

# CCS REGULATION

## NEWSLETTER

Welcome to the CCS Regulation newsletter. This is produced by the **MIT Carbon Capture and Sequestration Technologies Program**. It is a quarterly report designed to keep the reader up to date with the current regulatory news and issues surrounding Carbon Capture and Storage (CCS).

For more information about the program please see <http://sequestration.mit.edu>

### Interview with Dr. Arthur Lee: CCS under the CDM

Arthur Lee, Chevron Fellow and Principal Advisor at Chevron, was present at the recent COP 17 conference in Durban, South Africa, in December 2011. He has kindly answered a few questions about the conference and on the inclusion of CCS into the CDM.

**Background:** The issue of CCS in the Clean Development Mechanism (CDM) emerged in 2005 when the first CCS projects were submitted to the CDM Executive Board for review and registration. The CCS project methodologies weren't approved because the CDM executive board had no modalities and procedures to review projects. The CDM executive board referred the issue to the ministers of COP 11 in Montreal in 2005 who deferred the decision pending further information. The next 6 years were full of stakeholder discussions, both formal and informal by the UNFCCC (United Nations Framework Council on Climate Change) and there were at least three rounds requesting comments from countries and observer organizations. Finally at Cancun COP 16 in 2011, the project type of CCS was accepted. The next step was to define the modalities and procedures for its formal inclusion into the CDM.

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Trucks that collect bitumen for the Scotford Upgrader, Canada where Shell's Quest CCS project is based.

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## ◆What were the decisions at the COP 17?

The delegates to the Conference of Parties (“COP”) agreed on two main decisions:

- 1: That there will be another commitment period of the Kyoto Protocol to begin 2013.
- 2: All countries agreed that they will complete negotiations for a new agreement by 2015 that will come into effect in 2020. There was a stronger legal tone to the agreements than had been at previous COP meetings. The words of the agreement included “a protocol, another legal instrument, or an outcome with a legal force,” which indicate the strength of the decisions that were made. This is the first time that the developing world has agreed to negotiate towards such a binding agreement. In contrast, the Kyoto Protocol only requires certain industrialized countries to reduce emissions within specific time periods.

In addition to these decisions, criteria for reviewing and approving CCS modalities and procedures were agreed and CCS was formally accepted to be project type in the CDM.

## ◆Is it important for CCS to be in the CDM?

Yes it is. The precedence setting of this outcome cannot be overstated.

CCS in the CDM is critical, not only for CCS projects to provide emissions credits but the rules and criteria which were decided upon provide potential precedents for future long term action frameworks. It is a decision that can now be referenced by other multi-lateral processes.

If CCS were not to be included in the CDM it could have been banned, like nuclear power and forestry projects were when the CDM was first operationalized in 2001. In addition to this, any kind of funding for CCS projects will now have a blueprint of modalities and procedures to reference.

## ◆Why did this decision take so long?

It took so long for CCS to be accepted into the CDM partly because some countries were strongly opposed to its inclusion for various reasons, all of which have been addressed over time. One of the reasons cited early on was a concern that if CCS were included it would swamp the market. Also developing countries wanted the industrialized countries to set higher emission targets for themselves if they wanted to include CCS in the CDM.

## ◆Are there any projects currently in the CDM?

No, currently there are no projects and it is unlikely for there to be any in the next several years, considering the low cost of carbon and the high cost of capture technology. Currently only the EU is buying Certified Emission Reductions (CER’s) at less than €15/ ton, which is not enough to encourage investments in CCS projects.

*We thank Arthur Lee for his contribution to the newsletter.*

## IEA Webinar: “CCS outcomes from Durban and next steps for CCS in the CDM”

The IEA conducted a webinar on February 2, 2011, about the next steps for CCS in the CDM. There were a number of perspectives from the developed and developing world. Below is a compilation of the main points.

The 3 next steps for the CDM are:

1. Enabling submission of methodologies and accreditation of Designated Operational Entities to validate and verify potential CCS projects
2. Enabling registration of CCS project activities
3. Enabling the issuance of CER for CCS project activities.

Two main issues remain to be decided upon in the next year:

- The eligibility of trans-boundary projects (with regards to CO<sub>2</sub> movement above and below ground).
- The establishment of a global CER reserve (with regards to seepage).

There will be no difference in eligibility between pilot and commercial scale CCS projects.

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## Federal CCS Regulation News and Updates

November 2, 2011. The Senate has approved HR 2112: A fiscal 2012 spending bill which allocates \$2 billion for CCS projects. The measure now goes back to the House for consideration. <http://www.bna.com/senate-passes-bill-n12884904101/>

February 13, 2012. The EPA is soon expected to propose the twice delayed rules on limiting carbon emissions from power plants. <http://www.reuters.com/article/2012/02/13/usa-epa-coal-idUSL2E8DAGDN20120213>

February 13, 2012. President Obama's 2013 budget would fund \$421 million for fossil fuel research, primarily for CCS. This is a 21% reduction from current spending. [http://business.financialpost.com/2012/02/13/obama-proposes-cutting-us40b-in-fossil-fuel-credits/?\\_lsa=5803fd56](http://business.financialpost.com/2012/02/13/obama-proposes-cutting-us40b-in-fossil-fuel-credits/?_lsa=5803fd56)

