



September 25, 2009

Sequestration News

While the health debate has been the center of recent Congressional attention, climate bill related Congressional activity is also moving forward. In the Senate, various members are advancing measures that favor CCS development and deployment.

EPA is moving forward with climate regulations based on existing legal authority, including measures to limit tailpipe emissions from vehicles, establish an “endangerment” finding, require reporting of green house gas emissions, and modify applicability thresholds for New Source Review permitting rules.

A March 2009 EU Directive attempts to provide a legal framework for CO₂ storage in the EU and calls for the individual EU countries to be responsible for long term storage liabilities. The German cabinet postponed voting on Germany’s version of this Directive in June – so these issues remain controversial even in Europe. On a related matter, Australia agreed to government liability for stored CO₂ from the huge Gorgon LNG/CCS project, 15 years after injection ceases. The EU Directive suggested 20 years. EPA’s UIC proposed 50 years.

Congressman Waxman’s Bill (H.R. 2454)

Five democratic Senators wrote Climate Czar Browner on September 11, seeking analysis and information on the impacts of H.R. 2454 on manufacturing and related employment. The bill includes special allocations of allowances to assist certain heavily impacted energy intensive or trade-sensitive industries.

The death of Senator Kennedy has had a rippling effect on Committee leaderships (Paul Kirk, a former aide to Senator Ted Kennedy, has been appointed to Kennedy’s seat until a January 19, 2010, special election). Senator Harkin left his Chairmanship of the Agriculture Committee, and assumed Senator Kennedy’s Chair over the Health, Education, Labor and Pensions Committee. Senator Lincoln was awarded Senator Harkin’s Chair of the Agriculture Committee. This could be significant because of the strong impact of the House Agriculture Committee Chairman on HR 2454, particularly in the area of agricultural offset provisions and separate considerations of net green house gas (GHG) reductions from corn-ethanol use. In the past, Senator Lincoln expressed concerns regarding cap and trade legislation.

Senate Climate Related Action

Senator Bingaman, Chairman of the Energy and Natural Resources Committee, held two hearings (September 15 and 17) on climate change. Senator Bingaman had proposed a “safety valve” cap on allowance prices under a cap and trade legislative proposal in the past, but has not been a strong participant in current climate legislation. Senator Boxer had more recently cited a “price collar” (a cap and a floor on allowance prices - both of which increase over time - a price hedge concept borrowed from commodities trading), but most liberal Democrats have rejected hard ceilings on allowance prices and instead favor reserve funds. The fund approach sets aside a significant amount of allowances to be used to reduce price volatility, but is generally not seen as effective at limiting overall costs of meeting a particular set of emission caps.

Appropriations bills are now under consideration. Such bills frequently include riders which address policy issues. Perhaps, the most controversial of these, so far, is a proposal by Senator Murkowski to put EPA’s green house gas (GHG) regulatory program on hold for one year. The hold would be implemented by denying EPA authority to spend any money on such a regulatory action, which essentially means that the action could not be taken. It appears that Senate leadership has agreed not to allow a vote on the Senator Murkowski proposal.

Senator Byrd issued a press release September 11 stating that he and Senators Carper, Baucus, Specter, Casey, Klobuchar, Lieberman, and Warner had signed letters to Chairs of the E&PW and the Finance committees seeking stronger language supporting CCS technology development and deployment. http://byrd.senate.gov/mediacenter/view_article.cfm?ID=471

EENews reported (September 14), that Senator Rockefeller is also seeking to influence the Senate’s climate bill to provide stronger coal technology provisions.

Gary Gensler, Chairman of the Commodity Futures Trading Commission (CFTC) testified before the Senate Agriculture, Nutrition and Forestry Committee that CFTC could manage trading of carbon contracts. Senators Feinstein and Snowe had earlier proposed legislation giving CFTC regulatory authority in this area, and Senator Boxer, Chairman of the Environment and Public Works Committee, has indicated that such language would be part of her committee’s climate bill (*EENews, September 9*).

CO2 Related Litigation

The US Court of Appeals for the 2nd Circuit overturned a district court decision that had dismissed a lawsuit by 8 states against 5 coal-based electric utilities for CO₂ emissions, and resulting climate damages. The district court had concluded that the issue was political, not legal, but the Court of Appeals decided that the case should be heard and remanded it to the NY district court for processing. The decision was 139 pages long, including a two page Table of Contents, which is unusual for such decisions. [*State of Connecticut, et al. v. American Electric Power Company Inc., et al., Docket No. 05-5104-cv & 05-5119-cv, decided September 21, 2009.*]

EPA and CCS

EPA is pressing on with climate regulations under existing legal authority. The four elements openly cited by EPA include finalization of the proposed “endangerment” finding, regulations for reporting GHG emissions, motor vehicle tail-pipe standards for CO₂, and a proposed rule to raise the regulatory threshold for new and modified sources under the EPA new source review (PSD permitting) rules (this package is at OMB for interagency review). EPA has not announced a regulation to set a New Source

