



February 1, 2011

Sequestration News

Congressional and Administration activity is continuing on both budget and regulatory matters (including climate and non-climate rules). The new CBO budget projections show a more pessimistic economic forecast than last February's OMB analysis. The current FY2011 Continuing Resolution expires in March, and the "Debt Ceiling" is being rapidly approached. Both require Congressional action and will be part of continuing budget debates. Several spending reduction bills that also propose to eliminate fossil energy R&D have also been introduced.

In the regulatory area, the House held a hearing on January 24th on the need for constraining regulatory activity and on broader proposals that include congressional approval for any future major federal agency rulemaking. EPA signed a Settlement Agreement which committed the Agency to propose CO₂-NSPS for both new and existing power plants by July 2011. EPA's motion to postpone action on the (court-scheduled) industrial boiler HAP rule, which can be viewed as a precursor to the upcoming utility HAP rule, was rejected by a federal judge. As a result, EPA will promulgate a final rule in February. EPA received thousands of comments on the proposed rule, and congressional expressions of concern regarding adverse economic impacts related to the proposed rule.

President Obama issued an Executive Order for federal agencies to review their regulations and to take additional measures to ensure a proper balance is struck between protecting the public interest and adverse economic impacts.

Several new projections/reports show growth in coal use, especially in China. Both EIA and IEA are offering "business as usual" projections of coal use in China of roughly 5 billion TPY by 2035.

Recent reports that looked at the life cycle footprint of power plants using natural gas, and especially shale gas, suggest that GHG emissions from such plants could be significantly higher than previously projected.

White House Executive Order

On January 18th, the White House issued an Executive Order (EO) requiring Federal Agencies to conduct a review of existing regulations, and take measures regarding new regulations, to better balance environmental and economic impacts from those regulations. It is unclear at this point how much difference the review will make, since regulations are generally adopted based on statutory guidance

which takes precedence over the EO, and since some of the new requirements already exist. For example, Section 2 of the EO requires an opportunity for public comment on proposed regulations. In general, this is already a matter of law, provided for in the Administrative Procedure Act. Agencies were directed to submit to OMB, within 4 months, their plans for implementing the retrospective aspects of the EO. <http://www.whitehouse.gov/the-press-office/2011/01/18/improving-regulation-and-regulatory-review-executive-order>

The House Energy and Commerce Committee held a hearing January 26th on the President's EO. The head of OIRA, OMB's group that coordinates interagency review of proposed Agency regulations, testified before the Committee's Subcommittee on Oversight and Investigations. <http://energycommerce.house.gov/news/PRArticle.aspx?NewsID=8169>

Climate Related Congressional Activities

On January 20, *EEDaily* reported a growing "buzz" for a Clean Energy Standard. A CES is effectively a Renewable Electricity Standard expanded to include nuclear, fossil-CCS, and possible natural gas (A CES including natural gas would essentially be an anti-coal (without CCS) measure). The CES approach was offered in the 111th Congress, but opposed by Senate democrats and voted down in committee. With little likelihood for a near-term cap and trade (C&T) bill, some previous opponents of CES are reconsidering. However, with continued interest on jobs, and less government burden on individuals, the CES will have to sell the benefits of low carbon technologies to justify the basic above-market prices of the CES technologies. Given the need for genuine compromise to get the broad support necessary for passage, most observers see the CES as a long shot.

Senate Majority Leader Harry Reid, in announcing his legislative priorities for Nevada (which did not include climate legislation), has thereby given an indication of his priorities for the Nation. A posting on the Senator's website lists priorities as: Job creation (through clean energy investment, Education, Tax reform, Infrastructure projects, Eliminating wasteful spending), Defending the new health care program, Defending social security, Homeowner (foreclosure) assistance, Blocking attempts to resurrect Yucca Mountain waste storage, Homeland security, Helping farmers, Protecting wildlife and public lands, Immigration reform, and Native American jobs. <http://reid.senate.gov/newsroom/upload/reid-priorities-for-112th.pdf>

The President's State of the Union address proposed a "Clean Energy Standard," presumably including coal with CCS and possibly natural gas without CCS, of 80% of electricity generated in 2035. The House E&C Committee published, as a Press Release, a *WSJournal* article characterizing the proposal as another form of cap and trade regulation. <http://energycommerce.house.gov/News/PRArticle.aspx?NewsID=8173>

