

EMISSIONS TRADING

Carbon credits prove elusive for biofuels

There is still no system to allow developers of biofuel projects to trade in carbon emission reductions, says **Caitlin Randall**

Foot-dragging by regulators seems to be holding back a tide of biofuel projects from earning money by registering their greenhouse gas savings for sale on the international carbon trading market, claim observers.

Although there has been a surge in the number of projects covered by the Clean Development Mechanism (CDM) the system's executive board has yet to approve any alternative fuel business.

"To date, there are no biofuel projects in the CDM portfolio," says Stefan Bakker of the Energy Research Centre (ECN) of the Netherlands. "If biofuels are to take off in the CDM, the executive board needs to approve a baseline and monitoring methodology."

A shake-up in the board this month, as several members step down from one- and two-year terms – including the Brazilian Chairman José Domingos Miguez – could open the way for approval of a long-awaited baseline methodology and quell mutterings that politics are underpinning the board's torpid approach to biofuels.

"There's been quite a bit of unhappiness about this issue with some people claiming there is a clear conflict of interest and that the chair is pushing his own political agenda," says one analyst who asked not to be named.

In his view and that of some others, CDM board members with well-established biofuels industries are not keen to see a proliferation of such projects. That is thought to be particularly so when the CDM additionality clause makes approval of projects in their own countries unlikely if not impossible. The additionality rule aims to avoid promoting projects that would have happened anyway and to ensure that projects reduce emissions more than would have occurred in the absence of the projects.

The analyst concludes: "If there really was goodwill on the part of the board, they would have produced at the very least a small-scale methodology for a straightforward liquid biofuels project. To date there isn't one."

Bernhard Schlamadinger, a senior scientist with Joanneum Research in Vienna, offers a more cautious view, but still argues that there is a danger of the CDM stumbling over the political agendas of the executive board members.

"The distinction between the policy-making body and the regulator should not be blurred by political interest," he says. "The CDM needs an impartial regulator that follows the rules set down by the COP [the United Nations' climate change organisation the Conference of Parties] and should not be making policy."

However, Gertraud Wollansky, another member of the executive board and deputy head of the climate change division in the Austrian Ministry of Agriculture, Forestry,

Environment and Water Management, dismisses any charges that the board is playing politics.

"The board has very specific procedures ... it's a democratic system with no one person, including the chair, able to entirely influence our decisions," Wollansky says.

"The complexity of the methodology is such that it hasn't made approving a biofuels project easy," she adds. She says that the heavy workload of the 10-member body should also be considered, as it has over 40 methodologies now under consideration.

There are over 1,500 CDM projects in the pipeline, with 477 approved, according to the CDM's parent, the UN Framework Convention on Climate Change.

According to the Risø Centre on Energy, Climate and Sustainable Development of the UN Environment Programme (UNEP), these projects are expected to generate over 200m certified emission reduction units (CERs) yearly.

By region, Latin America and Asia boast the biggest number of projects. The bulk of CDM projects are in renewables, energy efficiency and fuel switching schemes (Figure 1) and the number of project submissions is growing fast, jumping from around 10 in October 2004 to nearly 100 in October 2006, analysts say.

The review and agreement of new baseline and monitoring methodologies can take up to a half a year, developers say.

Ben Atkinson, director of AgriEnergy in Britain has seen one biofuels submission rejected, but 10 other biomass projects, set up in India and Thailand, are generating CERs. "It's been quite difficult to develop the methodologies, particularly for the biofuels project which was especially complicated to calculate," Atkinson comments.

"If the executive board accepted one [biofuels] methodology, it would lead to an increase in the chances for

CREDIT FOR COMING CLEAN

The Clean Development Mechanism (CDM) was established nine years ago, under Article 12 of the Kyoto Protocol on climate change. It allows industrialised countries with a greenhouse gas reduction commitment — Annex 1 countries — to invest in emission-cutting projects in developing countries.

In return, Annex 1 countries earn certified emission reduction (CER) credits, which can help them meet their own Kyoto targets and which could be bought and sold. CDM projects are also intended to promote sustainable development.

The Netherlands and Japan are two countries that have been buying CDM credits from the start while Spain and Italy have only recently begun buying. Major

sellers are China, India and Brazil.

The UN Framework Convention on Climate Change (UNFCCC) runs the annual Conference of the Parties (COP) as its key policy-making body while the CDM executive board regulates policy, overseeing projects through an onerous approval and monitoring process.

Projects must be independently validated, then registered with the CDM executive board before they are given verification, certification and eventually, issued tradable CERs (see panel).

Small CDM projects are a special category for which submission, validation and registration are simplified to cut costs relative to the project cost. A CDM project is considered small if the energy output or energy saving is less than 15MW.

Figure 1: CDM distribution by type 2006, based on annual CER generation

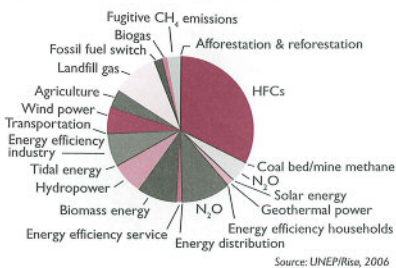
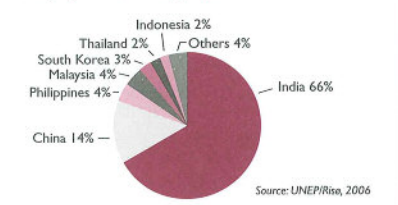


Figure 2: CDM project distribution in Asia 2006, by number of projects



approval of others, but not necessarily a flood of projects," he adds, noting that, once implemented, the cost of monitoring the long list of variables connected to the project would prove especially costly.

