

Paper presented at the 20<sup>th</sup> World Petroleum Congress in Doha – Qatar; December 4-8, 2011

## The Oil Sands Leadership Initiative: A Unique Collaboration Model to Develop Alberta's Valuable Oil Sands Resource in a Sustainable Manner

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### Abstract

In 2010, ConocoPhillips Canada, Nexen Inc., Statoil Canada, Suncor Energy Inc. and Total E&P Canada signed a Charter agreement to launch the Oil Sands Leadership Initiative (OSLI), an initiative committed to achieving significant improvement in their environmental, social and economic performance in developing Canada's world scale oil sands resource.

From the onset, OSLI was founded on a common understanding shared among member companies of the need to work together to meet the challenges of responsible development. The pillars that underpin OSLI are Collaboration, Innovation, Stakeholder Engagement and Deployment to the Field.

Today, the undertaking is a multimillion dollar endeavor with more than 30 projects aimed at aggressively addressing the challenges posed to the industry. OSLI involves more than 100 staff from the five companies, features the Government of Alberta as an active observer, and convenes advisory panels and critics that provide feedback on the activities.

The presentation will cover projects and initiatives as varied as its *StartSmart* program for primary school children in a remote First Nations community, open innovation sourcing for threatened species, a *Faster Forests* program to rebuild ecosystems and the design of a *Water Technology Development Center* directly linked to an operating site designed to accelerate technology development. The presentation will also cover the unique human aspects of taking five of Alberta's key producers with distinct cultures and aligning them to uphold their sustainability commitment.

Presenting OSLI at the World Petroleum Congress is aimed at connecting with other sectors of the petroleum industry that may share one or more of our challenges and, where there are shared challenges, at exploring areas of collaboration. Also of interest is identifying parties that have technologies or approaches that could assist OSLI in achieving its objectives.

## The Canadian Oil Sands

The Canadian oil sands provide access to huge, long-term oil reserves in a politically stable, highly regulated environment. Located in northern Alberta, the Canadian oil sands contain proven reserves of 170 billion barrels of bitumen that are considered economically recoverable using today's technologies. This makes the Canadian oil sands the third largest proven oil reserve in the world after Saudi Arabia and Venezuela.<sup>1</sup>

Canada is one of the few remaining countries where oil development is open to the private sector. The majority — 79 per cent — of the world's oil reserves are now owned or controlled by national governments. Of the remaining 21 per cent accessible to the private sector, 56 per cent are in the Canadian oil sands.<sup>2</sup>

