

ASAP Focusing on Communications

Welcome to the first edition of ASAP News, a newsletter designed to keep you informed of ASAP's development, and of carbon capture and storage (CCS) initiatives worldwide.

As a founding member of ASAP, we believe that carbon sequestration technology has the potential to transform the environmental footprint of our energy economy and is one of the most feasible strategies for Canada to reduce its greenhouse gas emissions.

Over the coming year, you'll find ASAP News in your e-mail inbox, and on www.albertaasap.com, each quarter. We want this newsletter to facilitate dialogue, and your feedback and ideas are critical. Please send your questions, story ideas and feedback to maria.macaulay@enbridge.com.

I am excited about the impact that ASAP will have on our industry and I look forward to working together to provide a cleaner energy future.

Sincerely,
Chuck Szmurlo
VP Alternative & Emerging Tech
Enbridge Inc.

Statoil Hydro Confirms CO₂ can be Safely Stored

For 13 years StatoilHydro has successfully captured and stored CO₂ at the Sleipner CCS plant beneath the seabed in the Norwegian North Sea, and new seismic data indicates that the CO₂ is spreading through the formation as expected.

The Sleipner plant was the first full-scale commercial CCS plant in the world, and it is still the largest single emission reduction measure in Norway.

StatoilHydro extracts 2,600 tonnes of CO₂ from Sleipner West production for storage 1,000 meters beneath the seabed, rather than releasing it to the air. More than 10 million tonnes of CO₂ have been injected into the Utsira sandstone formation since the autumn of 1996.

StatoilHydro extensively monitors the CO₂ in the sub-surface store, and uses this information to identify the way the gas behaves in the formation. The company collects four-dimensional seismic data every other year, and has now analyzed the 2008 survey data.

The seven geophysical measurements that StatoilHydro has taken to date show a stable trend, with the CO₂ dispersing upwards from the injection site and spreading slowly through the rock. The monitoring has established that the gas has remained in the formation and that none has leaked to the surface. It has also shown that the gas is dispersing at the same speed that it did in 2006.

The injected CO₂ currently covers about three square kilometres of the roughly 26,000 square kilometres available in Utsira.

"In addition to seismic surveys, we monitor wellhead pressure," explains Edvin B Ytredal, Vice President of Operations for the Sleipner area.

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CCS Partnership to Receive Federal Funding

The Government of Canada, under Natural Resources Canada, announced in Calgary on March 26 that EPCOR Utilities Inc. (EPCOR), Enbridge Inc., and the Alberta Saline Aquifer Project (ASAP) will receive funding under the ecoENERGY Technology Initiative for the Genesee post-combustion demonstration plant project.

The ecoENERGY Technology Initiative is an investment in energy science and technologies, launched by Natural Resources Canada in 2007. The investment is intended to accelerate the development and market readiness of clean energy technology solutions such as carbon capture and storage (CCS).

"I don't think it's possible to over-state the importance of this technology," said the Honourable Lisa Raitt, Minister of Natural Resources, referring to CCS. "And of making sure Canada maintains its position as a leader in bringing it online."

EPCOR's Genesee Post-Combustion Demonstration Plant involves constructing a demonstration facility that will capture CO₂ from a greenfield coal-fired power plant (150 MW net) in Alberta. The captured CO₂ will be transported through a collaboration with Enbridge and the Alberta Saline Aquifer Project (ASAP).

The Genesee plant would commence operations in 2015, capturing 3,000 tonnes of CO₂ per day, or nearly one million tonnes per year.

The amount of funding that the EPCOR-Enbridge-ASAP partnership receives will be finalized during the contribution agreement stage. EPCOR and Enbridge have also submitted this project to the Alberta Government for funding under the \$2 billion CCS funding program that is associated with its climate change action plan.

"I don't think it's possible to over-state the importance of this technology"



The Honourable Lisa Raitt talks with Chuck Szmurlo.

ASAP Achieves Key Milestone

Participants in the 38-member, Enbridge-led ASAP recently announced that they have completed Phase I of the three phase project, and that they are ready to move on to Phase II.

"I am excited about the impact that ASAP will have on our industry," said Chuck Szmurlo, Enbridge Vice President, Alternative & Emerging Technology, and ASAP Chair. "The most pressing environmental issue facing us today is the impact of greenhouse gas emissions on climate change. CO₂ storage could be one of our most significant solutions."

ASAP members met in Calgary on April 8, 2009 to discuss the work they had completed during Phase I, and the work to come in Phase II. They identified the Wabamun region west of Edmonton as a prime location for the \$30-million to \$50-million Phase II pilot project. They chose the area because the EPCOR Genesee coal-fired power plant, which will likely supply the CO₂ that ASAP will store, is located nearby. The ASAP final report will be sent to all members near the end of June.

