



COMMENT: PROFESSOR WILLIAM LAURANCE

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PAINTING THE RAINFORESTS REDD

Clearing rainforests is pumping as much carbon dioxide into the atmosphere as the world's entire transport sector, but there's a nifty solution to fixing the problem.

IN THE 10 MINUTES it'll take you to read this article, some 120,000 rainforest trees will come crashing down. That's scary if you're a resident orangutan or a tree kangaroo, but it should concern you, too. The rampant clearing of tropical forests imperils us all, even if we live too far away to hear the growl of the approaching bulldozers.

In a rainforest, every tree is a small green city of life – festooned with epiphytes and vines, and bustling with myriad insects and wildlife. But these forests are not merely the world's most biologically rich real estate, they also keep our planet liveable by limiting floods, cleaning our water supply and helping stabilise the climate.

How do rainforests promote a healthy climate? When undisturbed, forests store a great deal of carbon, keeping it safely locked up in their biomass rather than in the atmosphere where it accelerates global warming. The razing and felling of forests currently expels 3–4 billion tonnes of CO₂ into the atmosphere each year. That's roughly as much as the entire global transport sector, including every single petrol-burning car, truck, boat, train and aeroplane on earth.

In addition, rainforests are natural cloud-making machines. Each year they release billions of tonnes of water vapour into the atmosphere (the vapour diffuses out of tiny pores in plant leaves as they absorb CO₂ for photosynthesis). This vapour often forms fluffy, low-level clouds that reflect sunlight back into space, cooling the planet and producing life-giving rainfall. In this way the rainforest helps generate its own vibrant, self-perpetuating climate – one that keeps us all happy and healthy too.



Australia is the only developed nation with tropical rainforest – such as here in Cape Tribulation, QLD – but it has also had one of the world's worst records for overall deforestation in recent years; most of which has occurred in temperate zones.

BECAUSE OF THEIR planet-cooling effects, saving rainforests has to be a key part of any plan to slow global warming, many experts believe. The most popular idea is to use carbon trading to slow deforestation in tropical developing nations, such as Papua New Guinea, Brazil and Indonesia. In effect, wealthy nations would help meet their own carbon targets by paying these countries to maintain and regenerate their rainforests.

Known as 'REDD' – short for Reducing Emissions from Deforestation and forest Degradation – the idea is simple. Under international agreements such as the Kyoto Protocol and its successors, most industrial nations have agreed to reduce their carbon emissions below their present levels.

Industrial nations trying to meet their own reduction target are allowed to buy carbon credits from other countries that either have no target (as is currently the case for developing nations) or whose emissions are below permitted levels. As with any tradeable commodity, the price of carbon credits is mostly determined by supply and demand, so rainforests have the potential to become an economic commodity

for developing nations – even more valuable, in many cases, than the farmland that's now replacing them.

In theory, everyone should win with REDD. Wealthier nations, such as Australia, can pay to slow deforestation as part of an overall effort to meet their emissions target. And saving rainforests turns out to be a surprisingly cost-effective way to cool the climate. Protecting an imperilled forest in Madagascar, for instance, might lead to the same net reduction of carbon emissions – and be far cheaper – than paying for a dirty old coal-fired power station to clean up its act.

In a deal like this, dangerous carbon emissions are reduced, a biologically unique forest is protected and Madagascar gains direly needed cash. So, it's all good, right? Well, yes and no. The first effort to implement REDD, as part of the Kyoto Protocol in 1997, met with surprisingly fierce opposition. European green groups feared that wealthy nations – most notably the USA, then the world's biggest polluter – would simply buy their way out of any international agreement to permanently cut their burgeoning carbon emissions.

Others have argued that forest



conservation is a risky way to battle greenhouse gases. For instance, if you try to slow deforestation by establishing a new national park in Indonesia, 'leakage' can occur if slash-and-burn farmers simply move to other areas and continue destroying other forests. Finally, Brazil, which alone contains one-third of the world's tropical forest – and thereby qualifies as the 900-pound gorilla in the corner – adamantly opposed REDD and pressured other developing nations to do so too. Brazil feared that any long-term deal to protect forests could potentially limit its options for future development.

FORTUNATELY, THINGS changed at the UN's Bali climate conference in 2007, with REDD finally getting the green light. A coalition of small, forest-rich countries, led by PNG and Costa Rica, negotiated with great skill, skirting some of the concerns about REDD.

Those worried about leakage were happy with the coalition's proposal of tallying deforestation at the national level. Hence, if a carbon-offset project slowed deforestation in one part of, say, Cameroon, but simply allowed it to increase elsewhere in the country,

Cameroon would receive no benefit. And the fact that the coalition was led by developing nations reduced fears that carbon trading would limit their future development options.


Furthermore, European green groups have grown increasingly alarmed by the sharp rise of greenhouse gas emissions, particularly with China and India now joining the industrial nations as major polluters. If we want to keep from cooking ourselves, the Europeans realised, ignoring rainforest destruction was a risk too great to take.

REDD is now ready, but some tall hurdles remain. For a developing nation to receive cash for its carbon, it must first measure its baseline rate of deforestation – the typical amount of forest it has destroyed each year in the past. It must then show how much its current rate of forest cutting has fallen, so it can be paid for the difference. Satellites are increasingly being used to generate these numbers, but much work remains to ensure reliable estimates for all developing nations.

Another concern is governance. For instance, Norway and Australia have offered Indonesia more than

1 billion dollars to slow its rampant forest loss. What will happen to that money? Will it reach local farmers and provincial governments, or merely disappear into some central-government coffer (or, worse, into somebody's secret bank account)? Scandals have already erupted in PNG, where 'carbon cowboys' duped local indigenous groups into buying fake certificates to sell carbon credits.

And finally, there's some serious hypocrisy. The USA spews out more CO₂ than any nation except China, but still hasn't ratified an agreement to cut emissions. And Australia exports coal – the world's dirtiest fuel – to China, and has an alarmingly high rate of deforestation itself. Indeed, from 2005 to 2010, Australia, the only developed nation to have tropical forest, had the dubious distinction of being one of the world's top forest-destroying countries

In summary, I think we have to throw support behind REDD to slow the loss of these most biodiverse forests, and all those orangutans and tree kangaroos. And while we're urging our tropical neighbours to clean up their act, let's take a long, hard look at our own backyard as well. 

NET CHANGE IN FOREST AREA 2005–2010

