



ISTF NEWS

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Tropical Deforestation and Global Warming:

REDD-plus Policies in U.S. Legislation and International Negotiations

Doug Boucher, Director, Tropical Forest & Climate Initiative, Union of Concerned Scientists
<www.ucsusa.org/forests>

Tropical deforestation and forest degradation represent about 15 percent of global warming pollution—more than is generated by all transportation sources worldwide. This deforestation is happening at an alarming rate: one acre per second. The set of policies known as “REDD-plus” (which represents reducing emissions from deforestation and forest degradation in developing countries plus carbon-sequestering forest activities) can reduce global warming while providing many additional benefits.

The United States is working to pass comprehensive climate change legislation that would protect tropical forests. In addition, the participants in the December 2009 international climate negotiations in Copenhagen made important progress on establishing a REDD-plus framework.

The International Society of Tropical Foresters is a non-profit organization formed in the 1950s in response to a world wide concern for the fate of tropical and subtropical forests, ISTF is dedicated to providing a communications network for tropical forestry disciplines.

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In order to create enough economic incentive for developing nations to reduce the clearing of their tropical forests and engage in carbon-sequestering forest activities, these nations would need to be paid more than they could make by clearing the land and using it for activities such as raising cattle or crops. It turns out that REDD-plus is an affordable solution for reducing global warming pollution because the cost of compensating tropical nations is considerably lower than the current costs of reducing carbon emissions from industries, vehicles, and power plants.¹ REDD-plus can greatly reduce tropical deforestation, and thus reduce global warming, with relatively modest funding.

II. How REDD-plus Would Be Funded

Funding for REDD-plus can come from a combination of three sources:²

Voluntary Funding

Voluntary funding from countries, individuals, or organizations would be the fastest way for developing nations to build up the capacity needed to protect tropical forests, measure their reductions or sequestrations, and follow the required certification process. Training and technology transfer will be needed along with programs designed to ensure that certifiable reductions are made. Some countries have already begun voluntarily funding REDD-plus programs; Norway, for example, provides more than \$500 million yearly.

Market-Linked Funding

This source of funding would include the revenue generated by a “cap-and-trade” program in industrialized nations including the United States. In this type of system, companies that produce global warming pollution would be required to buy “allowances” to cover the amount of heat-trapping emissions they expect to produce in a given year. Every year thereafter, fewer and fewer allowances would be made available, forcing companies to cut their emissions over time. Allowances would be sold each year in an auction, and a portion of the revenue from these sales could be used to fund REDD-plus. This arrangement, therefore, would lower the global warming pollution produced by industrialized nations and also provide funding to reduce pollution from tropical deforestation in developing nations.

Direct Carbon-Market Funding

This source of funding also derives from cap-and-trade systems, but in a different way than market-linked funding. As fewer allowances are offered at auction in a cap-and-trade program, some companies will want a way to acquire additional allowances if they have not yet found a way to reduce their emissions. They could, for example, be permitted to buy allowances from a REDD-plus program that has succeeded in reducing emissions, thus offsetting the higher pollution produced by companies in the cap-and-trade program. This type of funding will be more useful in later years because tropical countries will have built up the capacity and experience to ensure that any carbon offsets made available through REDD-plus meet strict certification criteria and are therefore associated with real emissions reductions.



Tropical forests must be protected if we are to reduce carbon emissions to the levels needed to avoid the most dangerous and expensive global warming impacts.

Photo by Doug Boucher/UCS

I. How REDD-plus Works

REDD (reducing emissions from deforestation and forest degradation in developing countries) is an innovative approach to protecting tropical forests. Developing countries led by Papua New Guinea and Costa Rica proposed this approach at the international climate negotiations in 2005, and it has been gaining momentum since then as an affordable way to reduce global warming pollution. Since the international climate negotiations in 2007, REDD has been expanded to become REDD-plus, which includes forest activities that would conserve forest carbon or increase carbon sequestration by forests. REDD-plus could not only help reduce heat-trapping emissions but also support sustainable development in the world's tropical nations.