December 1, 2011. Senate Energy and Natural Resources Chairman Jeff Bingaman (D-NM) will float a clean energy bill later in 2012. The proposed legislation would require utilities to generate a portion of their electricity from low-carbon sources such as renewables, nuclear power and coal with carbon capture and sequestration by 2035. <http://governorswindenergycoalition.org/?p=480>

## International Regulation News

### Bulgaria

November 17, 2011. Bulgaria's Parliament approved legislation that would allow CCS in the country. [http://www.novinite.com/view\\_news.php?id=135491](http://www.novinite.com/view_news.php?id=135491)

### Canada

November 8, 2011. Experts in Canada and the US have made the world's first standard for the storage of CO<sub>2</sub> available for public review, thus providing the basis for an international standard. [http://www.captureready.com/EN/Channels/News/showDetail.asp?objID=2551&isNew=%22%20%5Ct%20%22\\_blank](http://www.captureready.com/EN/Channels/News/showDetail.asp?objID=2551&isNew=%22%20%5Ct%20%22_blank)

### EU

January 12, 2012. The European Investment Bank raised €97.8m selling 12 million 2013 EU emissions allowances (EUAs) in December 2011, the first month of the NER300 sales, at an average price of €8.15/tonne of CO<sub>2</sub> equivalent. It had planned to sell 20 million. The purpose of NER300 is to raise money for carbon capture and storage demonstration projects and other renewable energy technologies.

<http://www.icis.com/heren/articles/2012/01/11/9522877/ner300-sale-of-12m-euas-falls-far-short-of-carbon-market.html>

### Korea

January 10, 2012. South Korea has opened its CCS research center. Seoul is also moving to set up a carbon trading system. <http://www.captureready.com/EN/Channels/News/showDetail.asp?objID=2601&isNew=>

### Norway and UK

October 25, 2011. Norway and the UK have signed an agreement to cooperate on several energy development issues, including the support of CCS demonstration projects and other climate mitigation technologies. <http://www.reuters.com/article/2011/10/25/us-uk-norway-energy-pact-idUSTRE79O5ZD20111025>

### Taiwan

October 24, 2011. Taiwan has initiated 3 government enterprises to develop CCS technologies with the aim to have a pilot project by 2015. [http://www.taiwannews.com.tw/etn/news\\_content.php?id=1741334](http://www.taiwannews.com.tw/etn/news_content.php?id=1741334)

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## State CCS Regulation News and Updates

### Illinois

October 27, 2011. Senate Bill 678 has fallen short of approval in the Illinois Senate for the second time. The bill would have required state utilities to buy power from Tenaska's Taylorville project for the next 30 years.

<http://www.sj-r.com/top-stories/x1138509513/Tenaska-plant-loses-again-in-state-Senate>

January 13, 2012. The draft Illinois EPA air permit has not included CO<sub>2</sub>. This means that CCS projects in Illinois, for example Taylorville Energy Center, would not be required to capture or limit its CO<sub>2</sub> emissions.

<http://progressillinois.com/quick-hits/content/2012/01/13/illinois-epa-leaves-co2-emissions-air-permit>

## Publications and Reports

### GCCSI Global status of CCS 2011 report

October 9, 2011. The Global CCS Institute's (GCCSI) annual report identifies 74 large-scale integrated projects around the world, 14 which are under construction or operating. This is an increase in projects from last year.

<http://www.globalccsinstitute.com/publications/global-status-ccs-2011>

### IPAC-CO<sub>2</sub> releases CO<sub>2</sub> storage standard

November 8, 2011. The draft of the world's first standard for geologic storage of CO<sub>2</sub> is now available for public review. The new standard will provide essential guidelines for regulators, industry and others around the world involved with scientific and commercial CCS projects.

<http://www.carboncapturejournal.com/displaynews.php?NewsID=863>  
[IPAC-CO<sub>2</sub>](http://www.carboncapturejournal.com/IPAC-CO2)

### CCS Network Announced

December 7, 2011. Nine environmental Non-Governmental Organizations ("NGOs") have formed the Environmental NGO Network on Carbon Capture and Sequestration (ENGO Network) with a mission of pursuing domestic and international policies, regulations, and initiatives that safely and efficiently enable CCS.

[http://engonetwork.org/NEWSRELEASES/Network\\_Launch\\_Dec\\_2011.pdf](http://engonetwork.org/NEWSRELEASES/Network_Launch_Dec_2011.pdf)

<http://www.engonetwork.org/>

### Developing CCS projects under the CDM

November 23, 2011. The GCCSI released the document "Developing CCS projects under the CDM". This report sets out the key considerations for implementing CCS projects under the Clean Development Mechanism (CDM) and potentially other forms of climate finance in the future.

