

CCS REGULATION

NEWSLETTER

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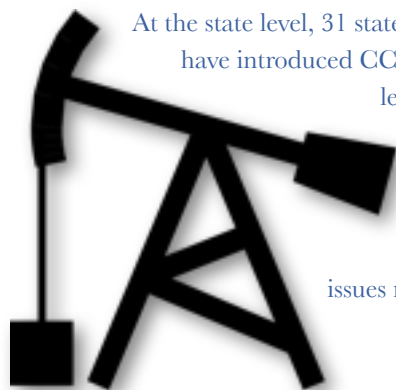
WELCOME TO THE FIRST CCS REGULATION NEWSLETTER

The newsletter is produced by the Carbon Capture and Sequestration Technologies at MIT. It is designed to be a quarterly report to keep the reader up to date with the current CCS regulatory activities in the US.

This newsletter will look into the regulatory developments of Carbon Capture and Storage (CCS) at both the Federal and State level.

CCS Regulation at the Federal level is highly complicated. There are many barriers to development in liability, consents and permitting. These issues challenge small pilot projects which are needed to gain experience in CCS. Federal CCS regulation, in turn, can only be constructed with the experience of these pilot projects. Other issues, like the EPA classification of injection wells create hurdles for developers which need to be improved if CCS is going to happen on a large scale.

At the state level, 31 states have so far begun to consider CCS legislation. Some have introduced CCS funding proposals and advanced their CO₂ storage legislation. In January 2009, Illinois passed the 5% Clean Coal Portfolio Standard, making it a legal requirement for electricity providers to obtain at least 5% of their energy from renewable sources. For CCS to become a reality in the US, the regulatory issues need to be sorted out quickly and efficiently.



Capture at Mountaineer to start soon:

The AEP Mountaineer power plant, New Haven, WV, is due to start CCS in October 09. The 30MW slipstream will capture CO₂ using Alstom's chilled ammonia post-combustion technique. The captured CO₂ will be injected into the Mt Simon Sandstone. For more information: <http://sequestration.mit.edu/tools/projects/>

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Federal CCS Regulation

There is a large amount of uncertainty with the federal CCS regulation. Currently CCS does not have any specific regulatory framework, rather different aspects of CCS are addressed by different regulations currently designed for other technologies. "At the moment, there is a patchwork of different rules across the US and a great deal of legal uncertainty," Granger Morgan said, the CCS Reg Project leader (see page right). "We need a clear way for CCS projects to obtain the right to inject carbon dioxide into appropriate geological formations and a strategy for safely addressing long-term stewardship once an injection project ends."

There are 4 bills which have been recently introduced to the House and Senate which address these issues: S. 1013, S.1502, S. 1134 and HR. 1689.

S. 1013: Department of Energy Carbon Capture and Sequestration Program Amendments Act of 2009, introduced by Sen. Jeff Bingaman in 2009. This bill authorizes the DOE to conduct 10 large-scale (over 1 Mt CO₂/yr) CCS projects. The bill would authorize DOE to indemnify parties and provide financial and technical assistance for the demonstration projects, which aim to show the commercial application for "integrated" systems for capture, injection, monitoring and long-term geologic storage. In a hearing in May 2009 by the Committee on Energy and Natural Resources there was concern on the liability on this bill.

+ <http://www.wri.org/stories/2009/05/summary-s-1013-department-energy-carbon-capture-and-sequestration-program-amendments>

S.1502: The Carbon Storage Stewardship Trust Fund Act of 2009 would allow the DOE to create a fund to provide compensation for any damages from geological CCS. The bill also identifies the transfer of responsibility of a site, post closure, to the Federal or State Government. This bill was introduced by Sen. Robert Casey in July 2009. It has been referred to the Committee on Energy and Natural Resources.

+ <http://www.wri.org/stories/2009/08/summary-s-1502-carbon-storage-stewardship-trust-fund-act-2009>

S. 1134: The Responsible Use of Coal Act, introduced in May 2009 by Sen. Robert Casey. This bill is to ensure the energy independence and economic viability of the United States by promoting the responsible use of coal through accelerated carbon



CCS Reg Project news

The CCSReg is an interdisciplinary project to develop recommendations on how to best regulate the process of capturing CO₂, Transporting it and sequestering it safely underground. The group is organized by the Carnegie Mellon University's Department of Engineering and Public Policy. The group published the first in a series of policy briefs in July 09 which address the barriers to large scale deployment of CCS in the US.

For more information please visit their website:

www.ccsreg.org

capture and storage and through advanced clean coal technology research, development, demonstration, and deployment programs.

+ <http://casey.senate.gov/newsroom/press/release/?id=7d686c92-c5ec-48a8-9968-119aa6241aae>

H.R. 1689: Carbon Capture and Storage Early deployment act, introduced in March 2009 by Rep. Rick Boucher. This bill is designed to provide funding for commercial-scale demonstrations thereby speeding up the process of deployment. This bill is in the first step of the legislative process and has been referred to the Subcommittee on Energy and Environment.

+ <http://www.wri.org/stories/2009/05/summary-hr-1689-carbon-capture-and-storage-early-deployment-act>

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State CCS regulation

There are currently 31 states considering CCS legislation and regulation. These states are leading the way for Congress. The most significant of laws which have been passed are those in Illinois and Texas which create incentive for CCS projects.

Below are the major events which have happened across the US in the past year.

Illinois

Illinois passed a 5% Clean Coal Portfolio Standard in January 2009 creating a framework for developing coal gasification projects with CCS. The law provides funding to CCS projects in addition to requiring that electric utilities purchase up to 5% of their electricity from clean coal facilities.

