



April 25, 2009

Sequestration News

A lot has happened over the past three weeks. Both the regulatory and legislative areas are very active with climate activities. The primary legislative vehicle for climate change mitigation in the House was released as a draft by Senate Energy and Commerce Committee Chairman Waxman. Hearings were held last week. While much is happening, it does not seem likely that climate legislation will pass this year, but a number of issues are moving toward resolution with the House bill. The Senate leadership has indicated that it will await action in the House before taking up a climate bill in the Fall. Also, EPA issued a proposed rule concluding that GHG emissions contribute to endangerment of public health and welfare. In addition EPA issued a proposed rule which would mandate reporting of GHG emissions.

Waxman-Markey (W-M) Climate Bill

The House Energy and Commerce Committee has begun hearings on the draft Waxman-Markey climate bill. Several hearings were held and markup is scheduled to begin the week of April 27. Major provisions of the bill such as auctions and allowance allocations are yet to be defined. Details from the initial hearings, including "You Tube" videos of the Members' opening statements from the initial hearing, and the schedule and witnesses at the other hearings are available on the E&C website at: http://energycommerce.house.gov/index.php?option=com_content&view=article&id=1582:chairman-waxman-and-subcommittee-chairman-markey-announce-hearings-on-the-american-clean-energy-and-security-act-of-2009&catid=122:media-advisories&Itemid=80

On the Senate side, *E&E News* reports (April 21) that Majority Leader Reid has confirmed that he will hold action on climate change legislation until the House concludes its action on Waxman-Markey (late Summer). If Senate consideration begins in the Fall, then deliberations could extend into 2010.

EPA and CCS

EPA released its initial assessment of the Waxman-Markey climate proposal, in the form of a 43 page summary presentation and a much more detailed 96 page appendix, also in presentation format. The analysis was based on short-term IPM modeling of the power sector, and modeling through 2050 using multi-sector models (ADAGE and IGEM). The more detailed assessment material and spreadsheets normally released by EPA are not yet available.

<http://www.epa.gov/climatechange/economics/economicanalyses.html#wax>

On March 30, the Sierra Club wrote EPA to petition that H₂S be listed as a hazardous pollutant under the Clean Air Act. <http://lonestar.sierraclub.org/press/newsreleases/H2SLetterToEPA.pdf>

On April 17, EPA released its proposed rule finding that GHGs “endanger” public health and welfare. The public may now comment on the NPR, and EPA will ultimately issue a final rule. This action was in response to a 2007 Supreme Court ruling.

<http://yosemite.epa.gov/opa/admpress.nsf/0/0EF7DF675805295D8525759B00566924>

In addition to releasing the 133 page NPR, EPA also published a 171 page technical support document, and announced other related activities. Details can be accessed at:

<http://epa.gov/climatechange/endangerment.html>

On April 10, EPA published a 285 page notice of proposed rulemaking on mandatory reporting of GHGs. The public comment period closes on June 9. (74FR16448, April 10, 2009).

New Lending Entity within DOE for Green Technologies

On April 17, Sen. Bingaman, Chairman of the Senate Energy and Natural Resources Committee, released draft legislation which, if enacted, would create a new organization within DOE that would accelerate the deployment of clean energy. The new organization, the Clean Energy Development Administration, would administer a program of loans and loan guarantees to qualifying projects. Although oriented toward energy efficiency and renewable energy, the program also appears to include projects that address climate change via “sequestration of energy-related emissions.” A press release, a one page summary, and the bill text are available at: <http://energy.senate.gov/public/>.

General CCS Related News

Rep. Barton (Ranking Member of the House Energy and Commerce Committee) and other committee members wrote Secretary Chu on April 21, requesting information on CCS projects, including whether NEPA analyses and Endangered Species Act analyses were conducted for these projects.

