

Weekly News Update

Saturday 28th April 2012 - Friday 4th May 2012



Report: World progress too slow on climate control

Each year, the International Energy Agency puts out a study of which technological advances are needed to keep global warming below two degrees Celsius. The 2012 report is out and the grades are dismal: Aside from a recent boom in wind and solar power, the world isn't making much progress. The IEA doesn't just look at recent trends in greenhouse-gas emissions — those can rise and fall with the economy. Instead, it looks at which clean-energy technologies are coming online. If the world wants to avoid a 2°C rise in global temperatures, then we'll need a certain amount of low-carbon infrastructure in place by 2020, the IEA says. That means a mix of wind turbines, nuclear reactors, energy-efficient cars and buildings, and so on. And, for most of those things, countries are way behind.

Cleaning up coal plants: The IEA has recommended that countries around the world need to have at least 38 coal plants that capture and store carbon up and running by 2020 in order to stay on pace to meet that 2°C climate target. There are no such plants operating. Moreover, the report notes, nearly half of the new coal plants built in 2010 aren't even up to the latest efficiency standards.

If the world wanted to make a concerted push to meet the 2°C target, the IEA says, all the sectors — from electricity to vehicles to buildings — would have to chip in to reduce greenhouse-gas emissions. The track we're on is to a balmy 6°C of warming in our future. To get down to 2°C, many sectors need to contribute. The renewables sector is the only one pulling its weight. According to the IEA, most countries don't have stable, reliable policies to promote clean-energy technologies. They recommend the usual solutions: a price on fossil fuels, new standards for energy efficiency, and more money for research and development. The IEA estimates that meeting the 2°C target will require \$5 trillion in energy investments by 2020. That, in turn, would save \$4 trillion in fossil fuel costs. And over the next 40 years, the benefits from energy savings and reduced emissions would keep growing and eventually outweigh the costs. For now, though, the world's nowhere near that point.

North American Carbon Storage Atlas Unveiled

The North American Carbon Storage Atlas was unveiled today at the 11th Annual Conference on Carbon Capture Utilization and Sequestration in Pittsburgh. The atlas identifies all the geological reservoirs in Canada, Mexico and the United States where greenhouse gas emissions can be stored when carbon capture and storage technologies are used by industrial facilities. The development of the atlas involved the three countries identifying, gathering and sharing data on major carbon dioxide (CO₂) sources. The completed atlas identifies potential CO₂ storage reservoirs and estimates for storing CO₂ in those reservoirs, using compatible methodologies. The atlas will be particularly useful for storing CO₂ in cross-border reservoirs. There are at least 500 years and up to 5,000 years of CO₂ geological storage space available in reservoirs in North America, based on current emissions rates. "This valuable tool will promote a comprehensive understanding of the potential for carbon capture and storage in North America," said the Honourable Joe Oliver, Canada's Minister of Natural Resources. "Carbon capture and storage is a leading technology with the potential to significantly reduce greenhouse gas emissions from large industrial facilities over the medium to long term."

"By identifying North American geological formations with large CO₂ storage potential, this new atlas provides the kind of fundamental information that, combined with technology innovation, can help fossil-fuelled facilities continue their essential energy role while reducing carbon pollution," said Steven Chu, United States Secretary of Energy. The carbon storage atlas project has been a key activity under the bilateral Canada-U.S. Clean Energy Dialogue and the trilateral work program under the North American Leaders' Summit. The project also includes an online version of the atlas (www.nacsap.org) and an online map viewer, which will provide interactive display and analysis of the emission and storage data. The following media backgrounder is available at www.nrcan.gc.ca/media: North American Carbon Storage Atlas

NRCan's news releases and backgrounders are available at www.nrcan.gc.ca/media

Global CCS Institute to facilitate CCS knowledge sharing in Europe

The Global CCS Institute has won a tender to provide secretariat and knowledge dissemination services for the European Commission's Carbon



Capture and Storage (CCS) Demonstration Project Network.

The Institute, together with consortium partners TNO, IFP and SINTEF, will provide these services for four years. Delivery of the service started in March 2012.

EU urges gas partner Russia to back carbon capture

The European Commission, which has begun talks with the EU's biggest natural gas supplier Russia on cementing energy ties until 2050, said both sides had to work on burying carbon emissions or gas would have only a short future as a fuel.

Energy Commissioner Guenther Oettinger told an EU-Russia conference in Brussels that, for the 27-member bloc to continue using gas beyond around 2030-2035, it needed carbon capture and storage (CCS) technology to limit greenhouse gas emissions.

