UNITED STATES Carbon Sequestration Council

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Sequestration News

As of now, the U.S. Congress has been unable to pass an Omnibus Appropriations Bill for FY2011. Prior to adjourning, the Congress did approve a Continuing Resolution (CR) to provide funding until March 4 and they are likely to pass a year-long CR before this short term CR expires. The Congress is also continuing to examine opportunities for reducing discretionary spending.

EPA is continuing to move aggressively on their climate and non-climate rules. The latest action is a commitment to propose NSPS-CO_2 limits for power plants (both new and existing) by next July, with final rules a year later. Several reports are predicting 50-100 GW of coal retirements based on non-climate rules. A number of utilities have announced their intent to close some coal units, rather than retrofit additional pollution control hardware.

The Energy Information Administration (EIA) released their annual energy projections (AEO-2011). The EIA assumptions for power plant capital cost and the cost projections for coal versus natural gas will lead to projections of more gas use for power, at lower costs (compared to EIA's previous projections) – and could influence EIA analyses of EPA's coming rules for coal-fired power plants.

Senator Graham is moving forward on his Clean Energy Standard and it may surface in the next Congress as a cap and trade (C&T) alternative.

Texas and Alberta have adopted legal frameworks for CCS. The Texas rules cover only non-EOR storage, but a new rule on EOR-CCS was proposed, with comments due by Jan 31. California approved a C&T bill to reduce GHG emissions from covered sources to 1990 emission rates, by 2020.

Climate Related Congressional Activities

Senator Lindsay Graham (R-SC) is resurrecting the Clean Energy Standard concept as a possible approach to move climate legislation in the new Congress. Senator Graham circulated discussion drafts last February and introduced S.20 (The Clean Energy Standard Act of 2010) in September. The concept is basically a Renewable Electricity Standard enlarged to include nuclear and fossil-CCS. Senator Jeff

Bingaman (D-NM), author of the Senate's RES legislation (which failed to pass) adamantly opposed the broader "Clean" concept because he believed that it would reduce deployment of wind and solar generation.

Representative Jim Sensenbrenner (R-WI) announced on Dec 1 that the House Select Committee on Energy Independence and Global Warming will be terminated when Congress reconvenes next year.

Climate Related State Government Activities (including Alberta)

In 2009, the Texas legislature enacted SB 1387, providing a statutory framework for geologic storage of CO_2, and directing Texas agencies to prepare reports with recommendations for any additional authority deemed necessary. On December 1st, the first report was issued, covering storage on State owned land and privately owned land. On December 2nd, the Texas Railroad Commission announced it had adopted new rules for non-EOR storage of CO_2. The Commission will begin development of additional rules covering CO_2 storage at EOR sites later this month. The press release and a link to the regulations are at: http://www.rrc.state.tx.us/pressreleases/2010/120210.php

California adopted a C&T program for GHGs to reduce emissions to 1990 levels by 2020. http://www.arb.ca.gov/cc/cc.htm

On December 2nd, Alberta enacted into law Bill 24, creating a legal framework for CCS. In contrast to the U.S., where addressing these issues has been under consideration for more than a year with no solution in sight, Alberta completed its legislative deliberation in one month. http://www.assembly.ab.ca/net/index.aspx?p=bills_status&selectbill=024

Climate Strategy and Cancun Climate Conference

On November 29th, the *WSJournal* published an article by Nordhaus and Shellenberger which suggested a new strategy for addressing climate change: do not raise the cost of fossil energy, lower the cost of clean energy. This is not dissimilar to the conclusion of the National Commission on Energy Policy (NCEP) in 2004, when NCEP proposed diverting resources to technology development in order to reach aggressive long-term GHG reduction goals. Nordhaus and Shellenberger essentially concluded that poorer nations will not be able to afford today's no-carbon technologies, so we either improve the basic economics or forfeit climate goals. The mixed-message article included a recommendation to replace older coal power plants with natural gas systems. http://online.wsj.com/article/SB10001424052748704312504575618972157288244.html?KEYWORDS=TED+NORDHAUS

The President' Council of Advisors on Science and Technology (PCAST) published its findings, "Report to the President on Accelerating the Pace of Change in Energy Technologies…" in November. http://www.whitehouse.gov/ostp/pcast. The report's recommendations included creation of a multiyear roadmap with integrated short-, intermediate-, and long-term objectives; an increase in Federal RDD&D; and realignment of subsidies and incentives.