The basic idea is that tropical countries would be compensated if they reduce their carbon emissions from forest clearing, conserve forest carbon, or increase carbon sequestration by forests. This would be verified by remote sensing technology (e.g., satellite photos) that has already been used to monitor emissions from deforestation and other technologies. A strict set of criteria would be developed to certify the reductions and forest activities, and once a country reaches its emissions target and the reductions or sequestrations are certified, it would be eligible for monetary compensation.



Photo by Doug Boucher/UCS

III. REDD-plus in U.S. Climate Legislation

For relatively little money,³ the United States can help protect tropical forests, which would not only keep global warming pollution out of the atmosphere but also preserve biodiversity and promote sustainable development. The American Clean Energy and Security Act (ACES), passed by the U.S. House of Representatives on June 26, 2009, marked the first major step toward comprehensive U.S. legislation to address climate change. ACES, also known as the Waxman-Markey bill, combines energy efficiency and renewable electricity standards with a first-ever nationwide cap on carbon emissions. In addition, this bill helps to cost-effectively address global warming at

the international level by providing the framework and funding for REDD-plus. To move forward, the U.S. Senate needs to pass its own version of a climate change bill, which will then be reconciled with the ACES bill and signed into law.

ACES is a good framework for funding and establishing REDD-plus policies. To be eligible for funding, countries must first establish nationwide forest emissions “baseline” levels against which emissions reductions from forest protection can be calculated. The timeframe for establishing a baseline is determined by a country’s size (i.e., larger countries must establish a baseline sooner than smaller countries); however, every country must have a plan to move toward zero net emissions from deforestation within 20 years of establishing its baseline. Because the majority of the funding is given to tropical countries only after they make real, verified reductions in their deforestation, this legislation is an important step forward in making an impact on climate change around the world.

The bill emphasizes that countries must also include certain provisions in their deforestation reduction plans to be eligible for funding. They must have domestic legal regimes and other safeguards for indigenous and forest-dependent peoples. For example, they must respect the rights and interests of these peoples, promote their full participation in planning and implementation, and encourage equitable sharing of benefits with them.

Countries must also ensure their forest protection plans include environmental safeguards such as not planting invasive species, and planting trees in such a manner as to avoid erosion.

ACES draws funding from private and public sources to protect tropical forests and reduce heat-trapping emissions from tropical deforestation.

Private Financing

ACES includes provisions that would allow U.S. emitters to “offset” their emissions by purchasing credits from countries that have reduced their deforestation-related emissions. Companies buying credits could increase their emissions beyond the amount they could have otherwise, while still reducing emissions overall. Starting in 2016, for every five tons of international credits purchased, U.S. emitters could increase their emissions by four tons of carbon dioxide (CO₂). Total international offsets (after applying the 5:4 ratio) would be limited to 1 billion tons of CO₂ annually, but this could be increased to 1.5 billion if the supply of domestic offsets (from sustainable forestry and farming practices, methane capture from livestock, etc.) falls short of its 1 billion ton limit.

The bill establishes stringent eligibility criteria for offsets to ensure they are of high quality, including provisions relating to “leakage” (i.e., reducing emissions from one source but increasing them elsewhere) and “additionality” (i.e., ensuring that emissions reductions go beyond what would have occurred without funding). It also ensures that projects intended to reduce global warming emissions don’t re-release the emissions into the atmosphere in the future (e.g., by planting trees to sequester carbon but then harvesting them years later).

Public Financing

Public financing would come from a set-aside of 5 percent of the revenue from emissions allowances purchased under the cap-and-trade program. This market-linked funding, which would be additional to any money raised from the purchase of offsets, is to be used for capacity building (i.e., providing countries with the tools and training they need to measure and monitor deforestation and to use this information to shape forest protection efforts), pilot deforestation-reduction projects (e.g., replacing wood-burning stoves with solar stoves), preventing emissions leakage, paying for emissions reductions, and a variety of other initiatives. UCS estimates that the 5 percent set-aside would yield annual funding of more than \$3 billion in 2012, rising to more than \$6 billion in 2020, and then declining after 2025. As a result of this funding, emissions would be reduced by an amount equal to 10 percent of the United States’ 2005 emissions (720 million tons of CO₂) in 2020.

Looking Forward

Although the U.S. Senate has yet to pass its own version of a climate change bill, any comprehensive climate change legislation passed into law should contain the following policies to help reduce global warming pollution by protecting tropical forests:

- “Five for Forests.” A strong climate bill should allocate at least 5 percent of the revenue from cap-and-trade allowance auctions for the purpose of protecting tropical forests.