Climate Related State Government Activities

On January 14th, the California PUC and Air Resources Board published the final report by the California Carbon Capture and Storage Review Panel. The panel had been commissioned by the State to identify state policies that might impact deployment of CCS to meet energy needs in 2020 and 2050, particularly those addressing legal framework issues. The report concluded that CCS could provide a public benefit to the state, that CCS technologies exist, and that additional CCS rules and regulations are needed. http://www.climatechange.ca.gov/carbon_capture_review_panel/documents/

EPA GHG Actions

On December 23rd, EPA announced Settlement Agreements under which the Agency would propose NSPS for GHG emissions from new and existing power plants (July 2011) and refineries (December 2011). Final rules will be promulgated by May 2012 and November 2012, respectively. An EPA fact sheet, and links to the agreements, can be found at <http://www.epa.gov/airquality/ghgsettlement.html>. In announcing the Agreement, EPA stated that it intended to coordinate these power plant climate rules with the pending Transport Rule and Utility-HAP rule, although EPA did not state exactly how this will be done.

In a January 27th filing, the state of Arizona requested, and the relevant U.S. Circuit Court has granted, that it be allowed to withdraw from its earlier support for the EPA endangerment finding.

Reactions to EPA Rulemaking

Various members of the House and Senate continue to offer verbal objections to EPA's measures to restrict GHG emissions under current Clean Air Act (CAA) authority. The first set of requirements, related to New Source Review (NSR), is now in effect. The second set, which is related to New Source Performance Standards (NSPS) for new and existing power plants, is scheduled to be proposed in July (with promulgation in May 2012). A refinery NSPS will follow in December 2011/November 2012. Several legislative approaches have been suggested to block implementation of these rules. One approach would take the form of a bill to prohibit EPA from using current CAA authority (or any existing authority, under a concept offered by Senator Barrasso) to promulgate regulation of GHGs. Another approach would be to place a rider on appropriations legislation to prohibit EPA from spending money on such regulations. A third approach would be a bill to delay any regulation (or any further regulation) of GHGs under current authority for a period of time. A fourth approach would be to use the Congressional Review Act (CRA), which stops implementation of a regulation upon passage of a joint resolution of disapproval by both chambers. If the resolution is vetoed by the President, a Congressional override would be necessary to enact the resolution. The CRA is time-limited, and has already "expired" for some of EPA's initial GHG rules. A fifth approach, a bill which goes beyond climate regulation, was introduced by Representative Geoff Davis (R-KY) on January 20th, as H.R. 10. This bill would require certain "major" Agency rules to receive a confirmation vote by Congress (by means of a joint resolution) before they could take effect. Failure to pass such a resolution within 70 days would mean that the rule would not take effect. The bill was introduced with 86 cosponsors. The House Judiciary Committee held a hearing on the bill on January 24th. http://thomas.gov/home/gpoxmlc112/h10_ih.xml

Focusing on more traditional emission limits, 13 freshmen Senators wrote Administrator Jackson on January 27th and added their voice to the views expressed by 49 Senators in the 111th Congress. Those senators had expressed concern over EPA's proposed industrial boiler HAP rule, now set for promulgation in February. Specific issues raised by the Senators included the "FrankenMACT" issue – a combination of standards based on the best performance of different boilers on different HAPs, but not met in total by any boiler – and EPA's election not to use the provision in CAA Section 112(d)(4), which allows the Administrator the flexibility to not regulate a HAP from a source category, if it does not constitute a health threat.

Congressional Budget Related Activities

On January 7th, Representative Kevin Brady (R-TX) introduced H.R. 235, the “Cut Unsustainable and Top-Heavy Spending Act of 2011. Among other things, the bill would eliminate spending on fossil energy research and terminate the program (Section 20). http://thomas.gov/home/gpoxmlc112/h235_ih.xml

Representative Jim Jordan (R-OH), Chairman of the Republican Study Committee (RSC), released text and summary of the “Spending Reduction Act,” which is designed to reduce federal spending by \$2.5 trillion over the next 10 years. The bill would limit FY2011 non-security discretionary spending to FY2008 levels, and outlines elimination of or cuts to over 100 specific programs. Relating to energy development, Title V of the bill (Sec. 501) would prohibit use of any appropriated funds by a list of 37 existing programs, including “Applied research sponsored by the Department of Energy,” thereby eliminating those programs. The bill, a summary, and related material can be found at:

