

Canada's CO₂ Capture and Storage Information Source

SHELL QUEST OPEN HOUSES SET THE BAR HIGH FOR PUBLIC ENGAGEMENT ON CCS

Submitted by: *Richard Fink*

One never knows quite what to expect when you're new to a group of people that already works very well together – will they be receptive, hospitable or respect your experiences as a new comer? All of these things passed through my mind as I embarked on a recent trip to Fort Saskatchewan, Alberta at the invitation of Shell's Quest project, one of the four main carbon capture and storage projects approved for funding from the Alberta \$2 billion CCS fund.

<http://www.energy.alberta.ca/Initiatives/2382.asp>

To be honest, I had solicited the invitation from Shell with a proposal to attend their open houses so I could learn more about CCS outreach efforts at the community level, while also offering the CCS101 booth and educational materials in trade for the four-day outreach "tour". It was one of the best decisions I have made as a communications professional, because it introduced me to a thoughtful and committed team that was honest in its intent to inform people of what the Shell Quest project is all about.

The professional partners comprising the Shell team were eclectic and robust, with regulatory professionals, communications professionals, land agents, an environmental engineer, project manager, a geologist, safety specialists and an air quality consultant. But more than the impressive list of job titles was the unquestioned and unspoken notion that public outreach mattered to every one of them. Regardless of title and position in their respective offices and departments they seemed united under one mission; to reach out to the people of the project area, to listen to their concerns and answer their questions.

As communications professionals involved in carbon capture and storage projects, we are at open houses to monitor the media, put our positions forward strongly, but not in such a way as to overtly influence public opinion without appropriate engagement and discussion; we provide



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answers that reflect our capability, but connect people to expert answers where needed. Essentially, we need to listen well to public concerns so that our voice, in turn, gets heard when it's our turn to speak. Outreach is about building trust and taking the time to educate and be educated by people affected by the project's plans, plain and simple. The Shell Open House was a positive example of how this process should work.

The Shell people working on the Quest project obviously respect that building trust is a fundamental part of business, beyond



QUICK FACTS

The CO₂ stored at the Weyburn-Midale Project will be 40 million tonnes at the end of the project, the equivalent to taking 8 million cars off the road for one year.

Shell Quest Open Houses Set the Bar High for Public Engagement on CCS (cont'd)

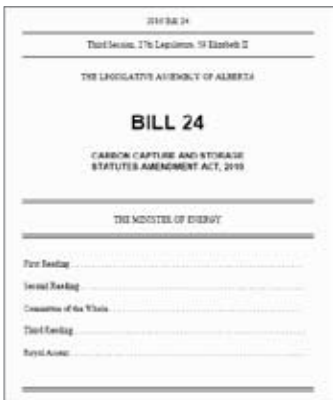
the requirements of regulatory applications. Perhaps instances like the recent cancellation of Barendrecht, a CCS project in the Netherlands, make for a more concerted effort now, in Canada, for engagement of the public. If that is the case, the Shell project has responded very well to the challenge. However, I never got the feeling that the Shell open houses were in any way a reaction to the Barendrecht failure.

This open house experience centred on the public participant. Upon entering the open house, people were asked to start at the first booth and make their way around to various booths in the hall. This took the client on a logical thought progression 'journey'. Starting with Climate Change and the reason Shell is undertaking the project, right through to specific aspects of the project, timelines, when activities would happen in their communities and what those activities were or will be. I was at the end of this continuum of Shell's table top booths and by the time members of the public got to the CCS101 booth, it was remarkable to see the intelligence of peoples' questions and, at the same time, their generally positive comments about the project. Since CCS101 is funded by the Weyburn-Midale research project, many people asked about the on-going research in the Weyburn field and seemed to understand that if oil and gas can be stored naturally for millions of years, then CO₂ has a future underground for the long term as well.

There were many general comments that the structure of the open house really helped the residents understand what was going on and why, and I think the people of Shell deserve accolades for reaching out to the public to facilitate the flow of information.

