areas.

"So it might take a few failures before success is achieved. However, it is up to policy makers to develop clear incentives for countries to adopt baselines and national targets so that such systems can be developed to credit genuine reductions in deforestation."

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Notes to the editors

1. The study will be published in the Proceedings of the National Academy of Sciences and appear in the early online edition this week. The authors and title of the study are: Kindermann G, Obersteiner M, Sohngen B, Sathaye J, Andrasko K, Rametsteiner E, Schlamadinger B, Wunder S & Beach R (2008). Global Cost Estimates of Reducing Carbon Emissions through Avoided Deforestation. More at: www.pnas.org
2. IIASA is an independent, interdisciplinary research institution, which specializes in natural and social scientific research methods and models valued by policy makers and the scientific community worldwide. IIASA is an international institution, with member organizations in 18 countries. More at www.iiasa.ac.at