



Update of Canadian CCS Activities

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Commercial projects:

Apache Canada Ltd. has announced a CO₂-based commercial EOR project in the Midale oil field, adjacent to the Weyburn field in South eastern Saskatchewan. Apache has estimated it will extend the life span of the Midale Unit by about 25 years, during which time up to 8.75 million tonnes of CO₂ will be sequestered underground

This is Canada's third commercial CO₂ EOR project, in addition to EnCana's large commercial project at Weyburn and the smaller project at Joffre Alberta, operated by Penn West Petroleum..

Demonstration Projects:

The following demonstration projects have been announced:

Anadarko Canada Corporation will capture the CO₂ currently being vented from its Hays gas plant for injection into the Enchant Arcs reservoir in Southern Alberta. The company plans to inject CO₂ into five existing wells of the reservoir.

Apache Canada Ltd. has reconfigured amine-extraction units at its Zama gas plant in Northwest Alberta. Processing the solution gas generated from the Zama pools will produce a high-CO₂, low-hydrogen sulphide gas for re-injection and reservoir support. The CO₂ will help enhance oil recovery for the Zama Keg River oil pools, of which nine have been identified. Starting with two pools in the first year, the plan involves incremental addition of one to two pools a year with ongoing capture and re-injection of breakthrough CO₂ solvent.

Penn West Petroleum Ltd. will convert two existing wells in its Pembina field to CO₂ injection wells. During the two-year injection process, and for one to three years thereafter, six offset wells will be produced to test enhanced oil recovery and CO₂ storage. The Pembina area in central Alberta is the largest oil pool in Canada with significant potential for CO₂ storage capacity.



Devon Canada Corporation has initiated a CO₂ Injection Pilot Project by injecting CO₂ into a small pattern in a mature area of the Swan Hills oil field, northwest of Edmonton Alberta. The field that has been previously flooded with hydrocarbon solvent.

Collaborative projects/activities:

Suncor Energy Inc., on behalf of its partners, is proposing to conduct a pilot project 20 kilometres south of Drayton Valley, Alberta, to drill a CO₂ injection well and a production well. The project is intended to test the response of Alberta coal seams to injection of CO₂ and to determine the parameters of CO₂ storage and potential enhanced methane production from coal.

Research Projects:

Weyburn Final Phase: The Weyburn Final Phase will continue much of the technical work done in Phase I as well as address issues such as regulation and public communications. A goal is to Weyburn as a “flagship” for developing the necessary technical and operating information to guide regulatory policy on EOR-based CO₂ Geological Storage projects. The intent is to use knowledge gleaned at Weyburn to enable a start-up of a significant number of commercial-scale EOR-based CO₂ geological storage projects by 2010.

Pembina Monitoring Project: This project is performing research at the site of Penn West Petroleum Ltd's EOR pilot project. The study will further advance the understanding of the fate of CO₂ injected into petroleum reservoirs and enhance our understanding of the role that geological CO₂ storage can play in responding to the risks of climate change. This project, which is utilizing leading-edge CO₂ monitoring tools and applications, will add to the growing body of knowledge that is being developed in Canada on the capture and storage of carbon dioxide and its potential as a greenhouse gas mitigation option. The project is being coordinated by EnergyINet in partnership with the Alberta Energy Research Institute, Western Economic Diversification, Environment Canada, Natural Resources Canada and Penn West Petroleum Ltd.



Partnerships:

US Regional Carbon Sequestration Partnerships Program: The provinces of Alberta and British Columbia have joined the US Regional Partnerships Program this year and join two other Canadian provinces (Manitoba and Saskatchewan), along with the Federal government of Canada as members of this initiative. Collaboration with the US in this program has been highly beneficial and has led knowledge sharing, the development of new linkages and a broadening of the network of experts who are involved with this technology.

Upcoming events:

The Intergovernmental Panel on Climate Change (IPCC) will be holding meetings in Montreal from September 22-28. The main agenda item of the Eighth Session of IPCC Working Group III will be the acceptance and approval of the IPCC 'Special Report on Carbon Dioxide Capture and Storage' and its Summary for Policymakers (SPM). The Special Report and Summary for Policymakers will be considered at the United Nations Climate Change Conference (UNCCC), which will be held in Montreal from November 28th to December 9th. Canada will be hosting a feature day on Carbon Dioxide Capture and Storage on December 2nd at the Climate Change Conference to highlight this technology.

Canada's Climate Change Plan:

The Government of Canada has released its new Climate Change Plan 'Project Green – Moving Forward on Climate Change' which includes support for investments in innovative technologies such as carbon dioxide capture and storage and clean coal technologies. For more information on the plan, please refer to the following website:
<http://www.climatechange.gc.ca/english/>.

Release of Canada's CO₂ Capture and Storage Roadmap:

Canada will be releasing its CO₂ Capture and Storage Roadmap in November. The roadmap will identify technologies strategies, processes and integration system pathways needed to allow CO₂ to be captured and stored in Canada. This Technology Roadmap will address both a nearer term market transition time frame with considerations given to near term growth and retrofit needs and the 2015 and beyond time frame for technology pathways requiring longer term development, infrastructure planning and implementation. The roadmap will be available at <http://www.co2network.gc.ca>.