<http://republicans.energycommerce.house.gov/News/PRArticle.aspx?NewsID=6937&IID=2>

On April 20, the Deloitte Center for Energy Solutions announced results of a survey of energy regulators regarding cleaner energy sources. Views of PUC respondents were mixed regarding CCS technology: “only 25.4 percent felt it was “extremely effective,” while an almost identical amount (23.7 percent) view it as “not effective at all.”

http://www.deloitte.com/dtt/press_release/0,1014,sid%253D2283%2526cid%253D258524,00.html?wt.mc_id=Pusid

The United Nations Forum on Forests (UNFF) is meeting at the UN in NYC. A report by the International Union of Forest Research Organizations, [Adaptation of Forests and People to Climate Change – A Global Assessment](#), concludes that forests stressed by increased temperatures and droughts may become sources, not sinks, of GHGs. The study also notes that some northern latitudes could enjoy increased biomass production from higher temperatures. Details and a link to the report are at:

<http://www.iea.org/> and <http://www.iea.org/w/bookshop/add.aspx?id=355> and

<http://www.sciencedaily.com/releases/2009/04/090417084128.htm>

Shell has decided to no longer invest in renewable technologies such as wind, solar and hydro power because they are not economic. Instead, it plans to invest more in bio-fuel and CCS technology. Executives at its annual strategy presentation said Shell, already the world’s largest buyer and blender of crop-based bio-fuels, would also invest an unspecified amount in developing a new generation of bio-

fuels which do not use food-based crops and are less harmful to the environment. The company said it would concentrate on developing other cleaner ways of using fossil fuels, such as CCS technology. It hoped to use CCS to reduce emissions from Shell's controversial and energy-intensive oil sands projects in northern Canada. The company said that many alternative technologies did not offer attractive investment opportunities. Shell said bio-fuels fitted its core business of providing fuels, logistics, trading and branding. <http://ecoworldly.com/2009/03/21/shell-dumps-wind-solar-and-hydro-power-in-favour-of-biofuels/>

India & CCS

The *Washington Post* reported April 13 that Indian Government officials stated that "It is morally wrong for us to agree to reduce when 40 percent of Indians do not have access to electricity." The report notes that over 60% of India's electricity comes from coal. <http://www.washingtonpost.com/wp-dyn/content/article/2009/04/12/AR2009041202452.html?hpid=sec-world>

In an effort to add reliable supplies of coal for its fuel-starved plants in India, state-run NTPC Ltd, plans to set up power projects in Kazakhstan in exchange for the right to import coal from that country. R.S. Sharma, chairman and managing director, NTPC, said: "When the Kazakhstan President, Nursultan Nazarbayev, visited India in January, we had discussed the proposal with the delegation. They have a coal reserve of 35 billion tons and are keen on offering some coal mines to us." "We plan to follow the same model that we have firmed up in the case of Nigeria," he added. In Nigeria, the company is trying to finalize a contract for the supply of 3 million tons per year of gas in exchange for setting up a 700 MW gas-based power plant and a 500 MW coal-based plant in the African country.

China & CCS

According to the official Xinhua News Agency, China's top coal-producing province, Shanxi, plans to produce 650 million tons of raw coal in 2009, a slight decline from the previous year. Shanxi produced 660 million tons of coal in 2008, according to information posted on the Shanxi Province Coal Industry Administration website (www.sxcoal.gov.cn). Shanxi's coal output has maintained double-digit rates of annual growth over the past few years, as China's appetite for electricity surged with the booming economy. The Shanxi Province Coal Industry Administration has decided to control overheated investment in coal mining, according to the Xinhua report. The province also plans to cut the number of coal mines to 1,000 from 2,500 over the next two years. Thousands of small mines in China, most of them dangerous and inefficient, are blamed for China's poor mine safety record.

<http://uk.reuters.com/article/oilRpt/idUKSHA27878320090330>

Canada & CCS

Canada has announced government support for 8 new CCS projects, with government support totaling \$140 million. Included are projects injecting sour gas from a natural gas processing plant, chilled ammonia capture at a power plant, and a \$5 billion Poly-generation/CCS plant.