Performance Standard for certain source categories, like power plants. The flurry of new rules is anticipated to be finalized by next Spring (although some are expected much sooner), leading to immediate lawsuits, and creating pressure on Congress for comprehensive GCC legislation. The tail-pipe standard proposal was published by EPA on September 15, along with technical support documents and explanatory materials. <http://www.epa.gov/otag/climate/index.htm>. The final rule on GHG reporting requirements was signed by the Administrator on September 22, and can be found at: <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>

Several recent proposals suggest that climate change mitigation may bring changes that are more fundamental than how we harness energy. For example, on September 21, the Humane Society, the Clean Air Task Force, environmental groups, and others petitioned EPA to adopt emission standards (under Section 111(d) of the CAA) for concentrated animal feeding operations. The petition was in part based on the close confinement of animals in these facilities, their direct gaseous emissions, and manure treatment. It stated that these facilities are “responsible for more GHG emissions than the transportation sector.” In a separate area, an Associated Press article described a recent editorial in the *Lancet*, a respected medical journal, concluding that improved access to birth control is a more cost-effective approach to climate change mitigation.

http://www.seattlepi.com/health/1500ap_eu_med_condoms_climate_change.html?source=rss On a possibly lighter note, the *Washington Post* reported environmentalists’ opposition to unusually soft toilet-paper (less recycled content), which has already resulted in some paper companies agreeing to reformulate their products. <http://www.washingtonpost.com/wp-dyn/content/article/2009/09/23/AR2009092304711.html>

CCS General News

The *Mercury News* ran an op-ed by Meg Whitman, candidate for Governor of California, stating that, if elected, she will place a moratorium on “job-killing regulations”, including the California climate law, AB32. http://www.mercurynews.com/opinion/ci_13350791?nclick_check=1

The Environmental Law Institute has published a report charging that Federal subsidies provide “perverse” incentives to fossil fuels. <http://www.eli.org/> The reported fossil fuel subsidies were mostly for oil and gas. The coal subsidies were small. The subsidies cited for renewables were very large compared to those for coal. Part of President Obama’s presentation to the UN this week included a proposal to end government incentives for fossil fuels.

Recent news reports suggest that CCS technology for cutting CO₂ emissions is gaining political support. But CCS has been affected by the financial crisis in exactly the same way as other clean energy technologies. *Summary appeared on New Energy Finance Week in Review, September 15, 2009.*

The International Energy Agency plans to cut its forecast for carbon-dioxide emissions in 2030 as an aftermath of the recession which has slowed energy consumption and reduced pollution according to statements made by Executive Director Nobuo Tanaka.

<http://www.bloomberg.com/apps/news?pid=20601087&sid=azlQGGwENbrU>

A German geothermal energy project is believed to be responsible for several small earthquakes in August. A Swiss project led to earthquakes in 2006 and 2007, and has been closed pending additional analysis. <http://www.nytimes.com/2009/09/11/science/earth/11quake.html? r=1>

UN Intergovernmental Panel on Climate Change (IPCC)

Ottmar Edenhofer, co-chairman of the U.N. Intergovernmental Panel on Climate Change (IPCC) said that carbon capture pilot projects must be made a political priority in Europe to ascertain whether the technology works and can be applied in emerging markets. According to Dr. Edenhofer, "carbon capture and storage (CCS) is indispensable if we want a new deal for the climate," <http://www.reuters.com/article/GCA-GreenBusiness/idUSTRE5863FG20090907?sp=true>

CCS & India

A report has projected that India's greenhouse gas emissions will more than triple over the next two decades. But the document, compiled by experts for the government, also says India's per-capita emissions will be much lower than major industrialized countries. According to the report, India's greenhouse gas emissions will rise from about 1.2 billion tons to between 4 billion and 7 billion tons per year by 2030.

http://newsvote.bbc.co.uk/mpapps/pagetools/print/news.bbc.co.uk/2/hi/south_asia/8234822.stm?ad=1

China & CCS

The Chinese government and Italy's Enel signed an agreement under which the utility said it would supply CCS technology to the country in an effort to cut emissions. Shell China also signed a deal with an arm of Shenhua Group to conduct joint research and development on clean coal technology, including possible applications of carbon capture and storage technology. Swedish energy giant Vattenfall will postpone development on its CCS demonstration project in northern Denmark due to the financial climate. news@newenergyfinance.com (September 15, 2009)

A research report recently issued by a research group of the Energy Research Institute, National Development and Reform Commission and another 10 institutes suggests China could possibly follow a low-carbon path toward industrialization but the task would be hard. The report said there would still be increases of greenhouse gas emissions in China as it headed toward industrialization and urbanization -- but if it found a low-carbon development path that fitted in with its reality, emissions might increase slowly or even reduce. http://news.xinhuanet.com/english/2009-09/16/content_12064886.htm