The 16th Conference of the Parties of the UN Framework Convention on Climate Change in Cancun concluded with a broad agreement to assist developing countries, confirmed Copenhagen pledges to reduce emissions to meet a 2 degree Centigrade temperature increase limit, included verification measures, and created a Green Fund (although specific monetary obligations by nation remain unstated). The Copenhagen pledges reportedly provide total emission reductions of 7-14%. The creation of a second compliance period for the Kyoto Protocol (beyond 2012) was punted to next year, and some major emitters (U.S., China, India) remain opposed to Kyoto's mandatory reduction targets. A briefing by US Special Envoy Todd Stern is on the State Department's website, http://www.state.gov/g/oes/rls/remarks/2010/152847.htm .

Additional insight on Cancun can be found at the World Coal Association's "Blog" on the meeting (appropriately named, http://www.worldcoal.org/blog/). For example, WCA reports that CCS projects are now permitted under the CDM process (previously not creditable under the CDM process), provided certain issues are addressed, presumably in 2011. Further discussion of Cancun is presented in the International News section of this Bulletin.

Cost of Wind Power

On November 22nd, the Massachusetts Department of Public Utilities issued a 300 page order approving a 15 year power purchase agreement for offshore wind-based electricity. The price was set at 18.7 c/kWh, escalated at 3.5% per year for the next 15 years (31 c/kWh after 15 years). http://www.mass.gov/?pageID=eoeeapressrelease&L=5&L0=Home&L1=Grants+%26+Technical+Assistance&L2=Guidance+%26+Technical+Assistance&L3=Agencies+and+Divisions&L4=Department+of+Public+Utilities+%28DPU%29&sid=Eoeea&b=pressrelease&f=101122_pr_cape_wind&csid=Eoeea

On December 14th, Senator Lisa Murkowski wrote FERC seeking release of a FERC/LBNL report on potential impacts of renewable energy on grid reliability. The focus of the analysis appears to be frequency stability issues related to the startup of wind turbines. The report is many months overdue. http://murkowski.senate.gov/public/index.cfm?p=PressReleases&ContentRecord_id=7e9ddb5a-8eb7-4416-9d22-53004474f6d1&ContentType_id=b94acc28-404a-4fc6-b143-a9e15bf92da4&Group_id=c01df158-d935-4d7a-895d-f694ddf41624

EPA GHG Actions

On December 1st, EPA finalized a rule that requires 13 states to modify their permitting programs to include GHGs (this type of rule is called a "SIP Call"). The states are AZ, AK, CA, CT, FL, ID, KA, KY, NB, NV, OR, TX, and WY. Seven of the states have indicated that they will submit revised SIPs to EPA by December 22nd; the remainder will submit plans in 2011, with the exception of Texas which is challenging the EPA action. http://www.epa.gov/nsr/actions.html . On December 21st, EPA wrote the Chairman of the Texas CEQ, notifying him that EPA is about to take over construction and operation permitting of major stationary sources in that state.