<http://www.cbc.ca/canada/british-columbia/story/2009/03/26/cgy-carbon-capture-projects-funding.html>

EU Countries & CCS

The European Union's Environment Commissioner, Stavros Dimas, urged other rich regions to make clear their goals while stating that the EU will honor pledges to help poor states tackle climate change. These comments were in part a lead-in to the negotiations, set to culminate in discussions of a new global agreement on greenhouse gases in Copenhagen this December. The EU promised to do its fair share, but Dimas told *Reuters* that it could move no further until other rich nations spell out their targets for cutting global warming gases. The EU aims to lead the battle against climate change after last year agreeing to cut carbon emissions by about 20% by 2020 -- the world's most ambitious target so far. But Poland said recently it had won "full influence" on any EU funding plan, suggesting it had the right to veto if it looked too costly in a climate of economic and financial crisis. However, EU leaders in Brussels stood by their commitment to help poor countries cut emissions and to adapt. Europe would struggle to make any further progress on agreeing funding for the developing world without other rich nations revealing their mid-term emissions targets.

<http://www.reuters.com/article/environmentNews/idUSTRE52I6ZL20090320?sp=true>

Bloomberg reports that citizens of a Dutch town are opposing a government-backed project to take CO₂ from a refinery hydrogen production facility near Rotterdam, and inject it in depleted natural gas fields.

<http://www.bloomberg.com/apps/news?pid=20601109&sid=agmq9zHTafTM&refer=home>

Alstom has been awarded a contract worth ~500 million Euros (\$678m) by RWE Power AG to supply two boilers for its Eemshaven coal fired power plant in the Netherlands. The new hard coal fired, supercritical units will provide electricity for more than 3m homes and cut CO₂ emissions by about 2.5m tons per year as compared with older systems. The units are projected to have an efficiency of approximately 47% and are also designed to co-fire up to 10% biomass, an important renewable energy option. The units can be retrofitted at a later date with equipment used to capture CO₂ after combustion. http://pepei.pennnet.com/display_article/357169/6/ARTCL/none/PRODJ/1/Alstom-wins-EUR500m-contract-to-supply-boilers-for-Eemshaven-coal-plant/

Scottish Power is developing a £1 billion project to capture and store carbon dioxide from the Longannet power station in Fife. The plant, on the Firth of Forth, would utilize capture technology then pipe the supercritical carbon dioxide along a pipeline before being injected into a field of porous rock under the North Sea. Longannet, which is the country's second-largest coal-fired power station, is one of three potential carbon capture hubs that have been identified in the UK, the others being in Humberside and Teesside. <http://peakoil.com/article47058.html>

E.ON Benelux and Rotterdam Climate Initiative (RCI) plan to install a CCS system on E.ON's power station in Maasvlakte. A feasibility study was recently announced by these companies. RCI, which has committed to reducing carbon dioxide emissions by one half by 2025 (compared with 1990) has proposed the port, construction site for the new E.ON power station in Maasvlakte, as a candidate location: One of the criteria is proximity to CO₂ storage capacities, for which RCI is responsible as part of an integrated infrastructure. The new power station in Maasvlakte is favorably located to permit installation of a CCS plant. The new plant will feature new, highly efficient coal-fired units with an efficiency of approximately 46 % and an installed capacity of 1,100 MW. As the world's leader in this development sector, E.ON operates a sizable fleet of CCS pilot plants and expects this technology to be used successfully on a major commercial scale from 2020 onwards.

http://www.oilvoice.com/n/EON_and_Rotterdam_Climate_Initiative_Start_Joint_Development_of_CCS/2a7c76bb.aspx

Australia & CCS

E&E News (April 16) reports that Australia is launching a \$70 million CCS technology initiative at the Global Carbon Capture and Storage Institute. Private sector participants include EPRI, Chevron, Shell Oil, BP, Exxon/Mobil Australia, and Woodside Petroleum.