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ASAP will receive funding under the ecoENERGY Technology Initiative for their Genesee carbon capture and storage (CCS) project.

Jim Carter, Chair of the Alberta Carbon Capture and Storage Development Council, spoke to ASAP members about the province's plans for CCS development at the April 8 ASAP meeting in Calgary.



Statoil Hydro Confirms CO₂ can be Safely Stored *continued*

"These measurements show stable results, which again demonstrate that the reservoir is well suited for storage."

"Twelve years of data and seven surveys confirm the indications from the models and forecasts," says Eli Aamot, head of the new energy and ideas research program in StatoilHydro. "They show that long-term carbon storage in sub-surface geological formations represents a secure approach."

StatoilHydro

This article was originally published by Statoil Hydro and appears on the company's website at www.statoilhydro.com.

About News

ASAP is an industry-supported initiative to identify deep saline aquifer locations that could be used in a CO₂ storage pilot project.

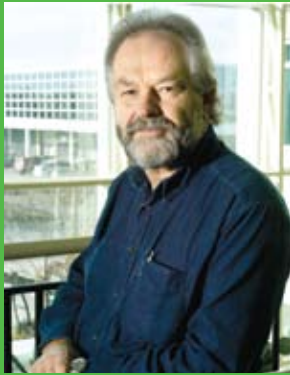
ASAP members have initiated the project to demonstrate that CO₂ storage is a safe and reliable long-term solution for Alberta. A successful pilot project demonstration will enable saline aquifer storage to play a pivotal role in reducing CO₂ emissions in Alberta.

Enbridge Inc. is leading ASAP as Project Operator. In total, 38 organizations are participating in the project.

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Saskatchewan CCS Ready for the Big Time



The following is an excerpt from an article by Malcolm Wilson, Director of the Office of Energy and Environment (OEE) at the University of Regina. It was published in the StarPhoenix on April 16, 2009.

As the United Nations Climate Change Conference in Copenhagen in December approaches, world leaders are grappling with the challenge of developing climate-change policies and programs to reduce greenhouse gas (GHG) emissions. The Copenhagen conference is expected to produce

an agreement outlining mandatory targets for CO₂ emissions that will replace the 1997 Kyoto Protocol.

Carbon capture and storage (CCS), or carbon sequestration, can play a significant role in mitigating costs to industry and dramatically reducing CO₂ emissions. CCS can capture 85 to 95 per cent of CO₂ emissions from the exhaust gases of major facilities such as coal and gas-fired power plants, oil refineries and steel plants before the emissions enter the atmosphere.

Once CO₂ is extracted from the exhaust gas, it is compressed and moved by pipeline to injection sites where it is stored deep underground (at least 1,000 meters) in saltwater-filled rock formations, depleted oil and gas reservoirs and in unmineable coal beds. Basically, by injecting CO₂ into the subsurface, we are returning it to its original environment, where it has existed for millions of years.

Researchers believe that the risks of storing CO₂ in the subsurface are very small, and they undertake extensive activities to ensure that risk is at its absolute minimum. In November 2008, the

International Performance Assessment Centre for Geological Storage of Carbon Dioxide (IPAC-CO₂) was established at the University of Regina to assess geological storage sites and develop international regulations for CCS projects.

Sequestration can have significant benefits for slowing climate change. Take for example the Weyburn-Midale CO₂ enhanced oil recovery projects in Saskatchewan. By the end of their 25-to 30-year life cycle, these projects will remove approximately 40 million tonnes of CO₂ that would otherwise have gone into the atmosphere. This is equal to taking roughly eight million cars off the road for a year. If we can start to make CCS a reality globally, then we can start to make a significant dent in the 30 billion tonnes of CO₂ that is released annually around the world.

There are other benefits to building this new global industry, which has the potential to grow to the same size as the current natural gas industry. By developing CCS projects in Saskatchewan, we will create jobs and position the province as a leader in the commercial development of CCS. For more than 20 years, the University of Regina and its partners have been developing CCS technologies. We are ready now to implement CCS as a working emissions reduction option and begin a large-scale fight against climate change.

Left unchecked, climate change will create significant hardships for the world and have significant costs to us as a society and as an economy. While from an economic perspective it is important to recognize that there is a cost to CO₂ capture and storage, there is a greater cost to doing nothing – losing islands in the Pacific ocean and intensifying storm events such as Hurricane Katrina. We cannot afford to wait.

Learn more about the OEE at www.uregina.ca/oeel/.