

Paying For Forests

If the world is to solve the problem of climate change it must first solve the problem of forest loss. Each year forest is lost for many different reasons: conversion for agriculture, wood fuel, ranching, palm oil plantation, population expansion, infrastructure growth and also from logging (both legal and illegal). This conversion of forest land to other uses is responsible annually for the release into the atmosphere of up to 20% of all greenhouse gas emissions. That is why one of the successes of the Bali conference in December 2007 was the decision to include reduced emissions from deforestation and degradation as part of the solution in a post 2012 framework for combating climate change.

The basic idea from Bali is that we should reward developing countries which slow down their rate of deforestation; paying in effect for the difference between what they have cut down and what they might otherwise have cut down. The method is one that calculates a historical rate of deforestation and then extrapolates it into the future gradually reducing it over decades. Any improvement between this "reference rate" and the country's actual rate of deforestation is then measured as "avoided deforestation" against which tradable credits may be issued. It is important that the UNFCCC get it right. But what if their model were flawed -- not just technically but practically and politically? The world would have squandered a unique opportunity to solve a major element of the climate change problem. As we continue to engage in the detailed negotiations we must not stop examining the model as a whole. If we find that flaws exist and if we recognise them to be serious we must have the courage to start afresh from first principles

Technically avoided deforestation is a calculation that is measured as a deviation from a hypothetical. So poor is some of the satellite data from past years that the historical deforestation rate itself is more conjecture than fact! More important than this though, the hypothetical reference rate is itself open to widely differing and subjective interpretations. Arguments can and do arise about the time period from which the appropriate reference rate of deforestation should be extrapolated. Countries can and will object if the period used to calculate their own baseline rate is not applied equally to their international neighbour. Yet their neighbour may have a startlingly different profile of population growth and economic development in that period that renders such a calculation wholly inappropriate. One need only recall the effect of the choice of 1990 as the appropriate baseline year in the Kyoto Protocol which led to Russia's enormous surplus of emission allowances and the United States refusal to ratify. Even were such factors to converge perfectly across all developing forest nations, any reference rate is blind to subsequent events. This means that it becomes progressively less and less useful and appropriate from the moment it is adopted. To insist that there will be periodic renegotiations of the reference rate is to do no more than to admit that this basic flaw in the system exists.

Assuming these technical issues were to be resolved, there remain fundamental objections on the level of practical policy. Not least of these is the problem of perverse incentive. Any indication by the international community that it will adopt a system of payment for avoided deforestation automatically encourages developing forest nations to increase their current destruction of forest. By doing so they will increase their ultimately agreed reference rate and maximise the differential between their hypothetical loss and the actual loss they incur. By artificially boosting the measurement of avoided deforestation in this way, countries would be able to secure additional payments for

actions they would have taken in any event. To compound this problem; countries whose historic rate of forest loss is commendably low, may feel themselves aggrieved by a system that ensures larger payments to those who have failed to preserve their forest cover whilst countries with more successful conservation records benefit least of all.

Perhaps the single most damning aspect of the current proposals for payment for avoided deforestation, however, is that they fail to pass the common sense test of the average voter. The public are already suspicious that carbon trading is more for the benefit of the financial markets and city traders than for the benefit of the planet. Any politician who proposes that billions of dollars should be paid over to foreign countries -- not in return for something tangible that actually exists, but for something intangible (something that hasn't been done) and is measured as a deviation from a hypothetical reference rate – is a politician sadly disconnected from his or her electorate!

Voters do not talk about forests in the language of “global public utilities”, but they know that in addressing climate change, forests are good things that the world needs more of. If the UNFCCC is to persuade voters around the world to allow governments to spend your and my money in this area, then it must be in a system that rewards good practice and not bad and that pays for real things not hypothetical ones.

Politicians must regulate the trading structures so that the financial markets can be used to benefit forests; not structure regulations so that forests can be used to benefit the financial markets. This means that instead of paying for avoided deforestation we must create a market that pays for forests -- actual standing stock. This market must be simple enough to incentivise the things we want done such as planting new forest and reforestation of previously degraded land. It must also be powerful enough to stop people destroying the forest that currently still exists

Above all the market must revolve around the trees and in doing so must properly value the many ecosystem services that the trees provide. A mature tree provides benefit to the environment not only through locking up carbon that would otherwise be released into the atmosphere as CO₂. It functions also to regulate our climate by pumping moisture into the air, to provide watershed protection, to stop soil erosion, to provide sources of food and habitat for an enormous range of biodiversity, to provide fuel and construction materials, and sometimes it acts as a reservoir of secrets for pharmaceutical companies to harness. But most tropical hardwood species do not mature until they are at least eighty years old and many will take one hundred and twenty years to establish their proper place in the canopy. If a market is to be centred around the trees it must encompass the life cycle of the forest.

