

oil sands sustainable development secretariat

OPPORTUNITY • BALANCE • INNOVATION • COMMUNITY

This E-bulletin has been sent to you and other oil sands stakeholders by the Government of Alberta's Oil Sands Sustainable Development Secretariat to keep you up to date on the government's work in the oil sands regions of Alberta.

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Any comments or questions? Contact us at 780.644.1473 or by e-mail at oilsands.secretariat@gov.ab.ca. Feel free to forward this e-bulletin to anyone you think might be interested. If a friend has forwarded this to you and you would like to get on our regular mailing list, please e-mail us at the above address.

Province making progress on growth in Fort McMurray

Working with the Regional Municipality of Wood Buffalo (RMWB) and various local groups, the initial stages are well underway to implement the Fort McMurray Community Development Plan (CDP).

The Alberta government is carefully examining its options, reviewing plans and studies for Parsons Creek and the Saline Creek Plateau (see map). The ultimate goal is to house more than 40,000 people in communities complemented by schools, health centres, recreational facilities, parks and other services.

Construction, beginning in Parsons Creek, will be completed in phases with the first lots anticipated by mid 2010.

One goal of the CDP is to accelerate the development of neighbourhoods with the intent to generate reasonably priced houses more

reflective of stabilized market conditions.

The CDP will also address the need for essential community services to meet the increased demand as the community developments progress, while also implementing a comprehensive approach to sustainable community design with respect to land, water and energy use.

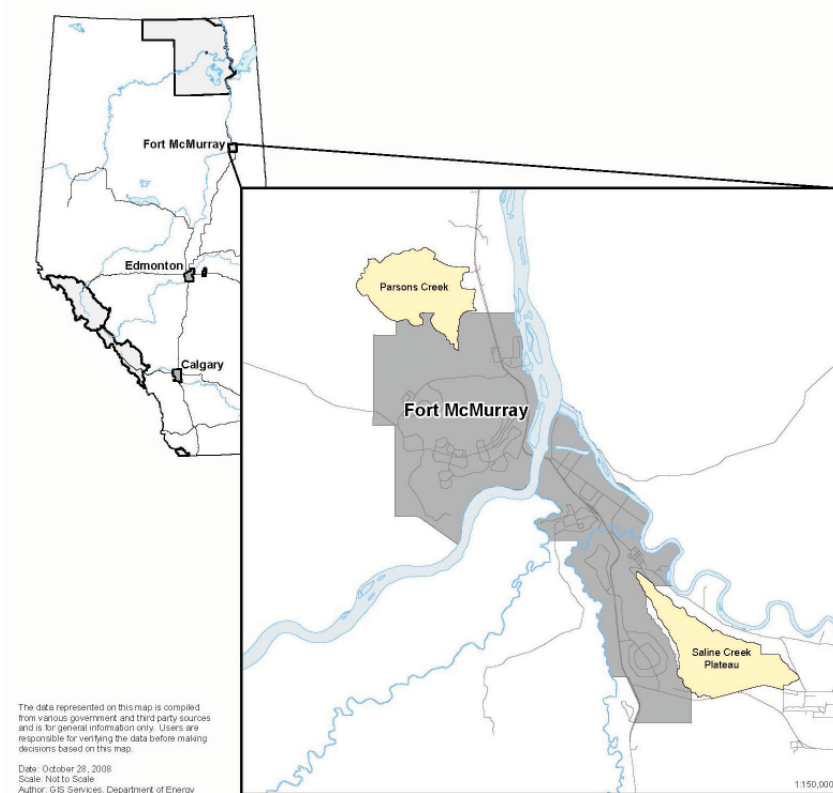
Since the announcement of the Fort McMurray CDP by the provincial government in June 2008, progress includes:

- establishment of Implementation Teams including Alberta government and RMWB staff who are involved at the various levels of project governance;
- advanced work on off-site infrastructure (water, sewer, and roads) got underway this construction season (2008);
- formation of the Community Development Advisory Board for Parsons Creek is underway with the first meeting targeted for January;
- geotechnical surveys are being completed to gather key data to aid in community planning and design;

- a Master Project Schedule has been developed and a Request for Proposal has been issued to secure a project manager for Parsons Creek; and
- strategic Outline Plans are under development by the RMWB with participation of the province.

The development effort responds to *Investing In Our Future: Responding to the Rapid Growth of Oil Sands Development*, also known as the Radke Report, and forms part of the long-term strategic plan for the oil sands being developed by the province.

Additional information about the project will be available as the work unfolds.