+ http://www.coal.org/news/article.asp?ARTICLE_ID=165&+http://www.coal.org/file.asp?F=IL+Clean+Coal+Portfolio+law%2Epdf&N=IL+Clean+Coal+Portfolio+law%2Epdf&C=news

In May 2009 Illinois House passed House Bill HB3854 on Carbon Capture Legislation, effective July 2009. The bill makes it easier for CCS projects to occur within the state.

This includes the process for expediting the insurance of permits and licenses for projects at energy facilities. This bill also calls for the establishment of a board to study the efficacy of CCS.

+ <http://www.ilga.gov/legislation/BillStatus.asp?DocTypeID=HB&DocNum=3854&GAID=10&SessionID=76&LegID=46670>

Wyoming

In March 2008 Wyoming became the first US State to pass a law for the underground storage of Carbon Dioxide. Governor Dave Freudenthal signed 2 bills, HB 89 and HB 90 which 'address property rights issues potentially implicated by geologic storage projects and create a statutory framework for carbon dioxide injection and geologic storage'.

HB 89 specifies that whoever injects carbon gas underground remains legally responsible for it. HB 90 defines that establishes that the right to mine or drill for resources would have precedence over the right to store carbon gas underground.

+ http://www.rechargenews.com/regions/north_america/article173152.ecc
+ <http://climate.alston.com/blog.aspx?entry=320>

In January 2009 Governor Freudenthal passed 3 more bills (HB 56, 57 and 58) which build on the previous regulation.

HB 56 says that companies injecting CO2 must prove that the project will not harm existing hydrocarbon deposits. HB 57 and 58 outline how CCS will integrate into Wyoming's split-estate laws and assigns liability to companies who inject CO2.

Another bill, HB 80, was introduced at the same time and is the most complex of all the bills. It helps define how surface owners of the land profit from carbon storage, and how to address landowners who may not want to sell or lease the subsurface for carbon storage.

+ <http://www.trib.com/articles/2009/01/15/news/wyoming/433026826ecc35ad872575400006c627.txt>

Texas

In December 2008, Texas introduced House Bill 469 which provides Tax Incentives for large IGCC projects and EOR projects. The Texas House of Representatives passed this bill in May 2009 and it is now moving onto the Senate. This bill is seen as being very important because Texas is currently the US leader in CO2-EOR.

+ <http://www.texasinsider.org/?p=8793>

3 other bills were also introduced to the House in April 2009 which address CCS: HB's 2811, 1769 & 2669 + http://lawandenvironment.typepad.com/law_and_the_environment/2009/04/texas-warming-up-to-carbon-capture-and-storage.html

Pennsylvania

May 2009, Pennsylvania introduced legislation HB 80 in the state House of Representatives that would require Pennsylvania to increase the amount of electricity that is bought and used in the state which is generated from clean and renewable sources. In addition to increasing the amount of electricity used in Pennsylvania that comes from wind and solar, the legislation would also require the state to develop and operate a carbon capture and sequestration network for coal-burning power plants in the state, and require at least 3 percent of the electricity purchased by distribution companies in Pennsylvania to come from coal-fired plants that sequester carbon. + <http://www.pennenvironment.org/legislature/testimony/oceans-testimony/global-warming/carbon-capture--sequestration-within-house-bill-80>

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State CCS regulation Cont.

Washington

Washington Senate passed Bill 6001 in 2007 stating that it was law for new power plants to have CCS. The ESSB 6001 bill defines regulations for the injection of CO₂ (for example, the project needs to show a high degree of confidence (99%) that the caprock and other features will not leak CO₂ for 1000 years and will contain its migration).

+ <http://www.leg.wa.gov/pub/billinfo/2007-08/Pdf/Bill%20Reports/Senate/6001.SBR.pdf>

In 2008 the power company Energy Northwest cancelled its plans to build a 680 MW Integrated Gasification Combined Cycle (IGCC) power plant at the Port of Kalama in Washington saying that there were concerns over CCS regulation.

+ <http://climate.alston.com/blog.aspx?entry=639>

Kansas

In January 2009, Kansas defined terms as they applied to CCS. For example the CO₂ storage facility was defined as “The leased acreage and CO₂ storage reservoir. This term shall include the CO₂ storage well, well bore tubular goods, the wellhead, and any related equipment, including the last positive shutoff valve attached to the flow line.” This definition will allow for greater CCS clarification.

Regulations definitions:

+ http://kcc.ks.gov/conservation/proposed_regs_032609.pdf.

In March 2009, Kansas held a public hearing on proposed administrative regulation to consider the adoption of proposed permanent regulations for the underground storage and sequestration of CO₂.

+ http://www.kcc.state.ks.us/conservation/hearing_032609.htm

StraCO₂

The Support to Regulatory Activities for Carbon Capture and Storage (STRACO₂) - Project is designed to support the development of a regulatory framework for CCS in the European Union. At the STRACO₂ conference in Brussels in April 2008, there was a strong look at CCS regulation issues and advances in China. The lack of CCS regulation in China is allowing China to learn from other countries and establish its own framework smoother than other countries.

<http://www.euchina-ccs.org/>

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. Thank you.

Other references:

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- + *Carbon Capture and Sequestration: Framing the issues for Regulation. An*

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Images:

Page 1: Mountaineer Power plant.
www.powermag.com

Page 2: Alaskan Pipeline
www.crystallinks.com

Page 4: Appalachian Mountains.
Photographer Steve Shams
<http://www.steveshamesphotos.com/tripback52.htm>