What would such a tree-centred financial market look like? The answer is that it still generates credits, but it does so over a 100-year cycle. Every year a country's total standing forest should be measured and each year the country be authorised to issue credits that correspond to one per cent of its measured stock. This means that over the 100-year cycle that approximates the cycle of mature forest growth the total forest cover will be accounted for. By restricting the release of credits to one per cent of standing stock each year we also avoid the danger of flooding the market with carbon. The link between the forest and the credit that rewards it is both direct and positive. Deforestation

at a higher rate will result in less reward the following year. Afforestation or deforestation at a lower rate will result in a greater reward.

A credit can either be traded or used to emit and it is important that there should not develop an imbalance in the market by traders hedging long into the future. To prevent this and ensure that the total credits in circulation could never exceed the actual forest cover; credits should be restricted to a 10-year life span. This tightens the arbitrage window available to traders and would make a credit potentially less valuable the older it becomes as the scope for hedging is reduced. Critically, the new credits available would fluctuate each year in proportion to forest cover. Developed countries wishing to offset their carbon emissions by use of these credits would therefore find it more expensive as forest cover declines but easier and cheaper if forest cover expands. Thus the market is made to work for forests not the other way round.

Under this model it is the sovereign national government that would be authorised to issue credits. In order to ensure positive future revenue streams from the forest, governments would need to co-operate with and incentivise private landowners, regional government and indigenous peoples, amongst others. To ensure this co-operation governments would be able to delegate the right to trade these credits by granting permits to such groups in return for an appropriate fee. To protect and respect national sovereignty however, these sub-national level arrangements should not form part of the international market regulations. Equally the model would not support governments who obdurately continue to deforest whilst using the model as a revenue stream (albeit a diminishing one) for the next 100 years! For each percentage of forest lost beyond a certain level, credits authorised might also fall by one tenth from 1% of measured stock to 0.9%, 0.8% and so on.

The logic of the carbon market as embodied in the Kyoto Protocol was to enable the Parties to reduce carbon emissions in the most cost-effective manner. Kyoto recognised that, whilst the cost of reducing carbon emissions varied considerably from country to country the benefit to the planet was the same regardless of where the action was taken. This has often been expressed in the truism "A tonne of carbon is a tonne of carbon". Because of this the carbon market has always operated on a strict one for one basis. I want to suggest that this rule could be modified in order to deliver additional environmental benefits.

Carbon markets are a part of the international community's response to the challenge of climate change. But climate change has increasingly come to be seen in isolation from its ecological context. It should be remembered that a change in climate, in and of itself would not matter if species were able to keep pace with the rate of change. It is because the rate of change is so rapid and species cannot keep up with it that biodiversity is suffering such rapid depletion. The Millennium Ecosystem Assessment suggests that the rate of extinctions of species is now running at 1,000 times the normal background rate that we see in the fossil record. This depletion of biodiversity results in the degradation of the ecosystem services upon which human life depends. Ultimately this is what makes climate change so important: because biodiversity and ecosystems are vital to supporting human life. Perhaps then we should regulate the market so that it is turbocharged in favour of biodiversity and ecosystem services other than carbon sequestration alone.

The first thing to recognise is that whilst the Kyoto principle of "one for one" is a perfectly rational way, it is not a necessary way of structuring the market. Indeed it could be argued

that if millions of tonnes of new carbon, in the form of standing forest, are to be introduced into the system post 2012 it is rational to introduce a gearing effect. Emitters who want the privilege of offsetting emissions might better be required to pay for two tonnes or even four tonnes of standing carbon for every one emitted. If we regulate the market in this way then it would seem a small step to favour IUCN Red List Habitat forest by allowing that every unit here counts as two or even four. The value of red listed forest would then be of far greater significance to governments who would find that a market, turbocharged in this way, actually provided them with the financial revenues necessary to protect this vital planetary resource. Similar gearing criteria could be determined for other ecosystem services, such as forests that provide significant watershed protection or soil stabilisation functions.

To conclude:

- The problem of climate change requires that we solve the problem of forest loss
- The decision to include forests into a post Kyoto framework provides a vital opportunity that must not be squandered
- The current model of “avoided deforestation” appears technically, strategically and politically flawed
- Payment must be for something real not something hypothetical
- The carbon markets must be structured to ensure the maximum benefit to forests not the other way round
- Credits must have a direct positive link to forest cover
- We can turbocharge the market structure to promote other essential ecosystem services.

Many people and organisations have invested significant time and resource in advancing different models of how the carbon markets might incorporate forestry. We must rigorously test each of them against first principles. All of us engaged in this area should be happy to see our own model cast aside if a more adequate one is able to replace it. Ultimately, success will be measured not by whose model wins the argument, but by how much of the world's forest we manage to save.

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