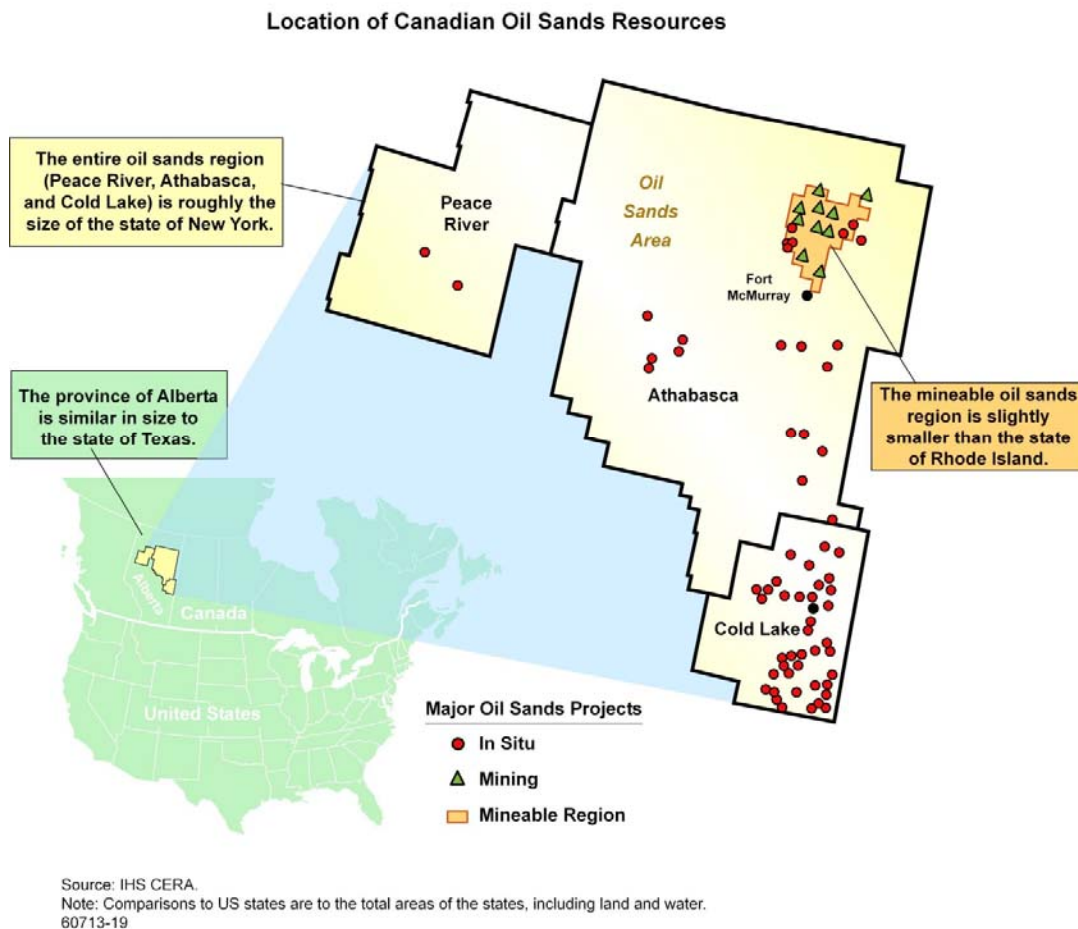


Figure 1: Location of Canadian Oil Sands Resources

The Canadian oil sands already play a major role in meeting world energy demand. Of the 1.9 million barrels per day (mmb/d) of oil Alberta produced in 2010, 1.5 mmb/d came from the oil sands.<sup>3</sup> To put that number in perspective, in 2010 Canada exported approximately 2.0 mmb/d to the United States, which is roughly 21 per cent of total U.S. imports.<sup>4</sup>

Like all sources of unconventional oil, the Canadian oil sands are more difficult, more expensive and require more energy to extract than conventional oil. This makes the oil sands more challenging to develop from an economic, environmental, technical and social perspective.

While development is challenging, industry has made progress in reducing costs and improving the environmental performance of oil sands development. Since 1990, the greenhouse gas (GHG) emissions created to produce one barrel of oil have been reduced by an average of 29 per cent.<sup>5</sup> Recycling rates for water used by oil sands operations have steadily increased and are now 75 to 80 per cent for mining and 90 per cent for in situ operations.

### **Oil Sands Leadership Initiative**

To achieve stronger, faster, and more focused action on oil sands challenges, a group of five like-minded companies decided that working together made far greater sense than working individually. This desire for a collaborative approach was the dynamic force behind the creation of the Oil Sands Leadership Initiative (OSLI).

In 2010, ConocoPhillips Canada, Nexen Inc., Statoil Canada, Suncor Energy Inc. and Total E&P Canada Ltd. signed the OSLI Charter, committing to work collaboratively on issues, and share research and best practices for mining and in situ oil sands development.<sup>6</sup> The Government of Alberta (Ministries of Energy, Environment and Sustainable Resource Development) also witnessed the OSLI Charter signing, and participates as an observer.

The key values that underpin OSLI are: Collaboration, Innovation, Stakeholder Engagement and Deployment in the Field.

### **Collaboration**

OSLI is a collaborative network of companies. Each company develops its assets individually but works collaboratively to achieve significant improvements in key performance areas: environmental sustainability, social well-being and economic viability. Advances in best practices and technological processes are shared among the OSLI companies to improve performance. A catalyst for innovation and technology, OSLI will result in improved performance, which will raise the bar for all Canadian oil sands developers.

In setting priorities for its work, OSLI companies looked at the wide range of efforts currently being undertaken and identified areas where attention is needed. OSLI is now addressing these areas with pragmatic projects and out-of-the box initiatives that will produce near-, mid-, and long-term changes in how Canada's oil sands are developed. Our budget has grown from \$9 million Cdn in 2010 to \$23 million Cdn in 2011, and is expected to increase in 2012. This budget supports the efforts of more than 100 regularly involved individuals from our member companies, who work on OSLI projects on a weekly basis, and affects roughly three to four times as many, who are involved in workshops or annual meetings.

As technical, environmental and social issues are brought forward, OSLI members look to each other to determine who can provide what resources and expertise to find a workable solution that will benefit all companies.

### **Collaborative Structure**

Support for OSLI comes from the highest level of our companies: Presidents, Chief Executive Officers and Chief Operating Officers. One representative from each company has a position on the OSLI Steering Committee, which meets four times a year and is responsible for governance issues related to the OSLI Charter and OSLI's newly developed Collaboration Agreement. This committee also establishes the organization's overall Strategic Plan.