Richard Fink is the lead to the IEA GHG Weyburn-Midale CO₂ Monitoring and Storage Project's Communications Theme. Richard attends conferences, open houses and trade shows to educate the public about CCS and the processes involved. If you wish to have Richard attend a conference, tradeshow or open house please visit www.ccs101.ca at the contact us link.

ALBERTA INTRODUCES LEGISLATION TO FACILITATE LARGE-SCALE INJECTION



Alberta recently introduced legislation that will address some of the policy barriers to large-scale carbon capture and storage (CCS) projects in the province.

CCS is the backbone of Alberta's 2008 Climate Change Strategy which commits to reducing projected greenhouse gas emissions by 200 million

tonnes by 2050 – 70 per cent of which will be achieved via CCS. This legislation ensures the province is on track with that commitment.

The Carbon Capture and Storage Statutes Amendment Act, 2010, Bill 24, was introduced in the Legislative Assembly on November 1, 2010. This legislation clarifies pore space ownership as belonging to the Crown. Ownership has never been resolved by the Courts or in Alberta legislation. This amendment does not in any way change ownership or mine and minerals resources nor does it affect activities such as Enhanced Oil Recovery (EOR).

Bill 24 also enables the Province to accept the long-term liability for injected carbon dioxide. The timeframes and requirements of this provision need to be worked out, but acceptance of long-term liability will occur only once an operator has scientifically demonstrated that the CO₂ has been properly injected and that long-term monitoring shows it is completely stable.

This legislation also creates a fund which will be financed by CCS operators. The money will be managed by the Province and used for ongoing monitoring costs and any required remediation.

These legislative amendments are necessary to establish the regulatory groundwork required to facilitate large-scale carbon capture and storage projects. They are also recommendations made by the federal-provincial ecoENERGY Carbon Capture and Storage Task Force and Alberta's Carbon Capture and Storage Development Council.

Changes in legislation are needed to provide regulatory clarity which companies need to move forward. Details of how these amendments will be worked out with the input of experts and stakeholders beginning in 2011.

The Bill can be viewed at http://www.assembly.ab.ca/net/index.aspx?p=bills_status&selectbill=024

Full details on Alberta's \$2 B commitment to CCS and the projects currently in the grant agreement stage can be found at www.energy.alberta.ca.

MISSED OUR SUMMER ISSUE?

Read it on-line at

<http://www.ccs101.ca/ccs101-newsletter-summer2010>

Featured articles included:

- CO₂ Capture & Storage in Canada
- Swan Hills Synfuels ISCG Project, Alberta Canada
- "Nature's Power for Carbon Capture" A Breakthrough, Made-in-Canada CO₂ Capture Innovation
- Unique CO₂ Capture Facility Opens
- Project Pioneer - Making Coal a Carbon-Neutral Fuel
- CO₂ Storage Developments in the Province of Québec
- Shell's Proposed Carbon Capture and Storage Project to Reduce CO₂ by Over One Million Tonnes/Yr
- Alberta Investing in Transformative Technologies

GOVERNMENT OF CANADA FUNDING PROVIDES CRUCIAL SUPPORT FOR IPAC-CO₂

The International Performance Assessment Centre for Geologic Storage of CO₂ (IPAC-CO₂) in Regina has been able to purchase sophisticated equipment and become fully operational this year because of \$4 million funding from the Government of Canada.

“WD’s investment in IPAC-CO₂ builds on Saskatchewan’s and Canada’s strength as a leader in carbon capture and storage research, laying a knowledge foundation that solidifies our global presence in this field,” said the Honourable Lynne Yelich, Minister of State for Western Economic Diversification.

With the federal funding, IPAC-CO₂ was able to:

- Purchase and install sophisticated equipment called a RockEval 6 which uses pyrolysis to analyze the capacity of rock to store carbon dioxide;
- Create the world’s first Community of Practice (www.ipac-co2.org) in the Carbon Capture and Storage (CCS) industry;
- Build a high performance computer that provides a platform on which researchers can run complicated models;
- Work with the Canadian Standards Association (CSA) to develop Canada’s first standard for the geologic storage of carbon dioxide.

