

## SPECIAL REPORT

# Save the trees

Scientists and policy-makers will meet in Bonn this June to discuss one of the most pressing concerns to come out of December's United Nations climate meeting — how to manage the world's tropical forests. **Jeff Tollefson** examines some of the proposals.

Rainforest nations walked away from the United Nations (UN) climate meeting in Indonesia last December with pretty much all they had hoped for: a place at the negotiating table and an acknowledgement that deforestation belongs in a future global-warming treaty.

The landmark decision in Bali was accompanied by an outpouring of concern — and in some cases money — from the international community. Little more than a month later, however, the European Commission released a proposal that would ban forestry credits of any kind from the world's largest carbon market until 2020. The document highlights old divisions over whether to integrate forestry issues into the cap-and-trade programme for reducing greenhouse-gas emissions or to tackle problems such as deforestation separately through government programmes. Rather than open up the European market, the commission proposes funnelling a portion of the proceeds from the carbon market into deforestation programmes.

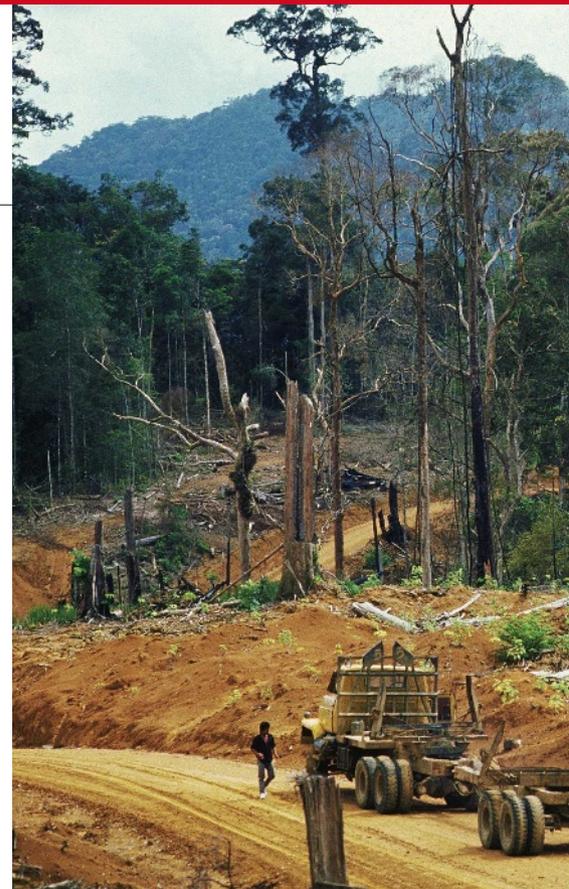
Advocates of rainforest conservation have in the past focused on issues of biodiversity and the preservation of indigenous communities. The climatic implications of deforestation, which releases the carbon stored in plants

and soils into the atmosphere, both heightens the urgency and opens the door to potential solutions. Yet although the Bali declarations endorse the idea of including forest protection in the next climate agreement, they say nothing about which avenue to take — an issue that is now being hotly debated.

## Monitoring emissions

The discussions kicked off in Kyoto in 1997, when the United States pushed to make forestry part of the market-based cap-and-trade programme. Europe eventually accepted the programme, but was sceptical about including deforestation, unconvinced that the technology was advanced enough to monitor and quantify emissions resulting from deforestation. Reforestation projects were included in the final agreement, but avoiding deforestation was left out.

Ten years later, with the scientific community generally agreed that satellite monitoring is ready for prime time, rainforest nations banded together in favour of a market-based approach tied to national baselines — similar to the way developed nations would certify industrial emissions (see 'Taking steps at a local level'). Brazil seemed to be out in the cold last year when it continued to push for the creation of an



international fund, independent of an eventual carbon market, that could be tapped in support of programmes to halt deforestation.