To download this Global CCS Institute report, go to: <http://www.globalccsinstitute.com/publications/developing-ccs-projects->

[under-clean-development-mechanism](http://www.globalccsinstitute.com/publications/developing-ccs-projects-under-clean-development-mechanism)

### Atlas of North Sea CO<sub>2</sub> Storage

December 13, 2011 The Norwegian Petroleum Directorate ("NPD") submitted an atlas describing possible subsurface storage locations for CO<sub>2</sub> in the Norwegian sector of the North Sea to the Norwegian Ministry of Petroleum and Energy.

<http://www.captureready.com/EN/Channels/News/showDetail.asp?objID=2584>

### IPAC-CO<sub>2</sub> publishes results of CCS awareness survey

February 11, 2011. An online survey of Canadians commissioned by the International Performance Assessment Centre for the Geological Storage of CO<sub>2</sub> (IPAC-CO<sub>2</sub>) shows that 14% of Canadians know what CCS is while in Europe that level is 10%. Public awareness and acceptance is highest in Saskatchewan and Alberta than the rest of Canada.

<http://captureready.com/EN/Channels/News/showDetail.asp?objID=2618&isNew=>



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## CCS Project News

### TCEP

February 14, 2012, TCEP has signed EPC and O&M contracts. <http://www.businesswire.com/news/home/20120214005291/en/Summit%E2%80%99s-Texas-Clean-Energy-Project-Reaches-Major>

September 27, 2011. The DOE awarded \$450 million to the TCEP project in Texas. <http://www.power-eng.com/articles/2011/09/clean-coal-project-in-texas-wins-450mn-in-federal-help.html>

### Longannet UK

October 19, 2011. The UK's first CCS project has been cancelled due to insufficient money being given to the project by the government. The government is now looking to award a new CCS project with the £1 billion previously awarded to Longannet. <http://www.bbc.co.uk/news/uk-scotland-north-east-orkney-shetland-15371258>

### Janschwalde, Germany

December 5, 2011. Vattenfall has scrapped the 1.5 billion euro (\$2 billion) Janschwalde project, its large scale CCS project in Germany due to lack of political framework. <http://www.reuters.com/article/2011/12/05/vattenfall-carbon-idUSL5E7N53PG20111205>

### 2Co Power Don Valley Project, UK

January 31, 2011. Foster Wheeler has won the PMC contract for the 2Co Power (Yorkshire) Don Valley Project. The Don Valley project has also entered the revised UK CCS Contest for £1 billion. <http://eon.businesswire.com/news/eon/20120131005180/en>

### Ferrybridge, UK

November 30, 2011. The UK's biggest CCS pilot project in SSE's Ferrybridge began siphoning emissions from the 490MW power station. <http://uk.reuters.com/article/2011/11/30/uk-carbon-capture-pilot-idUKTRE7AT1CI20111130?feedType=RSS&feedName=domesticNews>

### FutureGen

December 20, 2011. The FutureGen Alliance completed a

characterization well in Morgan County, IL, and preliminary data shows that the site is suitable for CO<sub>2</sub> storage.

Elsewhere Ameren is in talks to hand over control of FutureGen to the FutureGen Alliance. <http://www.captureready.com/EN/Channels/News/showDetail.asp?objID=2587&isNew=>

### GCCSI

October 2, 2011. US Department of State has contributed \$500,000 to the GCCSI to support development and deployment of CCS. <http://www.abc.net.au/rural/news/content/201110/s3332397.htm>

January 16, 2012. The GCCSI awards over AU\$2 million to CCS research and projects. <http://www.carboncapturejournal.com/displaynews.php?NewsID=888>

### Mongstad, Norway

October 6, 2011. Norway announced new cost estimates for the Mongstad project at \$985 million. The project is 80% complete and plans to start operating in 2012. <http://www.businessweek.com/news/2011-10-06/norway-says-mongstad-ccs-test-center-cost-revised-up-to-nk5-77b.html>

### Quest, Canada

October 31, 2011. DNV (a global provider of services for managing risk) has issued the world's first certificate of fitness for a CO<sub>2</sub> storage development plan to Shell's Quest project in Alberta, Canada. [http://www.dnv.com/press\\_area/press\\_releases/2011/worldsfirstcertificateoffitnessforsafeco2storage.asp](http://www.dnv.com/press_area/press_releases/2011/worldsfirstcertificateoffitnessforsafeco2storage.asp)

### Daqing, China

November 15, 2011. Alstom has agreed to do a feasibility study for a CCS demo project at Daqing oil fields operated by China Datang Corporation. <http://www.carboncapturejournal.com/displaynews.php?NewsID=868>

### Otway, Australia

January 31, 2012. CO<sub>2</sub> can be safely stored in depleted gas reservoirs in the Otway project. <http://www.sfu.ca/sfunews/stories/2012/carbon-storage-experiment-shows-no-leakage.html>

### Images:

*Page 1: Trucks at the Muskeg River Mine, which feed bitumen to Shell's Scotford upgrader, Alberta, Canada*  
<http://www.theengineer.co.uk/>

*This newsletter was constructed using information from internet searches. All the websites used have been cited.*

*Holly Javedan compiled this report. For more information, questions and comments please email [javedan@mit.edu](mailto:javedan@mit.edu). Thank you.*