“Funding from Western Economic Diversification Canada was crucial and helped kick our work into high gear,” explained Carmen Dybwad, the Chief Executive Officer of IPAC-CO₂.

As an independent, federally-incorporated not-for-profit organization, IPAC – CO₂ is designed to meet a need in the global CCS chain by building public support and regulator confidence for the geological storage of carbon dioxide as a sustainable energy and environmental option.

“We exist to help organizations identify and manage the risk associated with storing carbon dioxide underground,” said Dybwad, who left her position in Calgary as vice-president of the Canadian Energy Research Institute (CERI) to join IPAC-CO₂.

IPAC-CO₂’s work developing Canada’s first standard for the geologic storage of carbon dioxide with the Canadian Standards Association (CSA) was one of its most important initiatives this year.

Currently, there are not any formally recognized national or international standards for the capture and long-term storage of CO₂. Standards are needed to help ensure risks are identified and addressed. A top priority for storage research is the confirmation that CCS is a safe, reliable and environmentally beneficial practice for long-term CO₂ storage.



COMMONLY ASKED QUESTIONS:

Is CO₂ storage safe?

Injection of CO₂ involves technologies that have been used since the 1960’s, most commonly in oil fields where the CO₂ acts as a solvent to increase oil production. Scientists have decades’ worth of data to guide present day storage projects. The subsurface already stores a myriad of gases, including large volumes of naturally occurring CO₂ and natural barriers have held these gases in place for millions of years. They are proven safe storage zones that will, nonetheless, require monitoring and measurement (particularly of wellbores) to assure their ongoing safety. Through decades of injecting and storing other gases in the subsurface, like natural gas, researchers are very confident that CO₂ storage is safe.

“Standards are the foundation for all the risk work that needs to be done relating to geologic storage of carbon dioxide,” explained Dybwad. “This is one small but very important step for us to gain public and regulator confidence in the geological storage of CO₂ as a sustainable energy and environmental option.”

Upon completion, the new CCS storage standard will be submitted to both ANSI in the United States and the Standards Council of Canada for recognition, making it the world’s first, formally-recognized CCS standard in this area.

The new standard will then be used as a basis for the promotion of international standards through the International Standards Organization (ISO) by 2012. A technical committee of more than two dozen experts from academia, industry, environmental NGOs and regulators in both countries, have begun reviewing the draft storage standard.

Coal, natural gas and oil will remain the world’s dominant sources of energy over the next several decades continuously adding to global greenhouse gas emissions. Approximately 31 billion tons of CO₂ are emitted per year into the atmosphere.

The International Energy Agency has urged a quick global push to develop and deploy Carbon Capture and Storage (CCS) technologies to mitigate greenhouse gas emissions.

CCS is the process of separating CO₂ from industrial and energy-related sources, transporting it to a storage location and isolating it from the atmosphere. Scientists estimate the process could reduce emissions from industrial plants by 85 to 95 per cent.

Large scale international CCS research pilot projects are being tested and studied in Saskatchewan and British Columbia and around the world. While injecting carbon dioxide into underground formations has occurred for many years in these pilot projects, the long term storage of CO₂ is a relatively new concept and the effects on the environment are being studied at the international level.

Western Economic Diversification Canada (WD)’s funding to IPAC-CO₂ builds on a previous investment

in carbon capture and storage research for the International Test Centre for CO₂ Capture (ITC), located in the WD-funded Greenhouse Gas Technology Centre at the University of Regina. ITC research explores the most energy efficient and economically feasible technologies for capturing carbon. WD has also provided funding to the Petroleum Technology Research Centre in Regina, which focuses on developing world-leading enhanced oil recovery and CO₂ storage technologies, as demonstrated at the IEA’s Weyburn-Midale CO₂ Monitoring and Storage Project.