In the end, however, UN negotiators failed to settle the issue. "When we went into Bali, we all thought that carbon markets would win, but after Bali there are more and more voices saying, 'maybe the market doesn't work that well here,'" says Fred Stolle, a researcher with the World Resources Institute, an environmental think-tank based in Washington DC. Stolle says the European proposal puts the whole idea of a market-based forestry programme "on shaky ground", because where Europe leads, others may follow.

This dilemma has advocates of a market-based approach looking to the United States for leadership. The leading global-warming legislation in the Senate would set aside 2.5% of the credits in an eventual cap-and-trade system for forestry and deforestation projects. A coalition of businesses and environmental groups, represented by the lobbying firm Covington and Burling, based in Washington DC, is pushing to expand that and other provisions that would allow forestry to play a greater role.

An international fund such as that backed by Brazil might be useful to help pay for infrastructure issues as nations develop the expertise to track and police deforestation, sceptics argue, but the resources necessary to address such a problem can be raised only if avoiding deforestation becomes a private economic enterprise. "In global markets, forests are worth more dead than alive, and this is what we need to turn around," says Andrew Mitchell, director of the Global Canopy Programme in Oxford,

## Taking steps at a local level

After more than a decade of work, scientists say today's computer models could allow virtually any nation to monitor deforestation rates and participate in some kind of international treaty. Greg Asner, who studies rainforests at the Carnegie Institution in Stanford, California, says the latest validation on his model suggests an error margin of about 0.5% for broad deforestation; that margin increases to around 10% for selective logging.

The question faced by delegates at the next United Nations climate talks will

be how to translate such information into a workable system that rewards countries for reducing deforestation. The Coalition for Rainforest Nations, led by Papua New Guinea and Costa Rica, has proposed national baselines to ensure that problems do not migrate from one region to another.

Costa Rica, India and other nations are pushing for ways to reward countries that have already halted or prevented deforestation, including building a tourism industry around the natural resource. Advocates say this would

ensure the problem doesn't move from one country to another while providing additional assistance for countries that are managing their resources properly.

All of these countries will probably need to build up expertise in running their own monitoring programmes, but Asner says his computer model is simple enough for him to be able to train his technicians in a couple of months. "I think that the key is planting the seed and building the scientific capacity within these nations," he says. **J.T.**



Logging in West Kalimantan, Borneo.

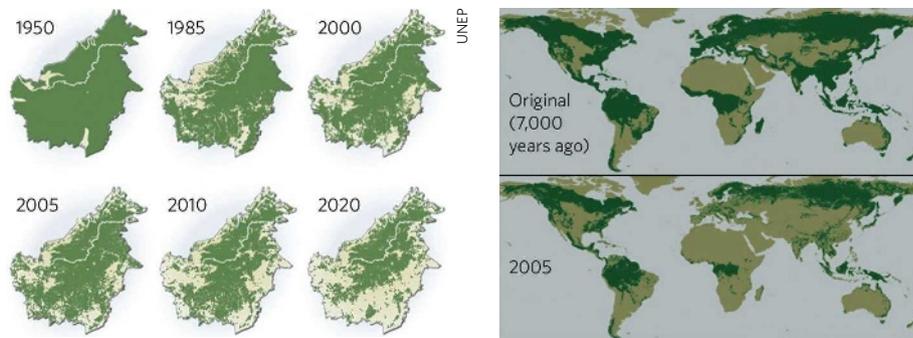
UK. “Philanthropy and governments won’t do it. You have to look to markets to overturn what is in fact a market failure.”

Moreover, having developing nations sign up to cap-and-trade commitments in the forestry sector will build momentum and increase pressure on countries such as China as well, says Stuart Eizenstat, a partner with Covington and Burling who served as chief negotiator for the US delegation to Kyoto. “This could open up a way of breaking this impasse between developed and developing countries.”