EU & CCS

The European Parliament adopted a Directive establishing a legal framework for CCS on March 26, 2009. The Directive contains general guidance on a range of legal issues associated with geologic storage of CO₂. Detailed requirements in many areas related to storage are left up to the individual EU nations. The 70 to 80 page Directive can be downloaded at:

http://ec.europa.eu/environment/climat/ccs/pdf/st03739_en08.pdf

The German cabinet postponed voting on Germany's version of the EU Directive on CO₂ storage in June. Germany will hold national elections on September 27 and conservatives, who lead in the polls, are due to resolve questions about the bill to pave the way for large-scale commercial use of carbon capture and storage (CCS) after 2020. <http://www.reuters.com/article/GCA-GreenBusiness/idUSTRE58H39U20090918?sp=true>

A recent report issued by the Rotterdam Climate Initiative (RCI) found that the total costs for CCS projects in the Rotterdam area ranged from 40 Euros (\$57.14) to 70 Euros per ton of CO₂. RCI's goal is to store 5 million tons of CO₂ per year by 2015, which it hopes to increase to 20 million tons a year by 2025. <http://www.finanznachrichten.de/nachrichten-2009-09/14862380-rotterdam-co2-capture-technically-feasible-study-020.htm>

France & CCS

GreenWire (September 10) reports that French President Sarkozy plans to impose a tax on carbon emissions that are outside the EU C&T system. Almost two-thirds of France's GHG emissions are not subject to regulation under that country's C&T program.

Australia & CCS

In Australia, parties to the Gorgon CCS project signed off on the plant on September 14 as expected, paving the way for its immediate development. On 17 August, the Commonwealth and Western Australian governments announced they would jointly accept any long-term liability arising from CO₂ storage after closure of the operational phase of the projects and a fifteen-year post-closure period (transfer of responsibility likely to be in 2069).

The Queensland state government is planning to seek federal government funding to support two CCS projects under its Carbon Capture and Storage Flagships Program. The projects are the 400MW ZeroGen proposal, which is being developed in conjunction with Mitsubishi Heavy Industries, and the 334MW Wandoan proposal by GE Energy and Xstrata. In addition, Australia's Waratah Coal said it was planning a 900MW coal-fired power station, to be developed in two phases, to incorporate carbon capture and storage technologies in the Galilee Basin in Central Queensland.

Recent CCS Related Reports

In late 2008, the Global Environment Facility and the UNEP formed an organization called the Economics of Climate Adaptation Working Group. With support from Swiss Re, the Rockefeller Foundation, Standard Chartered Bank, and ClimateWorks (another foundation focused on low-carbon sustainable development), the Group has published "Shaping Climate-resilient Development", a 160 page report that concludes current development patterns will result in a loss of "between 1 and 12 percent of GDP" by 2030 due to climate change. (Most news accounts cite a worst case projection of 19% of GDP.) The report includes a foreword by Nicholas Stern, who had headed a British study concluding that damages from climate change were likely to be much greater than predicted using conventional economic approaches. The report appears to advocate tailored adaptation measures (irrigation, crop engineering) to mitigate economic losses, rather than reduced GHG emissions.

http://www.swissre.com/pws/media%20centre/news/news_releases_2009/eca_pr.html

Friends of the Earth has published "A Dangerous Distraction," a report that is highly critical of the use of international offsets to meet GCC regulatory goals. FOTE says, "In the real world, offsets often fail to deliver the promised results and can often lead to increased emissions making climate change worse." Both DOE and EPA analyses of HR 2454 concluded that without international offsets, the cost of achieving the legislation would be substantially higher. <http://www.foe.org/dangerous-distraction> .

Stanford has published a report, [The Real Drivers of Carbon Capture and Storage in China and Implications for Climate Policy](#), concluding that China has strong incentives to develop CCS technologies,

but faces major barriers to deploying the technology.

http://fsi.stanford.edu/publications/the_real_drivers_of_carbon_capture_and_storage_in_china_and_implications_for_climate_policy/

DNV, a commercial provider of risk management services, has announced development of CO₂ transmission (pipeline) guidelines. Participants in the process included BP, Shell, and Chevron, and government representatives from the UK, Netherlands, and Norway. The guidelines are scheduled to be discussed in Houston, Calgary, and London. [It is not clear if the guidelines are being made public at this time.] <http://www.upstreamonline.com/live/article187168.ece> & http://www.dnv.com/industry/energy/segments/carbon_capture_storage/index.asp

ARI's Vello Kuuskraa has published a presentation, Maximizing Oil Recovery Efficiency and Sequestration of CO₂ with 'Game Changer' CO₂-EOR Technology. <http://www.scribd.com/doc/18616531/EOR>

CBO and CRS have both issued reports on the House climate bill, HR 2454. See http://energy.senate.gov/public_files/R40809.pdf (CRS) and <http://www.cbo.gov/ftpdocs/105xx/doc10573/09-17-Greenhouse-Gas.pdf> (CBO).



The U.S. Carbon Sequestration Council (www.uscsc.org) is a not-for-profit, 501(c)(3), organization established as an authoritative source of information to inform and to educate on all matters pertaining to carbon sequestration.