Created just more than a year ago with financial support from the Government of Saskatchewan and Royal Dutch Shell, IPAC-CO₂ has established a global network with regional centres in Australia, Brazil, Canada, China, Europe, India, South Africa and the United States.

The Community of Practice (www.ipac-co2.org), established with WD’s funding, is the on-line tool linking researchers in the eight countries. It also will help facilitate transfer of knowledge on best practices through IPAC- CO₂’s collaborative relationships with Carbon Management Canada, World Resources Institute and the Global Carbon Capture and Storage Institute.

IPAC-CO₂ also has built a High Performance Computer that is equivalent to 128 desk top computers (32 quad core CPUs total or 128 CPU cores that can be expanded in the future).

Utilizing a system similar to most corporate scheduling software, researchers will be able to “book” time to run models.

IPAC-CO₂ provides two options: 1) to view the outcome of the modeling in real time or 2) to view data upon completion. All data is secure and remains confidential. IPAC-CO₂ is in the process of developing a pricing regime. Access is on-line through the Community of Practice (www.ipac-co2.org).

Visit the CCS101 website to download our factsheets.
<http://www.ccs101.ca/media-room>



CONFERENCE NEWS

Professionals involved in carbon capture and storage projects, as well as researchers interested in learning the latest advances in CCS, may want to consider attending two upcoming conferences.

CCS101.ca does not endorse or support any particular conference, but would like to hear from organizers of future CCS events – whether commercially or academically based – to include a regular list of CCS events in this newsletter.

Two upcoming conferences have caught our eye:

- The Canadian Institute's 5th Annual Carbon Capture and Storage Conference is taking place at the Calgary Telus Convention Centre January 31 to February 1, 2011. Speakers are tentatively to include Premier Ed Stelmach (Keynote Address), Geoff Munro (Chief Scientist for Natural Resources Canada), Scott Rennie of Schlumberger, and Stephan Bachu of Alberta Innovates. Information on the conference can be found at www.canadianinstitute.com/CCS
- The 10th Annual Conference on Carbon Capture and Sequestration – endorsed by the USDOE and the National Energy Technology Laboratory – takes place in Pittsburgh, PA at the David L. Lawrence Convention Centre., May 2 to 5th 2011. This is the largest CCS conference in North America and features extensive research sessions on US-Canada cooperation on CCS, pilot and industrial project updates, knowledge sharing on large scale CCS projects, policy and regulatory sessions, and discussions about public communications and outreach. There is also an extensive display

show. The Pittsburgh conference is the most highly attended CCS conference in the world, next to the IEA's GHGT bi-annual conference. Information on the event, including host hotels, is available at: <http://www.carbonsq.com/>



scan this code with your smartphone

Other upcoming events & conferences:

17 - 20 January 2011

[World Future Energy Summit](#), Abu Dhabi

26 January 2011

[2nd Annual Brussels Carbon Capture & Storage Summit 2011](#)

6 - 8 February 2011

[Northern Area Western Conference 2011](#), CO2 Corrosion Considerations for Carbon Capture and Storage Projects, Regina, SK

15 - 17 February 2011

[Coal-Gen Europe Conference](#), Prague, Czech Republic

17 - 18 February 2011

[European Carbon Capture and Storage, Driving CCS Forward](#), London, UK

22 - 24 March 2011

[Americana, International Environmental Technology Trade Show and Conference](#), Montréal, QC

8 - 12 May 2011

[Fifth International Clean Coal Technologies](#), Zaragoza, Spain

17 - 18 May 2011

[IEAGHG 1st Post Combustion Capture Conference](#)

18 - 19 May 2011

[3rd Carbon Capture & Storage Summit](#), Bari, Italy

FEATURE ARTICLES IN THE FALL 2010 ISSUE

- Shell Quest Open Houses Set the Bar High for Public Engagement on CCS
- Alberta introduces legislation to facilitate large-scale injection
- International Performance Assessment Centre for the Geologic Storage of CO2

Thank you to all of this month's contributors.

Submit articles for CCS101's Winter Newsletter by February 21st to: webmaster@ccs101.ca