There are currently five biofuel CDM projects at the validation stage, including two biodiesel projects in Thailand and one each in China and Indonesia. There is also an ethanol project under development in Thailand.

Developers and analysts agree that the complexity of establishing an approved baseline methodology is the major stumbling block in the CDM process.

"In the short term, the CDM executive board should not and will not change the regulations, but they should nominate a small group to look at and clarify questions regarding methodology," says Bakker of the ECN. "The biggest barrier to further development of biofuel CDM projects is establishing baseline and monitoring methodologies."

Developers say that in preparing a baseline methodology, estimating the "default value" of every step of the project is especially onerous.

"There are so many variables involved in calculating the methodology," says Atkinson at AgriEnergy. "Has deforestation been accelerated? Was fertiliser used? What are the CO₂ emissions of the trucks taking the biofuel source to the processing plant and then the distribution station ... just to give you an idea."

Bakker contends that revenue from CERs in most cases will cover only a part of the additional cost of biofuel projects, arguing that the future of the projects is hampered by the "intricate and costly" CDM monitoring scheme.

According to Schlamadinger at Joanneum, a recent ruling to eliminate so-called double counting could sharply increase the cost of monitoring for some projects.

He says that due to the decision, project managers must now add vehicles using the biofuel produced by the project into the emissions equation: "This would be fine if you were using the blended fuel for a fleet of municipal buses that could easily be accounted for, but with cars and trucks tanking up at a station ... it becomes impossible."

The new rules on double counting aim to avoid the possibility of both the biofuel producer and consumer claiming emission credits. For example, a plant producing ethanol that is used as a fuel in cars would be eligible for CERs, but the user who buys the fuel and generates emission reductions would not.

The executive board, according to Wollansky, sees the new guidelines, adopted at the December meeting, as a step forward for biofuels. "By clarifying a very complicated issue, we have hopefully opened the door for the approval of a biofuels methodology in the near future," she says.

Wollansky remains optimistic about the future of biofuels in the CDM and extremely positive about the CDM in

general. "It really is a success story," she enthuses. "If you look at what has happened over the past two years in terms of project registration and development, the whole thing has really kick-started."

"If there is one problem, it's a lack of awareness. We need to spread information on the programme if we are to achieve better regional representation and bring countries in Africa and even some states in Asia into the picture."

Oliver Kayser, chief executive of EcoCom in Austria, whose work takes him primarily to Eastern Europe, agrees, noting that this lack of awareness extends to a more general ignorance about global warming. "One of the main stumbling blocks in dealing with host countries is the absolute lack of

information on these issues. It's getting better but project implementation remains very tough and part of the problem is ignorance."

While the future of CDM projects in part depends on political developments after 2012, when the second phase of the Kyoto Protocol is slated to be ratified, other factors come into play, not least of which are financial fluctuations in the carbon market.

Still, most experts are cheered by the success of the CDM, even those who see biofuels lagging behind. "No matter what happens in 2012, there will still be significant demand for carbon compliance instruments," says Paul D'Alton, finance director with AgCert International.

The aggregate value of the fast-evolving carbon market, consisting of several fragmented markets, was around \$11.1bn in 2005 and \$21.5bn in the first three quarters of 2006, according to a recent report by the Inter-American Development Bank.

"The future depends on what happens after 2012," muses Schlamadinger. "But if the US begins accepting CDM credits, you could have a situation where CDM becomes the main link between various global trading systems."

THE PROCESS OF GENERATING CERS

- 1. Project design and formulation.** Once a potential CDM project is identified, a Letter of Endorsement from the host country is prepared, followed by a letter of intent (LOI). The LOI is then signed with the project developer and usually includes financial arrangements.
 - 2. Baseline methodology and monitoring plans.** If there is no baseline methodology/monitoring plan approved by the CDM's Executive Board that is applicable to the project, a new methodology adapted to the specific project is developed. The methodology must then be submitted for approval to the CDM executive board.
 - 3. Project design document (PDD).** This describes the project in detail.
 - 4. National approval by the host country.** A designated national authority of the host country must approve the PDD. The UN Framework Convention on Climate Change must confirm that the host country has ratified Kyoto and that the project contributes to sustainable development.
 - 5. Negotiation of purchase agreement for greenhouse gas reductions generated by the project.** The project participants negotiate the Emission Reductions Purchase Agreement (ERPA), which is the buyer's commitment to purchase the ERs generated by the project.
 - 6. Project validation and registration.** This guarantees acceptance by the CDM board.
 - 7. Project monitoring.** The project manager carries out a monitoring plan, which provides a tool to measure and calculate the emission reductions generated.
 - 8. Project verification/certification.** The emission reductions must be verified and certified regularly in line with the monitoring plan by independent organisations contracted for the project.
 - 9. Transfer of the CERs.** After the emission reductions are certified, the buyer pays the agreed amount and the emission reductions are transferred to the participants.
- Source: Inter-American Development Bank's sustainable development department