<http://rsc.jordan.house.gov/Solutions/SRA.htm>

On January 18th, Representative David Dreier (R-CA) submitted a one-sentence resolution (H. Res. 38) that echoed the RSC’s call to reduce “non-security” spending to FY08 levels. H. Res. 38 does not include the RSC’s enumerated call to eliminate or cut more than 100 specific programs. <http://thomas.gov/cgi-bin/thomas>

House Majority Leader Eric Cantor told reporters that the House will address the continuing resolution (CR), which expires on March 4, during the week of February 14th. The current CR is providing funding for non-security programs at an annual rate of \$462 billion. Cutting funding for domestic programs back to the 2008 rate for the rest of this year means finding \$55 billion to \$60 billion in reductions, or about 20 percent of all non-security spending for the remaining months. Republican leaders are still under pressure from their more conservative members for the cuts to equal \$100 million. (E&E Daily, January 25 and Roll Call, January 24)

China and CCS

A January 18th article in Nature describes a Chinese pilot scale (120,000 tpy CO₂) version of amine CO₂ scrubbing, with a reported price of \$30-35 per tonne CO₂ (\$20/tonne without purification steps). The CO₂ is used in food and beverages, and it is unclear from the article how much the captured CO₂ is compressed. There is speculation that some of the cost reduction simply reflects the lower costs of construction of power-related systems in China. A Canadian company, EmberClear, has licensed a suite of technologies from Huaneng Group, which developed the system.

<http://www.nature.com/news/2011/180111/full/469276a.html>

The growth of coal use in China is attracting broad attention. EIA’s International Energy Outlook 2010 (July 2010) projected coal for electricity in China would grow from 28 Quads (Quadrillion Btus) in 2007 to 72 Quads in 2035. This reflects an additional 736 GW of coal-fired power. (U.S. coal use for electricity in 2007 was 21 Quads; EIA’s projection for 2035, without climate change regulations, is 23 Quads.) Also, recall that in China, nearly half (49%) of total coal use in 2007 was for non-electric applications, and that use is projected to grow by another 13 Quads by 2035. The overall change is from 55 Quads in 2007 to 112 Quads in 2035, or roughly 2.5 billion tons of coal/yr to 5.0 billion TPY. The recent (Nov 2010) release of IEA’s World Energy Outlook 2010 projects China’s coal use in 2035 (under “Current Policies”) to be 2574 million tonnes of oil-equivalent, or 103 Quads.

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

Peabody Energy, Calera, and a Chinese energy company have announced a partnership under which Peabody would operate a large Chinese surface mine, and Calera would demonstrate its CO₂-to-cement

material conversion technology on a slipstream of the associated mine-mouth power plant. Peabody also announced a deal to operate a second Chinese surface mine, at a 2000 MW mine-mouth power plant. <http://www.nytimes.com/cwire/2011/01/21/21climatewire-peabody-calera-partnership-could-bring-us-gr-92498.html>

China Resources Power Holdings Company is seeking to buy a \$910 million controlling stake in a coal mining project in Shanxi, the country's second-biggest producing province. The utility plans to increase the total coal reserves it holds in China to 2 billion metric tons. In 2010, average benchmark prices for power-station coal for immediate delivery at Qinhuangdao, China's largest port for the fuel, rose 25 percent to 747 Yuan a metric ton, according to data from the China Coal Transport and Distribution Association. Shanxi produced 740 million tons of coal last year, trailing behind the 782 million tons mined in China's Inner Mongolia region, the official Xinhua News Agency reported on Jan. 19. <http://www.bloomberg.com/news/2011-01-21/china-resources-power-seeks-to-buy-910-million-coal-mine-stake-wang-says.html>

Canada and CCS

Following a report by a Canadian couple and a consultant that CO₂ from the Weyburn EOR operations might be escaping to the surface on the couple's property, the Petroleum Technology Research Centre issued materials which stated, "They examined every claim made in the report, from carbon isotope ratios said to be markers of the CO₂ underground at Weyburn, to discussions of high CO₂ readings in the soil, to claims of open faults. They found no data in the report that can support the assertions that CO₂ has migrated through the geological storage system to the surface." <http://www.ptrc.ca>

<http://www.cbc.ca/technology/story/2011/01/17/environment-co2-capture-leak.html?ref=rss>