A senior executive from the VP level — Sustainable Development, Technology, or Strategy & Development — of each OSLI company sits on the OSLI Management Committee. This committee meets monthly, and is responsible for developing the Business Plan and providing the operational guidance necessary to meet the goals of the Strategic Plan.

Day-to-day activities are co-ordinated by an Executive Director who is a non-voting member of the Management Committee, and oversees four Working Groups that develop and operate the projects. The Working Groups are: Water Management, Sustainable Communities, Land Stewardship, and Technology Breakthrough. The Working Groups are made up of employees from each member company who are solving issues for their company and sharing that expertise through OSLI.

The individuals work together in teams or subgroups on a wide range of issues critical to the oil sands industry, and have developed in excess of 50 individual projects with budgets ranging from tens of thousands of dollars (scoping) to several millions of dollars (field test or plant design).

As per the commitment made by signing the OSLI charter, a notable feature of OSLI is that the budget does not include the time of company staff, which is estimated to be in excess of 30 fulltime equivalent positions per year and is growing.

Government of Alberta observers from Alberta Innovates Technology Futures, and Energy and Environment Solutions, in addition to the three branches that witnessed the OSLI Charter, participate in regular Working Group meetings and may also be actively involved in fieldwork.

OSLI undertakes two types of projects: development projects and implementation projects. The companies determine the development projects with which they will be involved. Implementation projects are better defined and require significant funding. As a voluntary organization, all OSLI companies have the option to determine if they will participate in an implementation project, as well as the type and level of that participation.<sup>7</sup> If interested, non-OSLI companies may also participate in implementation projects.

### ***Innovation***

For OSLI, collaboration extends beyond our companies. To encourage out-of-the-box thinking and to access new and innovative ideas, OSLI reaches out to universities, research institutes and technology developers beyond the oil sands industry.

Project support for the Working Groups is also provided by key partners with an interest in accelerating the resolution of the oil sands challenges; these are non-profit organizations such as Alberta WaterSMART and Energy Futures Network, or educational institutions like Carleton University.

### **Biotechnology for the Oil Sands**

Biotechnology is a promising field that may help resolve the challenges raised by mine tailings ponds. Since 2009, OSLI has worked with the international Genetically Engineered Machine (iGEM) competition, North America's premier undergraduate synthetic biology competition developed in 2003 by the Massachusetts Institute of Technology (MIT). Student teams from all over the world are given a kit of biological components at the beginning of the summer. Working at their own schools around the world, the teams use these components and new components of their own design, to build biological systems and operate them in living cells. OSLI provides financial support, tailings samples, and access to experts and materials to students who address issues such as accelerating the natural degradation of hydrocarbons in the tailings ponds. OSLI has supported or is supporting, among others, the work of universities in Alberta, Michigan, Ontario, Hungary and the Netherlands.

### **Incentive Challenges**

OSLI is also using incentive challenges or prizes, an open-sourcing technique that offers financial support for viable solutions to a specific oil sands issue. In 2011, OSLI launched its first two open sourcing challenges through NineSigma, a leader in open sourcing. NASA and the Earth Challenge, among others, use open sourcing methods to source technological innovations, literally from the entire world, in order to create unique solutions that often represent step changes in technology.

Once a year, a Bigger Ideas forum is held and OSLI members and Working Groups invite stakeholders, innovators, and people with challenging viewpoints, called *critical allies*, to participate in a discussion on innovation and solution building.

### ***Critical Allies and Stakeholder Engagement***

OSLI believes that listening and responding to questions, criticisms and concerns is the most effective way of moving toward the tangible performance efficiencies that industry, government and stakeholders are seeking. To help keep the network on track, OSLI established an Advisory Panel that works with our Management Committee. The Advisory Panel is made up of a cross section of stakeholders who provide input and guidance to our plans. The panel began providing input during the formation of OSLI.

OSLI also believes that listening to people with critical, or differing, opinions is helpful in encouraging innovative problem solving. During the formation of OSLI in 2010, a number of individuals who could be termed critical allies were invited to challenge the Working Groups to find new and better ways of looking at the issues facing the industry.

### ***Field Deployment***

While generating innovative and out-of-the-box ideas, OSLI is focused on putting these ideas to work in the field where they will improve and, in some cases, reshape the oil sands development model.

High capital cost is a key feature of oil sands developments. The technologies deployed in operating plants today are refinements of processes initially designed in the 1920s for mining, and in the 1970s for in situ production, when Steam Assisted Gravity Drainage (SAGD) was developed. A tremendous boost was given to the latter by the government-led development of the Underground Test Facility of the Alberta Oil Sands Technology and Research Authority (AOSTRA). This project led to the development of in situ processes as they are operated today.

