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The slow growth of the carbon offsets market

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Despite the integral role played by forests in efforts to combat global warming, the market for forest-based carbon offsets has been slow to develop. Katie Holliday talks to experts about how this landscape is now changing

Through their absorption of carbon dioxide, forests are the most natural antidote to rising greenhouse gas emissions. However, despite their pivotal role in tackling climate change, incentives to promote projects that prevent deforestation or encourage the planting of new forests have largely been excluded from compliance-based climate change legislation worldwide after the original devisers of the European Union's Emissions Trading Scheme (EU ETS) being sceptical over the scientific validity of forest-based carbon offsets.

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Recent scientific advancements, however, combined with important regulatory progress
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Nation's Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD+) programme at Copenhagen last year have paved the way for big advances in the market for forestry-based carbon credits, say experts. REDD+ goes beyond deforestation and forest degradation, and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks.

Currently, a small market for forest-based carbon offsets exists under the Voluntary Carbon Standard (VCS), which facilitates project developers to generate Voluntary Carbon Units (VCUs) that can then be traded on the voluntary markets. It is difficult to put a precise number on how many forest-based credits are being traded because by the nature of these projects, the credits often take years to be generated.

Not so tradable credits

Certain types of forestry projects are accepted under the Kyoto Protocol's Clean Development Mechanism (CDM) but the generated credits are not accepted under the EU ETS.

However, important progress was made at Copenhagen last year when the parties of the Kyoto Protocol came to an agreement on some of the details of the REDD+ programme. REDD+ is an effort to create financial value for the carbon stored in forests, offering incentives for developing countries to invest in forest-based projects and invest in low-carbon paths to sustainable development. REDD+ is yet to be made mandatory but experts are optimistic the programme will be included in a post-Kyoto global trading agreement. It is predicted that financial flows for greenhouse gas emission reductions from REDD+ could reach up to US\$30 billion a year, according to UN data (see box on REDD+ for more details).

"Most governments now accept that the only way we're going to raise the required funding to halt emissions from deforestation by 2030 is to include forests in future carbon trading mechanisms," says Andrew Mitchell, director of forest research at NGO Global Canopy Programme. "The progress made on REDD+ is a hugely important step. A phased approach is likely, with \$4 billion available now to build capacity, bigger funds coming later and finally the markets coming in. It may be moving slowly but at least we are now going in the right direction."

If forestry does become accepted under broader compliance-based mechanisms, it could become one of the most thriving sectors of the carbon market. "It is one of the most promising markets in carbon in the future," says Alexandre Borde at French carbon trading research firm Carbonium. "Forestry currently makes up about 5% of the global carbon market, but we see this becoming much higher in five to 10 years time. I see forestry's percentage of the global carbon market matching the level of emissions created by deforestation, which is roughly 25%," he adds.

According to Laurent Valiergue, origination manager and forestry expert at French carbon origination and trading firm Orbeo, the lack of compliance-based buyers for forestry-based carbon credits is currently impeding this market's development. "The buyers are only in countries under compliance outside of Europe, so there is a very small window under the CDM to sell those credits, mainly because the credits that forestry projects generate are not accepted on the EU ETS," he says.

Technological options

In its simplest form, the methodology behind a forest-based carbon project involves a developer being awarded one credit for each tonne of carbon sequestered through the lifetime of either a newly planted tree or through the maintenance of an existing tree.

Currently there are three types of technologies available that forestry project developers can implement:

- The first is afforestation or reforestation projects, the only technology that is accepted under CDM. These types of projects involve planting new forests on bare land that has not been cleared for the purpose of that project
 - The second is Improved Forest Management (IFM), where project developers can claim credits for increasing the carbon stock.
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- The third is avoided deforestation, which involves the prevention of deforestation for crop growth or construction.

All three technologies are accepted under the VCS.

According to David Antonioli, chief executive officer of the Voluntary Carbon Standard Association (VCSA), the market has been waiting anxiously for avoided deforestation projects. He sees a lot of potential going forward. “Avoided deforestation and Improved Forest Management (IFM) projects are going to be a huge asset in developing and developed countries,” he says.

According to Jan Fehse, forestry expert at UK-based carbon origination company EcoSecurities, avoided deforestation has huge potential under regulated compliance based markets. “We’re seeing project developers keen to start projects in avoided deforestation,” he says.

These types of projects will be more appealing to investors in comparison to afforestation/reforestation-based projects because the carbon revenues will be able to be realised earlier. ‘With avoided deforestation you can claim the credits relatively quickly, within a year in some cases, while afforestation/reforestation involves the planting of trees and a wait of three to five years before you can see the carbon revenue,’ he adds.

The VCSA’s Antonioli is confident the building blocks that have been put in place by the voluntary markets for forest-based projects will be adopted by compliance-based mechanisms in the future. “We’d like to see the credits and mechanisms we’ve developed, including those that deal with permanence issues, incorporated into compliance regimes – that would be a huge accomplishment for us,” he says.

Experts appear united that forest-based carbon offsets need to be accepted in compliance-based mechanisms in addition to the voluntary sector to really push this market forward.

“There is clearly a potential upside for the forestry market, but only once the technologies are recognised under a compliance market. The scope of this market will remain limited while it is contained within the voluntary sector,” says Orbeo’s Valiergue.

Legislative catalyst

Under the REDD+ programme, afforestation and reforestation projects will be included, as was decided at Copenhagen. But the biggest advance for the market is likely to come from US progress on carbon trading legislation.