CCS captures climate-warming emissions from power plants and stores the carbon underground, for example in depleted natural gas fields under the sea. But the technology is commercially unproven and costly to build.

CO₂ storage - do impurities matter?

Is the presence of impurities in the CO₂ stream destined to be stored underground a problem? The possible impacts of impurities are reservoir-specific and depend on the mineralogical composition of the rocks and of course the type of impurity and its concentration. Impacts can vary from slight dissolution creating micro-voids, to mineralisation which fills-up the pore-space.

Although the potential mechanisms through which certain impurities could affect storage capacity or integrity are well understood, simulating the exact conditions of a storage complex and the gradual accumulation of impurities in the laboratory pose significant problems.

CO₂-EOR as a 'soft start' for UK CCS

CO₂-EOR has the potential to kick start a carbon storage industry in the UK, providing the incentive to invest in offshore oil fields and develop the infrastructure for transporting CO₂, but there needs to be a push from government to get it going, said speakers at Finding Petroleum's London event.

CO₂-EOR coupled with carbon storage in the UK North Sea is technically feasible but economically uncertain.

This was the view of the panel at a Finding Petroleum event in London, "Extending the life of the North Sea - building a CO₂ utilisation and storage industry," where speakers discussed how CO₂-EOR could be an enabler for CCS in the UK.

North American Carbon Storage Atlas Unveiled

The North American Carbon Storage Atlas was unveiled today at the 11th Annual Conference on Carbon Capture Utilization and Sequestration in Pittsburgh. The atlas identifies all the geological reservoirs in Canada, Mexico and the United States where greenhouse gas emissions can be stored when carbon capture and storage technologies are used by industrial facilities.

The development of the atlas involved the three countries identifying, gathering and sharing data on major carbon dioxide (CO₂) sources. The completed atlas identifies potential CO₂ storage reservoirs and estimates for storing CO₂ in those reservoirs, using compatible methodologies. The atlas will be particularly useful for storing CO₂ in cross-border reservoirs. There are at least 500 years and up to 5,000 years of CO₂ geological storage space available in reservoirs in North America, based on current emissions rates.



Evidence wanted for new gas generation strategy

The Government has launched a call for evidence to inform a gas generation strategy to deliver a secure and affordable route to a low carbon economy.

The strategy, announced on 17 March and confirmed in the Budget, aims to:

- set out the role of gas in the electricity market
- attract investment in gas generation
- ensure energy security
- meet the UK's carbon reduction targets
- make the best use of the nation's natural resources.

The call for evidence provides a set of questions to help contributors frame responses.

These questions will also be used in discussions with industry and other stakeholders in advance of the publication of the strategy in the autumn. The call for evidence is open until the 28th June.

Carbon Capture and Storage Cost Reduction Task Force appoints supremo

Energy Minister Charles Hendry today announced that Dr Jeff Chapman has accepted the position of Chair of the new Carbon Capture and Storage Cost Reduction Task Force.

As announced in the CCS Roadmap last month, the Task Force is being set up to help tackle the challenge of ensuring that CCS is cost competitive with other low carbon technologies by the early 2020s.

Company also requests binding CO₂ emissions limit for gasification process

Tenaska, managing partner of the Taylorville Energy Center (TEC), today announced that the Illinois Environmental Protection Agency (IEPA) has issued the final amended air permit for TEC. When built, TEC will be among the cleanest coal-feedstock-based plants in the world. Strict permit limits on conventional pollutants such as sulfur dioxide (SO₂) and nitrogen oxides (NO_x) are less than 1/40th the level of the average U.S. coal-fueled power plant.

Following the release of its draft air permit on October 17, 2011, IEPA received numerous comments that have been addressed with the issuance of this final permit. IEPA made many changes to the draft permit, the most significant of which lowered permissible mercury emissions by 90 percent following a request from Tenaska. Also requested by Tenaska was a binding limit on carbon emissions.

Energy Institution Seminar (no link)

The Energy Institute is holding a one day seminar examining the predicted deployment of multi user storage sites and their continued importance to UK and European carbon capture offering. This event is being supported by the CCSA and as such members registering for the event will be entitled to a discount. To register <http://energyinst.org/events/view/653>

Round 3 of the Regional Growth Fund (RGF) is now open: £1bn is available for this round (no link)

<http://www.bis.gov.uk/policies/economic-development/regional-growth-fund>