

# Money that could grow on trees

Developing countries need a financial incentive to stop deforestation and, if targeted well, this need not break the bank.

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Every year some 13 million hectares of forest are cleared, mostly in tropical countries. This tropical deforestation contributes 20% to 25% of global carbon dioxide emissions each year, but the main international instrument aimed at addressing climate change - the [Kyoto protocol](#) - offers little scope for reducing these emissions.

The protocol's clean development mechanism (CDM), which enables polluters to offset their greenhouse gas emissions by investing in emissions-reducing projects in developing countries, allows emission reduction credits for afforestation and reforestation but not for avoided deforestation.

Several countries with tropical forests have called for international action to provide financial incentives to reduce emissions from deforestation. This week, at the 12th conference of parties to the UN framework convention on climate change in [Nairobi](#), Brazil proposed that developed countries provide financial incentives to developing countries that voluntarily reduce their emissions from deforestation in relation to a reference emission rate.

But how much money will be needed to provide these incentives and how would this compare with the cost of other types of emission reduction measures?

Research by the International Institute for Environment and Development (IIED) shows that it would be relatively cheap to prevent much of this carbon from entering the atmosphere and contributing to climate change if landowners were compensated for not converting their forests to farmland or other uses.

The research, commissioned for the recent Stern review, looked at eight countries that together account for roughly half of global deforestation: Brazil, Bolivia, Cameroon, Democratic Republic of the Congo, Ghana, Indonesia, Malaysia and Papua New Guinea.

Landowners clear forests because they can get greater returns from farming than from sustainable forest management or conservation. Much attention has been given to the expansion of soy and oil palm, which both give high returns. However, much tropical forest is being cleared for relatively low-return land uses such as subsistence agriculture and pasture.

This indicates that if targeted well, compensation for avoiding deforestation need not break the bank.

IIED estimates that the cost of eliminating deforestation in these eight countries (ie halving global deforestation) using such compensation as an incentive would be about US\$5bn per year, with a range from US\$3bnn to US\$15bn. The upper estimate is for a scenario in which it would be necessary to compensate landowners with a payment equal to the return from the highest-return land use possible.

This equates to US\$2-10 per tonne of avoided carbon dioxide emissions, which compares favourably to the average price per tonne of carbon dioxide equivalent in the CDM in 2005, which was roughly US\$7.

For compensation to be cost-effective it would be essential for governments to identify and target areas most at risk of deforestation. There would also be additional costs for setting up and administering the incentive schemes. By the 10th year of operation, these costs would range between US\$250 million and US\$1 billion.

Overall however, paying compensation to avoid deforestation would appear to be a cost effective approach to reducing greenhouse gas emissions without harming the social and economic development of tropical countries.

This approach could also bring potential benefits to rural livelihoods, such as from eco-tourism, but the schemes would need to be designed carefully and be accompanied by a package of measures to address poverty and protect the vulnerable.