One major hurdle to sustainable development in the oil sands is a consequence of the following paradox:

- industrial projects are too expensive to accept the risk of developing an asset with technology not proven at industrial scale, and
- industrial-scale pilots of new processes for the oil sands usually have a cost in the \$70-million to \$100-million Cdn range. Innovators encounter the infamous “Valley of Death” between a lab test and a proven technology.<sup>8</sup>

From its inception, OSLI has addressed this paradox. We are able to move more quickly because we are a small group of companies so decisions can be more readily transferred from the drawing board to field trials. As a group of companies, we are able to collectively peer-review technology pitches. Also, our model is to offer constructive feedback to innovators when their projects need to mature. Because we are a group of companies, the costs and risks associated with field trials are shared so that the shift to this stage is less daunting than if each company were acting alone. Several examples of pilot developments are detailed further in this document.

### ***The Oil Sands Technology Portal***

In addition, OSLI is designing an oil sands technology portal to funnel and accelerate new technologies from which the oil sands may benefit. A newly formed, independent company kept at arm’s length from the companies and accessible to OSLI and non-OSLI members will provide this service. The oil sands technology portal will provide a firewall for intellectual property and recommend promising technologies, based only on non-confidential information, to users of the service. Contact can then be established between the interested industry parties and the technology provider. This service will also benefit the technology provider who, in addition to the coaching received, will have a single access point to several key oil sands players at once. Launch of the oil sands technology portal is targeted for 2012. OSLI companies plan to direct the technology solicitations they receive to the new portal service.

## OSLI Environmental Initiatives

Environmental issues are a major focus for OSLI. We are committed to reducing the environmental impact of oil sands development through direct actions that include accelerating land reclamation work, protecting wildlife and minimizing the use of natural resources in part by accelerating advances in technology.

### Land Stewardship

Alberta oil sands lie under 142,200 square kilometres (km<sup>2</sup>) of land.<sup>9</sup> About three per cent of that land contains oil sands that can be mined while the rest is so deep underground it can only be recovered in situ, or in place.<sup>10</sup> The surface disturbance of an in situ plant is equivalent to that of a conventional oil and gas processing plant. To date, about 662 km<sup>2</sup> of land has been disturbed by oil sands mining activity.<sup>11</sup> To provide some perspective, the area of Canada's boreal forest is 3.2 million km<sup>2</sup>.<sup>12</sup>