On November 22nd, EPA issued the final rule for GHG injection via "Class VI" wells (published in the December 10th Federal Register). The rule is aimed at protection of ground water supplies and includes provisions for siting, constructing, monitoring, and closing CO_2 injection projects. http://water.epa.gov/type/groundwater/uic/wells_sequestration.cfm

Also on November 22nd, EPA finalized a rule on GHG reporting from CCS storage facilities, the so-called "Subpart RR" rule. A separate rule, "Subpart UU," provides requirements of reporting related to EOR projects not claiming GHG reductions for permanent storage. http://www.epa.gov/climatechange/emissions/ghgrulemaking.html

EPA published a 121 page draft guidance document on “Financial Responsibility” under the UIC Class VI program. Public comments provided by January 9th will be considered by EPA. The document, supporting documents, and a summary “fact sheet” are available at http://water.epa.gov/type/groundwater/uic/class6/gsguidedoc.cfm

On December 23rd, EPA announced an agreement with a number of states and environmental groups who had challenged past EPA NSPS rules for lacking CO_2 limits. Under the agreement, EPA will propose new rules for new and existing power plants by July 26, 2011, with final rules to follow one year later. NSPS rules for refineries will follow on a slightly slower time track. http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/d2f038e9daed78de8525780200568bec!OpenDocument

Reactions to EPA Rulemaking

On November 24th, Representative Darrell Issa, Ranking Member of the House Committee on Oversight and Government Reform, wrote to EPA Administrator Jackson expressing concern over the impact of EPA’s pending climate rules, particularly the permitting requirements scheduled to commence on January 2nd. On December 20th, Administrator Jackson responded, thanking Representative Issa for the earlier letter, and citing letters from non-coal utilities, renewable energy associations, and others who have urged EPA to move forward with the new regulations.

Representative Ted Poe (R-TX) and 23 other lawmakers introduced H.R. 6511 on December 9th, the “Ensuring Affordable Energy Act.” The bill would prohibit EPA from using its funds to enact or enforce a cap and trade (C&T) “or any statutory or regulatory requirement” for stationary source GHG emission reduction.

Senator Rockefeller previously proposed a 2-year delay in EPA GHG regulations but his proposal died a quiet death, as the vote on S. 3072 that apparently was promised by Senator Reid never made it to the Senate floor.

A number of Representatives and Senators have written to EPA expressing concerns over the potential impacts of EPA’s pending regulation for Hazardous Air Pollutants from industrial boilers. On December 3rd, Senators Snowe (R-ME), Vitter (R-LA), Pryor (D-AR), and Begich (D-AK) wrote EPA again, seeking public release of a Department of Commerce report which reportedly concluded the rule would lead to “significant job losses.” The letter also asked that “pertinent federal agencies” be allowed to review and comment on the DOC report. On December 9th, the *NYTimes* reported that the IB-HAP final rule will not be issued until April 2012. http://www.nytimes.com/2010/12/10/science/earth/10epa.html?_r=1&hp This will likely result in attention shifting to the utility-HAP rule (under court order to be proposed this Spring, and promulgated in the Fall of 2011).

The National Association of Clean Air Agencies released a report on December 8th, “A Critique of Exaggerated Industry Cost Estimates” related to EPA’s proposed IB-HAP rule. The NACAA report concluded that industry’s cost estimates were exaggerated. http://www.4cleanair.org/

On December 23rd, the *WSJournal* published an article discussing “an unprecedented torrent of air and other regulations that will force as much as a third of U.S. coal-fired power to retire….” The article quoted a utility executive who was embracing the rules because they would “ultimately increase the clearing price for energy.”

Exelon, owner of the nation’s largest nuclear fleet, announced on December 8th that it would retire the Oyster Creek Generating Station in NJ in 2019. The announcement earned the unit a pass from pending

Cooling Water Intake Structure rules which would otherwise required a major capital investment for a cooling tower system. FERC's recent report on pending EPA rules cited the CWIS rule as a dominant factor in coal-fired power plant retirements, but assumed that nuclear units would be able to afford necessary retrofits. On December 10th, Exelon announced acquisition of John Deere Renewables, making Exelon a major player in wind generation.
http://www.exeloncorp.com/Newsroom/Pressreleases.aspx

Continuing the coal closure theme, *Greenwire* reported December 12th that the Colorado PUC approved a plan on December 11th to close four existing coal-fired units, and switch a fifth to natural gas, over the next 10 years. They also reported that Oregon's environmental agency will require Portland General Electric to shutter the Boardman coal plant by the end of 2020, in lieu of installing new hardware to meet regional haze air pollution rules.