### To market

But perhaps the biggest fear among sceptics is that an endless stream of deforestation credits will simply allow companies in the developed world to pay a little extra and pass costs on to consumers without otherwise changing their policies. Artur Runge-Metzger, who is in charge of climate issues at the European Commission, says deforestation accounts for 5–6 gigatonnes of carbon dioxide annually, compared with 2 gigatonnes in the entire European trading scheme. “That would flood the market,” he says, revealing a major reason behind Europe’s stance. “We want to see real emissions reductions in Europe.”

Eric Bettelheim, executive chairman of Sustainable Forestry Management in London, calls this logic “nonsense”, saying forestry projects will come online over time as countries develop their monitoring systems, link up to the international system and work through projects. Moreover, as some 20% of global greenhouse-



The extent of the problem: changes in forest cover in Borneo (left) and the human impact globally.

gas emissions come from deforestation each year, from a theoretical standpoint, deforestation can’t make up more than 20% of the solution if it represents only 20% of the problem. “It is not the purpose of a market to punish industry,” he says. If reducing emissions through deforestation is the cheapest option, “it’s the logical thing to do”.

Kevin Conrad, director of the New York-based Coalition of Rainforest Nations, plays down the European Commission’s move to bar forestry projects, expressing confidence in the UN talks. He says developing nations would be suspicious of any new non-market initiative, such as the millennium development goals for deforestation, that would be perennially under-funded and bureaucratic. “Developing countries are trying to test the sincerity of developed countries, saying ‘Don’t try to fool us dangling some new-fangled fund in front of us,’” Conrad says. “What we want is just our right to be at the table in the markets that are already in the tens of billions of dollars per year.”

How much money would flow into this sector ultimately depends on the actual cost of curbing deforestation, and for this there is a range of estimates. Doug Boucher, director of the tropical forests and climate initiative for the non-profit Union of Concerned Scientists based in Cambridge, Massachusetts, is in the process of compiling and analysing various studies on the issue. He says the numbers vary from a few dollars per tonne of carbon dioxide for individual projects to \$10–30 per tonne for some of the economic models. For perspective, carbon dioxide credits are currently trading at more than \$30 per tonne in Europe, although they have been much lower in recent months.

In principle, Boucher says, the calculation is easy: saving a forest costs at least as much as a person would have earned cutting it down. And there will be additional costs for developing monitoring systems, administering programmes and enforcing laws, many of

which already exist. Such aspects could benefit from traditional international aid, especially as countries gear up. Brazil recently sent a special police unit into the Amazon as part of an effort to bring illegal clearing under control — and to demonstrate its commitment to the problem.

Others are looking at financing mechanisms, including some form of carbon insurance that could be activated if a project that had been paid for turned sour for any reason. New financial institutions would be needed to link the global capital markets to people on the ground. Annie Petsonk, an attorney with Environmental Defense, a non-profit advocacy group in New York, says farmers might even be able to take out a project loan from “forest carbon” banks. “Could you use all of the learning that has been developed in the past 10–15 years in micro-

finance?” she asks. “Could you apply that to carbon?”

But developed nations contribute to the emissions too. The expansion of palm-oil plantations in Indonesia, driven in part by European demand for biofuels, is a primary cause

of deforestation. When it comes to timber, it is perfectly legal to ship illegally cut logs to the United States and Europe (although efforts are under way to change that). Cattle ranching is a leading cause of deforestation in the Amazon, and two-thirds of Brazil’s beef goes to Europe, says Mitchell of the Global Canopy Programme. “Europe’s markets are causing these emissions and, more and more, the developing world is saying that it doesn’t want to be blamed.”

But a well-designed and focused programme could markedly affect global deforestation. More than half of the emissions from deforestation come from two states in the Brazilian Amazon and one province in Indonesia, according to a preliminary analysis of deforestation trends between 2000 and 2005 by the World Resources Institute and South Dakota State University in Brookings. Whether such a programme could garner the political will and international backing to succeed remains to be seen. ■

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