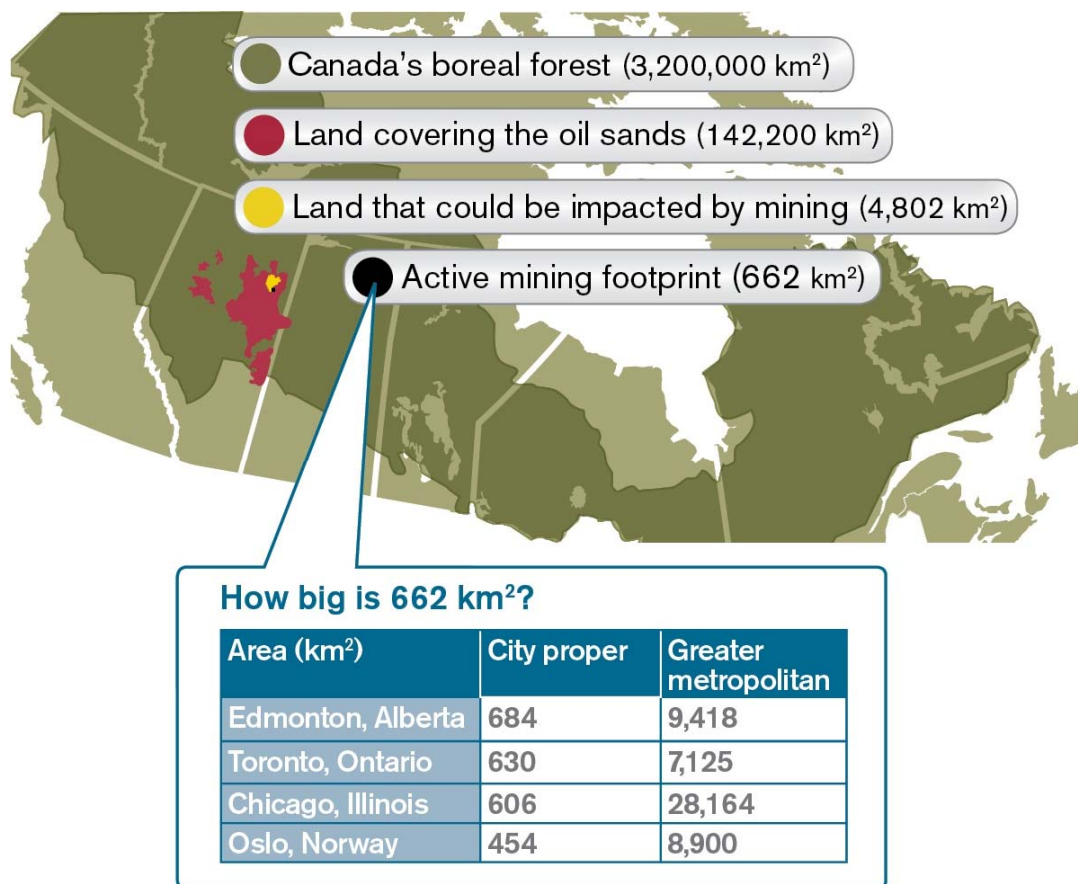


Figure 2: Footprint of Oil Sands Activities; Source: CAPP Upstream Dialogue Fact Book

Nevertheless, the shared goal of the OSLI companies is to return all disturbed land to as close to a natural state as possible. In 2010, Suncor became the first oil sands company to complete surface reclamation of a tailings pond.<sup>13</sup> By the end of 2011, Suncor expects to have spent over \$1 billion to implement its new TRO™ tailings management process, which is expected to significantly accelerate the rate of land and tailings reclamation, and eliminate the need for new tailings ponds at existing mine operations.



Figure 3: Suncor Energy's Wapisiw Lookout (formerly Pond 1) in August 2010. In time, Suncor expects this land will become a productive mixed wood forest and wetland environment. Over the next two decades, Suncor will closely monitor progress on the site, including the growth of the 630,000 shrubs and trees planted in 2010.

Several OSLI projects are geared towards mapping our understanding of the impact of our actions and maximizing the benefit of reforestation activities collectively carried out by the OSLI companies.

#### Landscape Ecological Assessment and Planning

By partnering with Silvacom, OSLI has extended the techniques used by the forestry industry to map a large surface of 3.2 million hectares covering 342 townships in the oil sands region.

OSLI is using a geospatial database/modelling tool called Landscape Ecological Assessment and Planning (LEAP) to understand how today's reclamation efforts will affect future forests and wildlife habitat. The database is populated with public data and additional data provided by the OSLI companies. This data includes type of vegetation, age of vegetation, human-generated footprint, wildlife population areas, etc.

#### LEAP - A FOUR PART PROCESS

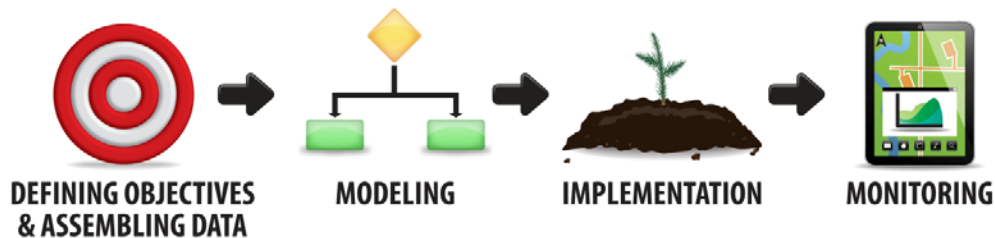


Figure 4: Landscape Ecological Assessment and Planning;  
Source: Silvacom Group and OSLI's Land Stewardship Working Group

LEAP will allow OSLI to develop a land use baseline of the area where in situ oil sands operations are concentrated. Using the modelling component of this tool, OSLI will be able to see into the future so that we know how the trees we are planting today will fit into the forest landscape some 10, 20 and even 50 years down the road. This will help OSLI plan reclamation work today that will have the greatest positive impact in the future.

### Faster Forests

As part of OSLI's overarching commitment to reducing the environmental footprint of oil sands development, we have launched a program called Faster Forests. Under this program, OSLI companies are planting seedling trees and shrubs to accelerate the reclamation of land disturbed by exploration activities, including exploratory well sites and core holes. Alberta government regulations require oil sands operators to plant native grasses in these areas since trees will naturally revegetate over time. By planting trees and shrubs, in addition to native grasses, OSLI will restore the land more quickly. This, in turn, will improve habitat for species such as woodland caribou.

Between 2009, when Faster Forests was launched, and the end of 2011, OSLI companies will have planted 600,000 to 700,000 trees. By the end of 2012, that number will rise to a total of one million trees.

