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Climate Change : Climate Solutions

Protecting Forests: Cutting CO2, not Trees

Trees are worth more dead than alive, despite being critical stores of carbon and generators of life-giving rainfall. That must change to avoid accelerated climate change and catastrophic loss of biodiversity.

Picture Gallery (click on the picture to start)

Learn about ten of the most significant causes of deforestation and forest degradation (Photo: Reuters)

Of all the major contributors to climate change, deforestation can be tackled most quickly. Power generation will rely on fossil fuels for decades. The internal combustion engine will not disappear soon. But reducing greenhouse gas emissions from forests is simple: No more logging.

The bad news: The Kyoto Protocol, which is meant to reduce emissions, ignores the current slash and burn. Every year since the turn of the millennium, forests the size of Panama have vanished. Well aware of the resulting millions of tons of CO2, Yvo de Boer, head of the UN Climate Change Secretariat, said in August: "We cannot come to a meaningful solution on climate change without coming to grips with deforestation."

The reason deforestation has a bigger share of global emissions than the entire transportation sector—one day of emissions from deforestation equals 12.5 million people flying from London to New York—is that forests absorb carbon dioxide from the air and store it as carbon in the trees and the soil. Tropical forests alone store a quarter of all the carbon on land.

When trees are cut down and burned that carbon is released as carbon dioxide. Stripped of its tree cover, the soil leaks CO2 and sometimes methane. Deforestation is a double blow to the climate, which loses a carbon sink and gains nothing but more greenhouse gases.

The United Nations Environment Program (UNEP) has identified several key forests—located in the Amazon and Congo Basins, Borneo, and Papua New Guinea—that are especially important. Here, big stores of carbon overlap with high diversity of plants and animals.

Picture Gallery (click on the picture to start)

Ten of the most important forests on the planet (Photo: Shutterstock)

While emissions increase, rainfall diminishes. The Amazon's trees evaporate 20 billion tons of water into the atmosphere each day. This giant humidifier feeds rain clouds that, in turn, irrigate fields, provide drinking water, and fuel hydropower projects across huge parts of Latin America.

With fewer trees around, less water enters this cycle and the soot from burning trees prevents clouds forming. The lack of rainfall makes forests more susceptible to fires and logging. Once the trees are gone, rainwater drains away quickly, eroding the soil and stripping it of nutrients. This feedback loop could turn the Amazon into savannah over time, threatening enormous loss of plant and animal species.

But deforested land supports farms and ranches, roads and urban development, mining concessions, and provides wood for fuel and timber. From multinational oil companies to the refugees in Darfur, many people need to cut down trees. "In global markets today, rainforests are worth more dead than alive," writes Andrew Mitchell, Director of the Global Canopy Programme.

Paying tribute to nature

One proposed solution could be rich countries paying poor countries not to cut down trees. This principle was agreed at the UN's climate conference in Bali. Called Reducing Emissions from Deforestation and Degradation (REDD), the initiative would provide forest nations with tens of billions of dollars a year. The UN hopes to incorporate REDD into the treaty that will hopefully succeed the Kyoto Climate Protocol in December 2009.

How REDD will work in practice is unclear. One option is selling carbon credits from 'avoided deforestation'. For example, the U.S. states California, Illinois, and Wisconsin have agreed with the Indonesian province of Aceh to work towards including forest credits in their emissions trading schemes. Polluting companies in the U.S. would get credit for meeting emissions-reductions rules by investing in forest conservation efforts.

Brazil has led opposition to forest offsets, arguing it allows rich countries to dodge emissions cuts, and the EU recently decided against allowing European industries to offset their emissions by buying rainforest credits.

One problem is how to measure and verify a forest's present and future carbon stock. Whether these carbon credits would be interchangeable with credits from other sectors like power generation poses another question. A simpler alternative would be to pay countries based on the size of their existing forests. If countries continue clearing, they would lose payments.

Another major hurdle is the question of how to distribute the money from those credits in the forest nations. Land rights are often disputed, particularly as indigenous people often have no legal records. Some see a risk of a land grab by big-money speculators if REDD means forest values increase rapidly. If local people do not benefit, they are less likely to preserve the forest.

Brazil has already established an alternative to forest offsets: an international fund for the protection of the Amazon, to which Norway has pledged 1 billion dollars through 2015. Norway will donate tranches of the money every year, but only if Brazil shows deforestation was reduced in the previous year. Poor families in Brazil can apply for 1,500 dollars per year to restore and protect forest that they own.

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There will likely be a combination of these different proposals. But what will it cost? According to the Eliasch Review prepared for the UK government, it will take 17 to 33 billion dollars per year to cut all deforestation by half by 2030. The EU suggests 15 to 25 billion euros per annum would be needed to halve deforestation by 2020. Compared to other sectors, the cost per ton of emissions saved—about 5 dollars—is still cheap.

In 2011, the global market for bottled water is forecast to be worth 86.4 billion dollars. For less than half the value of an industry that until recently we lived without, mankind could preserve forests that have sustained the planet for millennia.

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