

Columbia professors eye CDM finance

Published: 07 Jan 2010 16:38 CET Last updated: 07 Jan 2010 16:48 CET

Developers of carbon negative technology can now apply to earn carbon credits under the CDM.

After hours of debate on the last day of the Copenhagen summit, negotiators for Papua New Guinea succeeded in getting the clean development mechanism (CDM) executive board to consider letting geo-engineering technologies earn carbon credits.

While some say the insertion of the text into UN guidance on the governance of the CDM means little, it was the culmination of years of lobbying by Columbia University professors who aim to get carbon credits by scrubbing carbon dioxide from the air.

“There is no limit to the amount of credits this technology can produce,” said Graciela Chichilnisky, a professor at the New York university and inventor of the technology.

How it works

Chichilnisky and fellow professor Peter Eisenberger hope to earn credits by using waste heat from power plants to “suck carbon from the air”.

Their company, Global Thermostat, has a patent pending to capture CO₂ by using molecular sieves, known as sorbents, to capture carbon dioxide in a gas format.

The CO₂ can then be stored underground, used to enhance oil recovery or liquefied to create green cement or plastics, and the two professors hope to launch a pilot project in California in the next two-to-three months.

“The exciting thing about this technology and how it is different is that it can actually make power plants carbon negative,” Chichilnisky said, explaining that once operational the technology can capture more CO₂ than the related power station pumps out.

“CCS at best makes a power plant carbon neutral. This can capture up to twice as much carbon as the power plant emits,” she said.

One of a number

Global Thermostat’s carbon negative technology is one of many being developed in the US, including that of Global Research Technologies, whose co-founder and chair is another Columbia University professor – Klaus Lackner.

Lackner has developed a new sorbent, or plastic, that has the ability to capture carbon

dioxide when air flows through it.

He is currently seeking venture capital finance for his project to build small compact units that could suck one tonne of carbon per day, each unit costing about the same as the price of an average car in the US.

According to experts his company is far closer to bringing this technology to life than any other inventor, although it is unlikely he will seek to get carbon finance through the CDM for it.

“He is not even thinking about that,” said Wallace Broeckner, a fellow professor and colleague of Lackner’s at Columbia University.

Instead Lackner wants to place a huge number of these devices in dry arid areas in order to clean up the planet, possibly funding it through a US federal tax.

Raising the profile

The CDM guidance text, which was adopted by the UN on 19 December, merely invites companies to submit methodologies to the board, something that observers say could have happened anyway.

But Chichilnisky said while it was clear that projects that reduce emissions could earn carbon credits under the CDM, it wasn’t known whether carbon negative projects could.

Kevin Conrad, head of delegation for Papua New Guinea, wanted to include text suggesting the executive board “should encourage the development” of carbon negative technologies, but this was eventually watered down.

For Conrad, who admits he was adamant some form of the text be included, the end result was the same – a clarification that these technologies should be eligible for carbon finance.

“From our standpoint we are trying to develop regional equity across the clean development mechanism,” said Conrad, adding that carbon negative technologies could put rich and poor countries on an even keel when it comes to vying for carbon finance.

Chichilnisky unsuccessfully lobbied to get these technologies included two years earlier in Bali.

But in November last year, she and Eisenberger pitched the idea to a group of negotiators from small island states at the UN building in New York, but Conrad said few countries appeared interested.

“To be frank, Aosis (Association of Small Island States) is often dysfunctional. If you excuse the pun, they can’t see the forests for the trees. The idea was pitched and we seized upon it to push it forward,” Conrad said.

Unorthodox

The way Papua New Guinea pushed the proposal raised the eyebrows of many other negotiators.

While none wanted to speak on the record, three negotiators in the room independently questioned whether there was a conflict of interest in allowing Chichilnisky to be part of PNG's delegation.

But Conrad rubbished these claims.

“She wasn't negotiating. She was allowed to observe. She was just there as a technical advisor to ask if I needed something resolved. We are very careful to keep private interests out of the process,” he said.

“(These technologies) are in our national interest. We don't favour one over another and this technology is one of a number being developed that can suck carbon out of the air.”

Indeed Chichilnisky is just one of many individuals that have been asked by countries to advise them at climate talks.

Others in the Danish capital included Anthony Hopley with Norton Rose who was working for Lithuania, Alexander Sarac, an Ecorescurities employee with Georgia, and Andrei Marcu, who was negotiating on behalf of PNG and is head of regulatory affairs with energy trader Mercuria.

Years

But a roll-out of these technologies remains at best several years away.

Following the pilot plant, the next step for Global Thermostat is to test the technology at a refinery and a coal gasification plant in the US and then a solar plant in the Middle East, Chichilnisky said.

“With our technology, small island states can reduce more emissions than they emit. We want to develop one of these first plants in an island state or in PNG, but the reality is there is more knowhow and expertise elsewhere.”

While a roll out of Lackner's new sorbent, which cuts emissions at a much lower cost, is a lot closer, Broeckner reckons.

“Given the money, in two years he could have the devices to do this,” he said.

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London