### Winter Wetland Planting

Planting trees in the wetlands of northern Alberta's boreal forest is a difficult task. In the spring and summer, the wetlands are impossible to access with machinery. In winter, although the frozen ground makes access easy, heavy snow and  $-20^{\circ}$  to  $-40^{\circ}$  Celsius temperatures pose challenges for the survival of trees planted during that period.

Partnering with Alberta Sustainable Resource Development and Grande Prairie Regional College, OSLI decided to launch an experiment and break with standard operating practices of planting in the summer. Saplings were specifically conditioned for winter planting with roots kept cool in a controlled environment. In February 2011, as temperatures hovered between  $-17^{\circ}$  and  $-25^{\circ}$  C, before dropping to about  $-30^{\circ}$  C, OSLI representatives planted 900 indigenous black spruce seedlings. This past summer, 90 per cent of those trees were alive and thriving. Although more time is needed to assess the impact of several seasons, the preliminary results were very encouraging and a larger scale operation is planned for 2012.

This project is important because tree planting allows OSLI to improve the reclamation of wetlands in the oil sands area south of Fort McMurray, Alberta, where in situ operations are concentrated. About half of the region is made up of wetland ecosystems, which are important in maintaining the area's water quality and wildlife habitat.

### Caribou Protection

Woodland caribou are designated as threatened under Alberta's Wildlife Act and Canada's Species at Risk Act. That means woodland caribou are likely to become endangered if the current decline in population is not reversed.

Alberta's woodland caribou are threatened by a number of factors including hunting by predators and humans, collisions with vehicles, disease, and land use activities such as human settlement, forestry, and oil and gas development. Clearing trees for oil and gas activities create paths, which cause forest fragmentation, allowing predators to more easily hunt the caribou. Caribou also react negatively to increased human presence in their traditional ranges, many of which are located where in situ oil sands development is concentrated.

OSLI's land reclamation efforts, which use LEAP to plan Faster Forests and winter wetland planting, will go a long way towards reducing forest fragmentation and improving caribou habitat. But wildlife experts

have stated that multiple management actions must be taken simultaneously to reverse the decline of caribou populations.

Accurate monitoring of the caribou population is a complicated endeavour and is the source of scientific controversies. In late 2010, OSLI launched an incentive prize to generate new ideas to monitor large mammals in the remote boreal forest (see [www.osli.ca/storybank](http://www.osli.ca/storybank)). The prize was formulated for “*anyone, anywhere, who can overcome the challenges of accurately counting and identifying mammals in the boreal forest of northern Alberta, where oil sands operations are concentrated.*” Techniques already used by the industry (cameras, scat, dog detection deployed by OSLI member Statoil, and visual aerial surveys) were not accepted. Of the 18 proposals short-listed, a handful is being looked into for further deployment. The more interesting proposals come from innovators or companies that work closely with the armed forces.

### **Technology Advances for the Environment**

#### **Water Technology Development Centre**

OSLI's Water Management Working Group is working to achieve further reductions in water use by oil sands operations.

To address water issues and accelerate industrialization of new technologies, OSLI has established a strong business case for developing a Water Technology Development Centre. The centre would pilot-test water treatment and recycling technologies that would reduce the water footprint of Steam Assisted Gravity Drainage in situ oil sands operations.

A dedicated Water Technology Development Centre would allow OSLI companies to accelerate the development and commercialization of more technologies than could be tested by each company individually. While testing more technologies and avoiding duplication of efforts by individual companies, the centre would also shorten the current timeframe required to field-test technologies and move them to commercial application.

Successful technologies would meet the centre's objectives of conserving water, improving reliability and reducing costs without environmental burden shifting — causing negative environmental impacts in other areas.

The centre is in the design phase. One of the key features is that it will be located on the site of an existing oil sands plant and will be permanent. It is being designed for a semi-industrial stream of produced water taken from the plant. The flow rates considered are large enough to simulate live-plant conditions (variations in oil, chemical content, upsets) but small enough to not impact production of the main plant. The centre will also feature plug-and-play design to test various technologies in parallel. One train, for instance, features a single heat exchanger tube used to test additives and materials resistant to scaling.

#### **Regional Water Solutions**

Regional Water Solutions is a study now underway to identify if regional co-operation among oil sands operators can improve water sourcing and disposal economics, and the regional environmental net effect associated with oil sands mining and in situ water management.

Under the Regional Water Solutions program, tests and feasibility studies were conducted in 2010 and 2011 to identify opportunities where excess wastewater from mine tailings ponds could be shared between oil sands operators in the Lower Athabasca River Watershed where oil sands operations are located.