In contrast with Europe, the US has taken a much more open approach to forestry-based offsets. The Kerry-Lieberman bill, known as the American Power Act, is currently under consideration in the US Senate, will allow the trading of these offsets in a US national emissions trading scheme once passed.

This would provide a huge boost to the market, according to Tauna Szymanski, general counsel and environmental specialist at international law firm Hunton & Williams. “Aside from what is going on internationally, the really important driver for this market will be the progress made on Capitol Hill. I’m positive that the bill will be passed this year and we will then see forestry really taking off,” she says. “Forestry needs to be included in compliance markets. Without that it won’t become a liquid and attractive market for participants. But recent progress in the US has signalled that this market could potentially boom.”

Having the appropriate methodologies in place to deal with the three types of forestry-based technologies has been an important step forward, according to Valiergue.

“This was why the forestry sector initially came up against a stumbling block, because we didn’t use the right tools,” he says. “Today, the issue has been solved and there are now the methodologies available under the VCS and the CDM to govern afforestation or reforestation projects.”

By far the biggest barrier to the development of the market for forestry-based carbon o

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involved with how to measure the carbon sequestered through a forest-based project, which are extremely complex in comparison with other emission reduction projects. The main bugbear involves the issue of permanence. Because credits are awarded on the basis that a forest will continue to absorb carbon dioxide (CO₂) through its lifetime, if this process is reversed by a forest fire or outbreak of disease, the credit would lose its value.

To address this issue, the United Nations has devised Temporary Certified Emission Reductions (tCERs), which can be generated through the CDM. The credits are awarded on the basis that tCER buyers must submit a verification to the registry to check the CO₂ is still being sequestered every five years. But the idea of temporary credits has been met with some criticism.

“Clearly for the managers of the different registries, it’s a nightmare,” argues Orbeo’s Valiergue. “This is why the EU ETS refused to accept them, because of the issues surrounding registries and permanence.”

Compliance buyers may be deterred from buying tCERs due to the increased amount of risk associated with the credits. “Compliance buyers might not like the exposure that having a temporary credit gives them, and we’ve seen this dampen demand,” says the VCSA’s Antonioli.

The VCSA’s solution to the permanence issue has been to introduce a buffer mechanism. This requires developers of projects to place a certain percentage of their credits into a buffer account and serves as an insurance pool to account for loss of carbon through fire or pest attack, for example. The percentage of credits required by the buffer mechanism is dependent on the project’s risk profile.

Challenges

Other challenges include the average size and expense of implementing a forestry-based project, which tend to be much larger, both in terms of scale and cost, than other types of emission reduction projects.

“We are talking about projects that need huge investments upfront, so it’s difficult to finalise upstream project finance. This is why you don’t have a lot of forestry projects, because it’s not of use to raise that money and find the investment when the carbon revenues are low and you often have to wait between five and 15 years to receive the revenue,” says Valiergue.

EcoSecurities’ Fehse also points to the expensive nature of reforestation projects as a prime impediment for investors. “The reason why a lot of these projects are not happening is because it’s too difficult to find the funding. The other revenues from the projects are not high enough to justify the investment at the beginning. This is why the only projects that exist without donor funding are commercially orientated; because those are the only types of projects that can attract the level of required investment, even though the market would like to see carbon credits from more ecologically and development-oriented projects,” says Fehse.

In addition, working with local communities can add further complexities to the process. Developers have to be careful not to infringe on the livelihoods of stakeholders through their implementation of the project. If the project caused the local community to have to deforest elsewhere for crop growth or pastoral or construction purposes it would negate the point of carrying out the project.

Orbeo’s Valiergue says dealing with local communities is an important risk that needs to be factored in by project developers. “If you plant forests, you can impact or disturb pre-project activities and you must ensure that local communities get the same benefits they would have had in the absence of the project,” he says.

Regulatory risk

And despite positive developments on REDD+ at Copenhagen, many carbon market participants still see regulatory risk as the largest risk factor impacting the market for forestry-based carbon credits.

"Before Copenhagen and when there was still a more positive outlook on climate change legislation the US, we were still seeing speculative investment in this side of the market. But you don't see that anymore because there is more uncertainty than there was back then," says Fehse. "However, I expect this to change in the future. I expect regulation to come in, whether it's from the REDD+, from the US or perhaps from other domestic markets, like Japan. Once you see more clarity on regulation then you will see more speculative investment coming in."

Looking forward, all eyes remain fixed on developments in the US as the crucial driver, but other compliance markets around the world are also gearing up to include forestry-based carbon credits under their domestic schemes.

New Zealand has already begun trading forestry-based credits, though the small size of this market has meant it has largely remained off the radar. Australia's ETS, once it is legislated, is expected to include forestry as a major part of its scheme. If international offsets are allowed to be both imported and traded in Europe, this could provide a significant driver for the forestry market going forward. And Japan has also included scope for buying in forestry-based offsets in plans for a national trading scheme.

Now that the science behind assessing forests and their contribution to combating climate change is beginning to catch up with regulation, the necessary building blocks appear to be in place to encourage the growth of this market. "There is a market at the moment, albeit a small one," says EcoSecurities' Fehse. "But at least one exists and it is growing. Market participants are keeping a watchful eye on its progress and are excited by the promise of the full potential of forestry being realised in the future."

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