In a December 2nd press release, Dominion Virginia Power stated that it had volunteered to close the 74 MW coal-fired North Branch Power Station (WV) when a 1300 MW natural gas power station commences operation in VA in late 2014 or early 2015. North Branch is not currently operating, but is in "cold reserve" status. http://dom.mediaroom.com/index.php?s=43&item=939

The North Carolina (NC) Utilities Commission filed its Annual Report on November 30th, identifying long range electricity needs in NC. 96% of the utility-generated electricity consumed in NC is generated by Duke and Progress Energy, and they produce about 45% of their power from coal. Under a 2007 state law (SB 3), IOUs must go from almost no renewable power to 12.5% renewable/efficiency power (or purchase of renewable energy credits) by 2021. The report notes that Duke is considering 1600 MW of coal retirements by 2015. Progress states that it plans to retire 11 coal units, totaling 1500 MW by late 2014. www.ncuc.commerce.state.nc.us/reports/2010ElectricReport.pdf

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Congressional Budget Related Activities

House Leadership for the new Congress is expected to propose a rules package that will include a new budgetary mechanism to be known as the "cut-go" rule, mandating that any legislation creating a new spending program also include the elimination of an existing program of equal or greater value. This proposal is a conservative twist on the "pay-as-you-go rule" now in effect, because it would not allow spending increases to be offset with new taxes or fees (and tax cuts would not have to be offset with spending reductions). In addition, new House Appropriations Chairman Harold Rogers (R-KY) is putting a similar spin on the annual allocation of spending ceilings for his subcommittee cardinals. Those totals, known as the 302(b) numbers, will be replaced by "reverse 302(b)" figures, which will tell each subcommittee how much it has to cut. (Roll Call, December 16th)

On December 21st, Congress passed a bill extending the continuing resolution to fund the government until March 4, thus doubling the workload for appropriators in the next three months. Congress failed to pass any appropriation bills this year, leaving the government running on a series of short-term funding resolutions since October 1st. The bill that passed yesterday would provide government funding at about $1.16 billion more than fiscal year 2010 levels, which includes additional funds for federal oil rig extensions and more support for the nuclear weapons programs. During the next Congress, House Republicans say they want to cut more than 20 percent from discretionary spending -- bringing it down to about 2008 levels.

On December 14th, Senate democrats introduced an omnibus appropriations bill for FY2011 (which began last October). The bill was unable to gain the support of the House and Senate, and was replaced by extending the continuing resolution. http://appropriations.senate.gov/news.cfm?method=news.view&id=9ac3518e-7e19-4328-bf52-16a6c2a1d333 The bill was a little over 1900 pages long, but a cursory review showed several items related to fossil fuels, some of which could be included in a yearlong CR:

- $672 million is appropriated for Fossil Energy R&D, including $162 million for program direction (page 456)
- $12 billion in loan guarantee authority is appropriated for Title XVII of EPACT-2005, with $8 billion of that going to nuclear technologies, and the remaining $4 billion going to fossil technologies (page 460)
- Guidance under Title VI – Export & Investment Assistance (Export-Import Bank) has provisions that could impact loans for fossil energy extraction or power generation (page 1272)
- Section 7076 – Climate Change and Environmental Programs – appropriates $1.5 billion for reducing GHGs, adaptation, and promoting biodiversity (in other countries). One of the possible uses is sequestration technology. A "Clean Energy Fund" is provided $315 million for renewable energy and efficiency measures. The section includes a statement that the US opposes loans by international financial institutions for fossil energy or timber extraction unless the host country identifies any payments to that government by the extracting companies. (page1428)
- A pilot program is authorized to grant loans up to $1.5 billion for baseload power generation for rural electrification (in the US), but technologies must emit less CO_2 than a natural gas power plant, in #CO_2/MWh. (page 746)
- $221 million is appropriated for managing O&G and mineral leasing on federal land, with money taken from 31USC9701 provisions (which appear to be royalty collections, and which could come out of funds currently provided States). (page768)
- The link above includes additional links to the Earmark Tables (23 pages for Energy & Water), Explanatory Statements, and other materials.