The largest opportunity identified is using tailings wastewater from mining operations to generate steam at most in situ operations. In situ operations rely on fresh or brackish water or both for steam generation.

Brackish water contains higher amounts of salt and minerals, some of which have to be removed before the water can be used to produce steam.

Another opportunity identified is using tailings wastewater from an established mining operation with excess volumes of water to reduce river water use in another mining operation that is in start-up phase, when water requirements are high.

To date, OSLI has:

- developed a conceptual design of full-scale pipelines and facilities required to connect some OSLI operators,
- assessed the commercial viability of the design and implementation, and
- identified regulatory requirements and timelines.

Due to the magnitude of the project, OSLI is asking all operators — OSLI and non-OSLI — if they would be interested in participating.

### Improved Recovery Methods

OSLI is evaluating alternative well configurations that improve the effectiveness of Steam Assisted Gravity Drainage, the most common in situ technology currently used to access deep bitumen deposits in the Athabasca oil sands. Since roughly 80 per cent of Alberta's bitumen deposits can only be recovered in situ, technology improvements will have positive, wide-ranging impacts.

New methods of developing in situ bitumen are aimed at reducing the high volumes of natural gas and water required to produce steam to heat the bitumen so it can be moved to the surface. Improvements in these areas will have significant economic benefits while reducing the environmental impact of water use and energy consumption, and associated greenhouse gas emissions.

Recovery configurations studied include arranging the well bores differently than classical SAGD configurations, where wells are drilled in pairs, with one well for steam injection and one well for producing bitumen (macro solutions), and changing the internal configuration of the SAGD well bore (micro solutions).

From July 2010 through June 2011, simulations were carried out on six alternative well configurations to determine their ability to improve SAGD operations by:

- accelerating bitumen recovery,
- reducing the amount of steam required to produce a barrel of bitumen,
- accessing stranded bitumen, and
- reducing the number of wells required.

Some alternative well configurations will be field-tested in 2012-2013.

### Greenhouse Gas Emissions

Reducing greenhouse gas emissions is the focus of many government and industry efforts. OSLI companies are already involved in major Carbon Capture and Storage (CCS) initiatives through their membership in other collaborative efforts such as the Integrated CO<sub>2</sub> Network (ICO<sub>2</sub>N). Since ICO<sub>2</sub>N was formed before OSLI, our companies felt it was important to work on new initiatives.

To avoid costly duplication, OSLI reviewed the industry's greenhouse gas emissions reduction initiatives and identified areas that were not being addressed in a concerted manner. These areas are the focus of OSLI's many initiatives aimed at developing and demonstrating next-generation technologies that reduce energy consumption and greenhouse gas emissions from the largest sources of in situ emissions — water processing and steam generation.

The GHG carbon dioxide (CO<sub>2</sub>) is a by-product of the energy consumed by in situ operations to produce bitumen, which is converted into liquid fuels for North American drivers. To reduce emissions from the

production end of the fuel supply chain, OSLI intends to reduce the amount of energy consumed to produce a barrel of bitumen, which in turn reduces GHG intensity.

## OSLI Social Initiatives

### *The Oil Sands Social Environment*

The industry is working on sustainability issues related to communities near our operations.

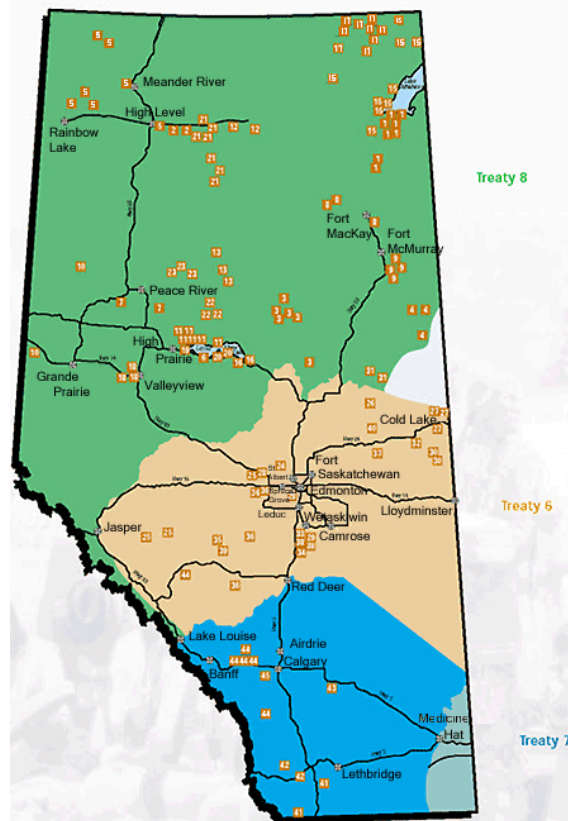


Figure 5: First Nation Communities in Alberta;  
Source: Federal Government Aboriginal Affairs and Northern Development Canada.

