Carbon markets after Cancun: Carbon Capture and Storage in the Clean Development Mechanism

by Oscar Reyes
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The inclusion of Carbon Capture and Storage (CCS) in the UN's Clean Development Mechanism (CDM) is a boon for the Middle East and North Sea oil industries, which would use the scheme to subsidise the extraction of even more oil from the ground.

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What was agreed?

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â€œCarbon dioxide capture and storage in geological formationsâ€• is now eligible as a basis for CDM projects, as a result of the UN Climate Change Conference (COP16) in Cancun.1 This is likely to be of greatest benefit to oil companies, which are hastily rebranding techniques known as Enhanced Oil Recovery (EOR) as a means to store carbon underground.

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EOR was originally developed as a means to extract more oil from fields that were reaching the end of their lifespan. This is still its primary purpose, rather than reducing emissions. If included in the CDM, a calculation of â€œreductionsâ€• would be made in relation to the amount of CO2 pumped into old oil wells. The calculation would not consider the far larger volume of CO2 released into the atmosphere through the extraction and burning of more oil. As has been seen with other CDM methodologies, the â€œlock inâ€• effect of subsidising a fossil-fuel based energy model is not considered relevant to how offset â€œreductionsâ€• are calculated.

Looking further ahead, CCS is being promoted as â€œclean coalâ€• in the electricity sector, as well as attracting interest from a variety of industrial sectors (notably, steel) that are keen to claim emissions reductions without engaging in a fundamentally cleaner development path or technological overhaul. What all of these technologies have in common is an assumption that the capture, transport and storage of carbon can be viably achieved on a large scale. This has not yet been proven, and there are many reasons to believe that this will be neither technically feasible nor economically viable.2

The Cancun decision is not the end of the story of CCS in CDM. Implementing the agreement requires that a series of issues are â€œresolved in a satisfactory manner.â€• The decision catalogues a series of pitfalls, including the risk that CO2 storage is not permanent and could leak from underground geological formations. Other environmental and public health risks, and legal liabilities in the case of leaks or â€œdamage to the environment, property or public healthâ€• remain to be addressed. The text of the decision also claims that projects will need to make â€œadequate provision for restoration of damaged ecosystems and full compensation for affected communities in the event of a release of carbon dioxide.â€• The CDM contains no mechanism to enforce such provisions, and the nature of the scheme (which is primarily a means for subsidising polluting industries) makes it unlikely that such provisions will emerge.Â

What happens next?

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The Cancun conference broke the impasse in negotiations on the inclusion of CCS in CDM, which has been a recurrent debate since 2005. The next stage is an invite for countries and non-governmental observers to submit their views on the inclusion of CCS in the CDM to the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) by 21 February 2011. These will, in theory, inform the considerations of the 35th meeting of the Subsidiary Body for Scientific and Technological Advice (SBSTA), which will take place in Bonn in June 2011. The results of this panel's deliberations will be a recommendation to the next UN Climate Change Conference (COP17) in Durban at the end of 2011.3 Â

If a serious assessment of the risks and uncertainties surrounding CCS were carried out, such projects would never be allowed to proceed. However, it would be naive to think that a technical decision will stand in the way of political pressure.

The push for CCS comes from Norway, Saudi Arabia (with the backing of OPEC) and the UK. In the past, the Alliance of Small Island States (AOSIS) and Brazil have vocally opposed CCS, but made concessions in Cancun in return for progress on other issues they considered to be non-negotiable. Although a coalition of states could still block the progress of CCS in CDM, and unless there is strong opposition now, the most likely outcome seems that the interests that saw an agreement pushed through pushed through in Cancun will cement this in Durban.

Who stands to gain?

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The main pressure for CCS in CDM has come from oil and gas producers. Although most forms of carbon capture (including in the power sector) remain untested at any scale, the partial exception to this rule is EOR, which is a widespread practice in the oil industry. Its long-term storage capacity remains unknown, but EOR has been demonstrably successful in extracting more oil from existing oil fields.

Norway, the UK and Australia have pushed CCS because they have a common interest in technology exports, with the former having developed EOR techniques to extend the lifespan of North Sea oil. The Gulf states, meanwhile, envisage a series of potentially lucrative new projects. Further backing, in this regard, comes from Algeria, Indonesia and Papua New Guinea.

On the corporate side, Shell and BP have heavily promoted the inclusion of CCS in CDM, directly as well as under the auspices of the International Chamber of Commerce and International Emissions Trading Association. The World Coal Association, a global industry association comprising the major international coal producers and stakeholders, also claimed that lobbying for the inclusion of CCS in CDM was â€œone of the key topics we came [to Cancun] for.â€•

In the longer term, CCS raises the spectre of a new generation of coal-fired power stations funded by CDM, which already includes â€œsupercriticalâ€• coal power stations. Nobuo Tanaka, executive director of the International Energy Agency, which has strongly pushed for CCS in the CDM, claims that the world needs about 3,400 carbon-capture and storage projects by 2050 if emissions are to be limited without altering the aspiration for endless economic growth.

A variety of other industries â€“ most notably, the steel sector â€“ are also encouraging research in carbon capture as an alternative to more fundamental changes in their production cycles.

Carbon Counts, a UK-based climate change consultancy, estimates that CCS project developers could generate several hundred million offsets a year by 2020. This may be an exaggeration, since the approval of the first projects would take a few years even if the agreement on CCS is concluded in Durban in 2011, but it is clear that CCS in CDM could prove to be a lucrative market. More fundamentally, the debate reinforces the key trends that surround the expansion of carbon markets in climate agreements: trade promotion and industry protection repeatedly trump environmental and social concerns, and fossil fuel industries are the main beneficiaries.

Further Reading

â€œCarbon dioxide capture and storage in geological formations as clean development mechanism project activitiesâ€•, http://unfccc.int/files/ meetings/cop_16/application/pdf/cop16_cmp_ccs.pdf

Indexed news reports on CCS in CDM

http://www.delicious.com/carbontradewatch/CCS

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1Â Â A separate decision on â€œCarbon dioxide capture and storage in geological formations as clean development mechanism project activitiesâ€• forms part of the Cancun Accords. See http://unfccc.int/files/meetings/cop_16/application/pdf/cop16_cmp_ccs.pdf

2Â Â Â Â For a clearly written summary of the risks of CS, see Emily Rochon et al. (2008) False Hope: why carbon capture and storage won't save the climate, Greenpeace, http://www.greenpeace.org/raw/content/international/press/reports/false-hope.pdf

3Â Â Â Â If CCS is fully accepted, companies (or government and intergovernmental agencies) will then be able to propose CDM â€œmethodologiesâ€• relating to carbon capture, which must then be recommended by the CDM Methodology Panel for approval by the CDM Executive Board, which administers the scheme. CDM projects can then be proposed in accordance with these methodologies, which would be able to issue Certified Emissions Reductions (CERs). For a more detailed description of how CDM projects are registered, see Tamra Gilbertson and Oscar Reyes (2009) Carbon Trading: how it works and why it fails, Uppsala: Dag Hammerskjold Foundation, http://www.carbontradewatch.org/publications/carbon-trading-how-it-works-and-why-it-fails.html p.64-65

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