The world's leading climate economist, Nicholas Stern, has called for Kevin Rudd, and Australia, to make a greater commitment to "clean coal" technology and to push for a worldwide commitment to at least \$US400 billion (\$580 billion) in new spending to fight climate change. Sir Nicholas, the author of the British Government's 2006 report on the economic cost of climate change, said it would be a tragic waste of an opportunity if this week's G20 summit did not agree to devote a large portion of each government's recession-fighting spending to climate change. Summit host Gordon Brown wants to use the summit communiqué to call for a strong deal on climate change at a world conference in Copenhagen in December. However, the London meeting is unlikely to set the sort of specific spending goals for climate change that Stern and major green groups want to see. Although he called in 2006 for climate change spending equal to 1% of the world economy, Stern said it had since become clear that the situation was much worse than he had anticipated and his original spending proposal needed to be doubled. "It looks worse than we thought. The reason I am saying 2% now is not because I think the costs of taking particular actions have gone up -- actually I think they have gone down -- I just think we have to act more strongly than was argued at that time." Sir Nicholas said Australia and the U.S. had fallen well behind the rate of progress required to reduce their carbon emissions to a safe level, but they could make up for that failure by helping poorer countries. Australia, for instance, could help China to clean up its coal-dependent power industry. Australia "can develop clean technologies for coal -- carbon capture and storage -- and share those with China," he said.

<http://www.theaustralian.news.com.au/business/story/0,,25272772-5018063,00.html>

Australia recently opened the bidding for 10 offshore areas that will be used to store carbon dioxide. Energy Minister Martin Ferguson said the release of greenhouse gas storage areas for commercial development was the world's first and part of the government's strategy to reduce its carbon emissions while maintaining economic growth. The move to allow companies to pump CO₂ underground would also help pave the way for the development of a multi-billion dollar gas export project proposed by U.S. energy major Chevron. Chevron's proposed Gorgon liquefied natural gas (LNG) project off Western Australia state plans to inject 3 million metric tons of carbon CO₂ underground each year -- which would be the world's largest CCS project.

<http://www.reuters.com/article/GCAGreenBusiness/idUSTRE52Q13T20090327>

General CCS Related News

FERC Commissioner Wellinghoff surprised at least some energy experts by announcing that no additional coal or nuclear plant may ever be needed in the U.S.; that "base load" power was an anachronism, like "mainframe" computing; and that natural gas will "get us through the transition."

<http://www.eenews.net/Greenwire/2009/04/22/>

More appointments: President Obama has nominated Cass Sunstein, a Harvard law professor, to head the OMB Office of Information and Regulatory Affairs (OIRA). OIRA is the group that coordinates multi-agency reviews of prospective rulemakings by EPA. William Brinkmann, a Princeton physicist has been selected to manage DOE's Office of Science.

On April 20, the IRS published "Notices" containing directions for applying for tax credits for advanced coal technologies pursuant to additional funding provided in P.L. 110-343 (the 2008 Economic "Bailout")

legislation): http://www.irs.gov/irb/2009-16_irb/ar06.html and http://www.irs.gov/irb/2009-16_irb/ar07.html .

Also on April 20, the *NYTimes* ran an article on the propaganda war over “Clean Coal.” The article reviewed the linguistics of the issue. A spokesman for an industry advocacy group cited an improvement in the public’s perception of coal, as measured by the group’s surveys. On the other hand, a spokesman for the Reality Coalition, which has funded anti-coal ads, noted that the stimulus package provided \$80 billion for efficiency and renewable energy, and only \$3.4 billion for CCS. <http://www.nytimes.com/gwire/2009/04/20/20greenwire-propaganda-war-over-coal-escalates-ahead-of-hi-10594.html>



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.