- Carbon offsets. The bill should also allow for small amounts of offsets that can be certified as the product of reduced emissions from tropical deforestation.
- Voluntary funding. The United States should allocate foreign aid money for developing countries that are establishing programs to protect their tropical forests.

Such policies will strengthen the United States' position in the international climate treaty negotiations and help us return to a leadership role in setting global policy. More importantly, these policies will help slow global warming, preserve biodiversity, and protect precious natural resources.

IV. Tropical Forests and the Copenhagen Negotiations

Although the nearly 200 countries participating in the December 2009 United Nations Framework Convention on Climate Change negotiations in Copenhagen failed to agree on a legally binding treaty to reduce global warming emissions, they did make important progress on REDD-plus policies. Negotiators at Copenhagen made progress on four key milestones:

Recognition of the Critical Role REDD-plus Can Play

The Copenhagen Accord, a 12-paragraph statement supported by the vast majority of countries in attendance, invites both developed and developing countries to declare their voluntary commitments for reducing emissions of heat-trapping gases such as carbon dioxide. In regard to forest policy and its impact on global warming, the Accord states:

“We recognize the crucial role of reducing emission from deforestation and forest degradation and the need to enhance removals of greenhouse gas emission by forests and agree on the need to provide positive incentives to such actions through the immediate establishment of a mechanism including REDD-plus, to enable the mobilization of financial resources from developed countries.”⁴

The Accord also outlines the elements of REDD-plus and potential funding mechanisms, both in the short term (2010 to 2012) and medium term (through 2020).

During the negotiations, many countries expressed support for REDD-plus. Brazil, for example, committed itself to an emissions reduction of 36 to 39 percent (compared with “business as usual”) by 2020, and Indonesia committed itself to a reduction of 26 to 41 percent. While these cuts will come from many sectors, the majority will be from REDD-plus.

The Copenhagen Accord demonstrates that the international community has significantly more political will to curb tropical deforestation than it did in 1997, when the Kyoto Protocol failed even to address the topic. This progress is the result of both a more thorough scientific understanding of REDD-plus and a better political and economic understanding of how plans for reducing deforestation should be implemented. It is now

clear that all countries see REDD-plus as a fundamental tool for addressing climate change.

Agreement on Key Policy Elements

Delegates at Copenhagen worked out many details of the REDD-plus framework (i.e., how REDD-plus will be implemented on a global scale). Though the framework document (referred to as the “LCA text”), which is separate from the Copenhagen Accord, was not finalized, it will serve as the basis for negotiations in 2010.

Countries endorsed a range of activities including:

- Reduction of emissions from deforestation and forest degradation
- Forest conservation
- Sustainable management of forests
- Replenishment of forest carbon stocks

Incentives for forest conservation are especially important for countries with largely undisturbed forests such as those in Central Africa and northeastern South America. Conversely, incentives for sustainable management and replenishment of carbon stocks are important for countries such as China and India, where deforestation has already been reversed and growing new trees is critical.

It is important to note that in the months leading up to Copenhagen, REDD-plus negotiations had focused on reducing the area of forest lost to deforestation, but the final framework document addresses deforestation in terms of emissions. This decision ensures REDD-plus will be a viable tool for reducing emissions, which can increase even when forests are not lost. For example, a carbon-dense forest can be converted into a carbon-poor forest through the development of plantations or the degradation of soil nutrients after harvesting. By using emissions rather than forest area to assess the impact of our actions, all changes in forest carbon can be accurately captured.

Of course, forests are valued for much more than just the carbon they contain. Therefore, the REDD-plus framework must promote emissions reductions while also protecting biodiversity, the cultures of indigenous peoples, and the livelihood of forest-dependent communities. Negotiators at Copenhagen agreed on language that supports both the United Nations Declaration on the Rights of Indigenous Peoples and the “full and effective participation of relevant stakeholders.” This agreement represents an important shift from previous negotiations, in which some countries refused to acknowledge the rights of indigenous peoples. Negotiators also agreed on details that will ensure REDD-plus funding safeguards biodiversity and protects natural forests by preventing their conversion into other kinds of forests or plantations.