Oil sands strategic plan update

In our Summer 2008 E-bulletin we provided information on the development of a long-term strategic plan for Alberta's oil sands that was built upon recommendations from the Radke Report and Multistakeholder Committee and Aboriginal Consultation Final Reports, which addressed social, environmental and economic aspects of development. The draft plan has been completed and is currently undergoing government review. Sufficient time has been taken throughout the fall to ensure alignment of the strategic plan with both the *Land-use Framework* and the *Provincial Energy Strategy*. Given the release of these two important government strategies, it is anticipated that the strategic plan will follow shortly.



Provincial Energy Strategy charts course for sustainable prosperity

Plan aims for clean energy production and wise energy use

On December 11, 2008, the Alberta

Government released the Provincial Energy Strategy, a long-term action plan for Alberta to achieve clean energy production, wise energy use and sustained economic prosperity.

“Our strategic approach going forward recognizes that 21st-century energy challenges also represent great opportunities for Alberta,” said Energy Minister Mel Knight. “The actions described in the Provincial Energy Strategy will help make Alberta a global energy leader that is recognized as world-class energy supplier, energy technology champion, and a responsible energy consumer and environmental citizen.”

Specifically, the Provincial Energy Strategy includes actions to:

- address the environmental footprint of energy and encourage the development of renewable energy, as well as adopting a Renewable Fuels Standard of five-per-cent ethanol in gasoline and two-per-cent renewable content in diesel by 2010;
- explore ways in which value will be added to Alberta's energy industry, including supporting upgrading/refining/petrochemical clusters, and aggressively marketing Alberta's energy globally;
- change energy consumption behaviour by industry and consumers through conservation measures and a review of emissions targets and carbon charges for large industrial facilities;
- improve innovation through increased investment in research, development, demonstration and deployment of energy technology; and
- enhance the capability of our electricity system by planning for a comprehensive upgrade to strengthen the transmission system by identifying requirements, technical solutions, timing, and updating of the approval process.

Implementation of the Provincial Energy Strategy will include ongoing reassessment of objectives and strategies. The Government will report annually to Albertans on progress implementing the strategy.

For more information and a copy of the Provincial Energy Strategy visit www.energy.gov.ab.ca.

Final Land-use Framework reflects Albertans' input

Framework ushers in new era of stewardship for the province

After a summer and fall of further consultation, Albertans' feedback has strengthened the Land-use Framework with key improvements. With the addition of the Efficient Use of Land strategy, another planning region, and a priority to develop legislation, the final Alberta Land-use Framework will ensure future land development considers cumulative environmental impacts as well as social and economic factors.

"Albertans were clear that they want to control our impact on the landscape, while still meeting our economic and social needs," said Premier Ed Stelmach. "The Land-use Framework will help us do that through regional plans that consider the full impact of development on the land, air, water and wildlife."

More than 700 Albertans submitted responses to a workbook survey, stakeholders responded in meetings and through feedback reports, and Aboriginal feedback. Highlights of changes from this feedback include:

- A new strategy—the Efficient Use of Land—to reduce the human footprint on the land.
- A new region—the Red Deer Region—to better address southern Alberta's significant population, its number and size of municipalities, and the diversity of its landscapes.
- A new priority—legislation to support the framework, including regional land-use planning.

The government will announce more details on the Land-use Framework early in 2009, including the framework's implementation plan and the terms of reference for regional plans. Advisory councils will be established for each of the seven regions and membership will include provincial, municipal, industry, non-government and Aboriginal representatives, as well as members from other planning bodies. The



Lower Athabasca Regional Plan, which covers a large portion of the Athabasca and Cold Lake Oil Sands Regions, will be one of the first to proceed. Membership of the regional planning committee for this area has been recently announced.

The Land-use Framework, along with further details, are available at www.landuse.alberta.ca.

Improving energy and environmental sustainability

The Government of Alberta, through the Alberta Energy Research Institute (AERI), and other publicly-funded research organizations, supports the development and adaptation of innovative technologies, through a wide

variety of strategic partnerships with industry and post-secondary institutions, focused on improving the sustainability of Alberta's energy industry for the benefit of all Albertans. AERI and its predecessor organization have been at the forefront of oil sands technology development for over 30 years. Their role is to advise the Minister of Advanced Education and Technology on energy research and innovation and support applied research to secure the future sustainability of Alberta's diverse energy resources. AERI has developed an Oil Sands Technology Framework that defines strategic requirements and supports the necessary research and technology development needed to pursue these goals.