U.K. and CCS

The U.K. government proposed big changes to an energy policy that has persisted for two decades. The proposed strategies are designed to ensure that aging power plants are replaced and climate targets met. Climate Secretary Chris Huhne says that the plans will allow the U.K. to cut emissions and lead to a 'seismic shift' towards clean energy. David Cameron's government is likely to reassert state control over the market-based system introduced by Margaret Thatcher. The policy will establish a minimum "floor" price for carbon and enable long-term contracts that give investors a guaranteed price for providing energy. If enacted, taxes will be set on the use of fossil fuels. The government has not announced what the floor price will be. The government estimates that more than £110bn of investment is needed in new power stations and grid upgrades over the next decade...roughly a quarter of the UK's generating capacity is slated to be replaced by 2020...The measures also include subsidies on immature renewable technologies such as offshore wind and wave power, but stipulates that the nuclear industry will not receive any direct funding. The government will also put out request for comments on an emissions performance standard (EPS) for power stations. This EPS would set a limit on the CO_2 that they can emit.

In his statement to the House of Commons, Secretary Huhne referred to this as "a back-stop to limit how much carbon any new coal-fired power stations emit." The recent proposal alters a key Conservative pre-election pledge on the environment. The new plan recommends that the EPS could be as high as 600g per kilowatt hour – although a tougher limit of 450g was also an option. To meet a 600g limit, new coal plants would have to utilize CCS technology to capture approximately one quarter of the output from a new coal plant. The government is concerned that a very tough EPS would discourage companies from building new coal plants to demonstrate CCS technology. If the reforms survive a two-month consultation period that opens today, they will be implemented in an energy bill by the end of 2011.

Critics argue that the cost of implementing the proposals will be passed on to consumers in the short term in the form of higher bills. Household energy bills could increase by £500 in the near term as a result of the reforms, according to the energy price comparison website, uSwitch. Secretary Huhne admitted that energy prices will initially rise – but argued that by 2030, the price will be lower than it would be without any reform. http://www.guardian.co.uk/environment/2010/dec/16/chris-huhne-energy-reform?utm_source=newsletter&utm_medium=email&utm_campaign=sendCarbonHeadlines

Taiwan and CCS

Taiwan Power Company plans a trial carbon capture program at its Taichung coal-fired station. The utility, which produced 83 Mt of CO_2 in 2008, intends to capture 10,000t of CO_2, from the plant by 2014, said Chief Engineer Tu Yueh-yuan. The carbon will be injected into the seabed off Taiwan's west coast for permanent storage. President Ma Ying-Jeou has pledged to cut greenhouse emissions in the nation to 2000 rates by 2025. The industrialized island releases around three times more heat-trapping gases per person than the world average. Coal-fired plants generated around 39% of Taiwan's electricity production in September, followed by 29% from gas-driven units and 19% from nuclear reactors. Oil and hydropower also contribute to its power generation mix.

Korea and CCS

Enel and the Korean Electric Power Corporation (KEPCO) signed a Letter of Intent, followed by specific Memorandums of Understanding, aimed at cooperation in the field of smart grids and CCS technologies. In the field of CO_2 reduction technologies the parties have agreed to collaborate in the areas of research and development of CCS-related technologies as well as the design, construction and operation of the entire CO_2 capture process. The parties have foreseen also joint testing of one pilot and one demonstration CCS plant. http://www.newswiretoday.com/news/80911

UNITED Carbon Sequestration Council STATES

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.