Financial Commitments

Many countries participating at Copenhagen announced financial commitments for REDD-plus. The United States, for one, announced it would provide \$1 billion through 2012, as part of a six-nation group providing a total of \$3.5 billion. And there were much larger commitments for longer-term funding: \$100 billion for developing countries in 2020 and beyond, a portion of which will go toward REDD-plus.⁵ Research shows that an investment of \$20 billion per year could cut deforestation worldwide in half.⁶

Brazil's President Lula da Silva reaffirmed his country's pledge to provide other developing countries with REDD-plus monitoring technology, and will also offer direct financing from Brazil's existing Amazon protection fund and other sources. This was the first time one developing country had committed funds to help other developing countries contend with global warming.

Guidance on Implementation

Finally, the Copenhagen meeting succeeded in providing guidance on questions concerning REDD-plus methodologies. For example, all countries have been asked to identify their "drivers of deforestation" (e.g., demand for beef, livestock feed, or biofuels that cause forests to be cleared for cattle pastures, soybean fields, or oil palm plantations) and the means available to address these forces.

Also, countries are encouraged to draw on the experience of indigenous peoples in monitoring and reporting about their local forests and the impact REDD-plus activities have on local biodiversity. Participating countries are further encouraged to use recent Intergovernmental Panel on Climate Change guidelines for estimating and reporting forest emissions.

This guidance on REDD-plus methodologies, unlike the other agreements described above, was adopted by the negotiators in Copenhagen as an official decision of the Conference of the Parties. The outcome proves that countries can make progress on the details of REDD-plus implementation even while negotiations on broader global climate issues continue.



The work accomplished in Copenhagen was significant. Now, governments must be held accountable for the commitments they made there. Photo by: Leila Mead/IISD

V. The Future of REDD-plus

Some countries are already moving to implement REDD-plus based on the guidance issued in Copenhagen. At the end of December, for example, Brazil passed national climate legislation that requires an 80 percent cut in deforestation by 2020.⁷ Indonesia, the world's third largest emitter of heat-trapping pollution because of its high

deforestation rate, has also taken important steps to implement REDD-plus. With support from Australia, the Indonesian government expects its deforestation reduction and tree-planting programs to cut the nation's emissions more than 25 percent by 2020.⁸

In the United States, Senate passage of climate legislation that provides a framework for REDD-plus will be critical. The Senate's framework should be similar to the REDD-plus provisions included in ACES, which parallel the work done on REDD-plus in the Copenhagen negotiations, providing for a well-integrated global solution to deforestation.

In total, the work on REDD-plus accomplished in Copenhagen was significant. Now, governments must be held accountable for the commitments they made there, and continue to make further progress on reducing tropical deforestation.

¹ See the UCS fact sheet *Estimating the Cost and Potential of Reducing Emissions from Deforestation* and the UCS report *Out of the Woods: A Realistic Role for Tropical Forests in Curbing Global Warming*. Both are available online at <www.ucsusa.org/REDD>.

² See the UCS fact sheet *Filling the REDD Basket: Complementary Financing Approaches*, online at <www.ucsusa.org/REDD>.

³ Boucher, D. *Out of the woods: A realistic role for tropical forests in curbing global warming*. Cambridge, MA: Union of Concerned Scientists. Online at <www.ucsusa.org/assets/documents/global_warming/UCS-REDD-Boucher-report.pdf>.

⁴ <<http://unfccc.int/resource/docs/2009/cop15/eng/107.pdf>>

⁵ The rest of the money will go toward 1) adaptation assistance for those nations least capable of coping with the unavoidable effects of climate change, and 2) incentives and support for developing nations to bypass dirty energy technologies in favor of clean ones.

⁶ See the UCS fact sheet *Estimating the Cost and Potential of Reducing Emissions from Deforestation*, online at <www.ucsusa.org/REDD>.

⁷ Nepstad, D., et al. 2009. The end of deforestation in the Brazilian Amazon. *Science* 326:1350–1351. And: Agence France-Presse. 2009. Brazil's Lula signs law cutting CO₂ emissions. December 29.

⁸ Creagh, S. 2010. Indonesia says forest plan can meet emission target. Reuters, January 6.