Sustainable bitumen recovery

Although alternative recovery processes show great promise, thermal recovery methods such as Steam Assisted Gravity Drainage (SAGD) and Cyclic Steam Stimulation (CSS) have emerged as the only in situ technology options to be proven both technically feasible and economically attractive for the recovery of Alberta's thick bitumen resources below 150m in depth. Both methods involve the injection of vast amounts of steam into the reservoir in order to "melt" the bitumen so that it can be produced. These processes typically consume large amounts of natural gas and can use between 2 and 4 barrels of water for each barrel of bitumen produced. Associated CO₂ emissions from steam generation (by burning natural gas) are poised for significant increases with growing bitumen production. In order to improve the recovery performance and overall sustainability, it is imperative that new technologies be developed.

After the successful demonstration of SAGD technology, AERI has strived not only to improve the SAGD process, but to support the creation and development of a new generation of recovery technologies. AERI currently supports integrated gasification and alternative fuels options in lieu of natural gas consumption as well as the development of new generation in situ technologies such as steam-solvent and thermal solvent processes, combustion technology, and electrical heating.

Each of these new generation technologies has the potential to reduce energy consumption, emissions, greenhouse gases, fresh water use, and improve overall process economics. All work is evaluated on its time horizon to development, research and technology adaptation cost, human capacity and available infrastructure, and on its ability for future large-scale deployment in Alberta.

Field tests of carbon storage begin

Three test wells will soon be drilled for a ground-breaking, long-term, large-volume CO₂ sequestration project in Alberta. Through AERI, the Government of Alberta is providing \$6.6 million in funding for the three-year \$20-million project near Shell Canada's Scotford facility. Information from the field tests will support Alberta's Climate Change Strategy.

"We're taking the technology to the field to demonstrate CO₂ storage in different kinds of geological formations," said Advanced Education and Technology Minister Doug Horner. "It's very exciting to take this important step on the road to commercializing technologies that improve environmental practices in Alberta, open new markets for clean technology and help address the world-wide challenge of climate change."

The project will examine the CO₂ injection capability and storage capacity in formations deep beneath the surface. The field test phase is expected to be completed by June 2010. This \$6.6 million investment by AERI will expand the knowledge base of the geologic formations in Alberta that are well suited for carbon sequestration. The funding is separate



from Alberta's \$2 billion carbon capture and sequestration fund, which will support 3-5 commercial-scale projects that will reduce carbon emissions in the province by up to five million tonnes annually by 2015.

For more information:

AERI - www.aeri.ab.ca

CO₂ capture and storage – www.alberta.ca/acn/200810/24549060A11EE-A487-6EAB-0BA6A4955D18D734.html

Alberta's Climate Change Strategy – www.environment.alberta.ca.

Selected AERI supported projects:

AERI/ARC/Core Industry (AACI) Research Program – New generation recovery technologies such as ES-SAGD and hybrid steam solvent processes.

Opti CO₂ Capture – Potential for CO₂ capture integrated with gasification, upgrading and conventional SAGD operations for the second phase expansion of the Opti-Nexen Long Lake Project.

Electrothermal Dynamic Stripping Process (ETDSP) Pilot – Field project to test and develop a commercial electrical heating recovery technology.

Innovative Energy Technologies Program (IETP) – In collaboration with Alberta Energy, the program encourages the development and testing of new generation recovery technologies. Current field tests include gravity stable combustion technology (THAI process) and steam-solvent hybrid processes (ES-SAGD).

CO₂ Sequestration in Saline Formations – Four projects to demonstrate long-term, large-volume CO₂ storage in a number of saline formations.

Request for Proposal update

The government has identified a consultant to undertake research on the development of a social and infrastructure assessment model that can be employed by the Government of Alberta to assess current and future infrastructure and essential services requirements in Alberta's oil sands regions. The Request for Proposal was posted in July 2008, and discussions have commenced with the successful vendor.

Oil Sands Air Emissions Policy progress

Opportunity for public input on emission standards for the use of non-gaseous fossil fuels for steam generation in in-situ bitumen or heavy oil recovery projects

Over the past year, Alberta Environment has been leading the development of a policy to pro-actively address the need for emission standards for the potential burning of bitumen and other non-gaseous fuels during steam generation in in-situ oil sands extraction.

Alberta Environment is now looking for public review and input on the draft policy document. First Nation Industry Relations Corporations (IRCs) are conducting a technical review of the policy emission standards, and a draft of the policy document will be available on the Alberta Environment website for public comment. Once the input from the public and First Nations is considered, a final policy will be drafted with official release expected in early 2009.

If you are interested in learning more about the policy, please visit the Alberta Environment website at www.environment.alberta.ca/2585.html.