EU and CCS

The EU is preparing to spend more than £1 billion on helping Britain capture and get rid of carbon dioxide. As a consequence, the productive life of North Sea oilfields could be extended significantly and raise £60 billion in tax revenues. A new study by Durham University academics estimates that the extra tax revenues will be raised by the UK Treasury if carbon capture is adopted by North Sea oil companies. Professor Jon Gluyas, the director of Durham University's Centre for Research into Earth Energy Systems, carried out the study which is now being considered by both the UK's Department of Energy and the EU as part of their funding plans for North Sea oil regeneration. Brussels has given British power engineering companies until February to come up with plants that will take CO₂ via pipelines out to depleted oil or gas fields in the North Sea. Industry sources say that EU financial backing could be worth at least £400 million for each of four CO₂ capture plants that the Government is seeking to build. <http://www.independent.co.uk/news/business/news/carbon-dioxide-capture-plans-could-add-16360bn-to-uk-coffers-2179582.html>

Engineers at Leeds University plan to conduct a test scheme for deep underground coal seams that are too expensive to mine, as part of a €3 million (£2.5 million) international project funded by the European Commission. Waste greenhouse gases will be stored in the rock. Tested in numerous small-scale trials worldwide, underground coal gasification (USG) technology was applied on an industrial scale in the former Soviet Union and is still operating in Uzbekistan. But the proposed scheme for on-site, underground CO₂ storage is new. Researchers will assess the viability of the scheme at the test site in Bulgaria where coal is buried more than 1,200 meters underground. Bulgarian company Overgas will coordinate the project in partnership with the Geological Institute of the Bulgarian Academy of Sciences,

Institute for Solid and Fuels Technology Applications (Greece), Instituto Superior Técnico of the Technical University of Lisbon (Portugal), DMT (Germany), Geo-ForschungsZentrum Potsdam (Germany) and UCG Engineering (UK). The international team, including the Leeds engineers, will use data from this site to model the complete process – including combustion, gas extraction and CO₂ storage.

<http://www.theengineer.co.uk/news/project-to-assess-benefits-of-underground-coal-burning/1006804.article>

The UK parliament's energy and climate change committee said in a recent report that the new UK government energy policy rules could lead to a second "dash for gas" in the power sector, as well as delay investment in renewables, and place the UK in danger of missing climate change targets. The report argued that government's six draft National Policy Statements, or NPSs, which were designed to speed up the planning process for major energy projects, don't prioritize low-carbon power generation and renewables over conventional fossil fuel capacity. This means more gas-fired power stations could be constructed instead of renewables and the UK could fail to reach binding European Union targets on cutting emissions and boosting renewable energy in the mix. The government has estimated that around GBP200 billion of investment in energy infrastructure is required over the next decade to meet rising demand as well as targets on cutting emissions. The lawmakers also called for more clarity in coordinating developments and said political certainty is essential for investors. (*Energy Central*, January 25)

CCS Related Reports

On January 6th, NETL rolled out a new RD&D "Roadmap" for CCS development.

http://www.netl.doe.gov/technologies/carbon_seq/refshelf/CCSRoadmap.pdf

NETL's 3rd Carbon Sequestration Atlas was posted on their website December 1.

http://www.netl.doe.gov/publications/press/2010/10058-Third_Edition_of_Carbon_Sequestrat.html

The California CCS Review Panel's recent report recommends that California move forward with CCS under its climate change law, A.B. 32.

http://www.climatechange.ca.gov/carbon_capture_review_panel/documents/2011-01-14_CSS_Panel_Recommendations.pdf

ExxonMobil published its annual Outlook for Energy: A View to 2030, on January 27. The report projects continued domination by fossil fuels throughout the forecast period, but includes a shift from coal to natural gas in the U.S. power sector. Like other recent projection reports, Exxon sees flat energy demand by OECD nations, and sharp growth in non-OECD nations, especially China. Exxon projects that global population will reach 8 billion by 2030, more than triple the population in 1950, with 85% living in non-OECD nations. http://www.exxonmobil.com/Corporate/energy_outlook.aspx

EPA has issued a Congressionally mandated report on the environmental and resource impacts associated with increased biofuel production and use.

<http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=217443>

The World Coal Association has published an analysis examining the cost of electricity produced from coal, and comparing those costs to other sources of electricity. WCA reports data from other analyses by CBO, the European Commission, EPRI, the UK House of Lords, and MIT.

<http://www.worldcoal.org/resources/ecoal/ecoal-current-issue/costs-of-coal-fired-electricity/>