There are many First Nations and Métis communities in northern Alberta where the Canadian oil sands are located. First Nations and Métis, as well as Inuit, are the three groups of Aboriginal peoples recognized by the Canadian constitution. Northern Alberta's First Nations and Métis are covered by a treaty, established in the last century, between the Crown and First Nations governments, which covers considerations such as the ability to continue traditional uses such as hunting, fishing and trapping. These communities tend to be small, remote and isolated. Oil sands development has brought a substantial amount of activity to the region where these communities are based, and it is OSLI's intention to ensure these communities benefit from that activity.

### ***Building Sustainable Communities***

OSLI is researching and developing new ways of building meaningful relationships with local communities, and new approaches to achieving the goals of community development, with an emphasis on exploring how sustainable communities learn, grow and thrive over the long-term.

OSLI is working with First Nations and Métis community influencers, and collaborative partners to flesh out this new approach. The fundamental premise is based on the community itself becoming empowered

and establishing its own vision for the future, building its own structures and processes, and either staffing from within or sourcing its own human resources to support its objectives and activities.

OSLI's long-term goal is for industry to be one of many collaborators working with the community toward a united vision that is determined by the community, and is based on the community's values. This differs from the short-term, externally driven issue-by-issue projects, which tend to have negligible, positive long-term results.

OSLI's role, and the role of collaborative partners such as Carleton University, based in Ottawa, is to facilitate, assist and provide support to local communities as they develop the Vision, Structures and Processes (VSP) that allow for long-term success. Carleton University has developed the VSP tool and its success is well documented.<sup>14</sup> Many community partners such as government (health care, justice, school systems) are becoming contributors and collaborative supporters of the communities' process.

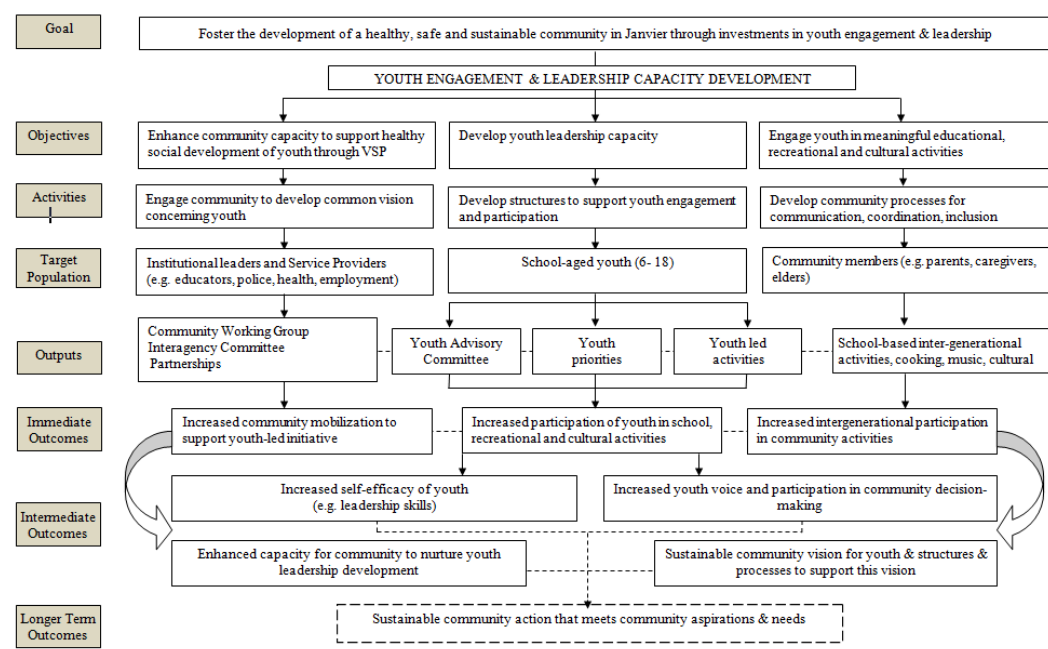


Figure 6: Logic Model for Developing Community Vision; Janvier Pilot Project

There are currently two pilot projects underway, the first with the community of Janvier and a second one just beginning with the community of Fort Chipewyan. In Janvier, extensive early work to build trust was conducted from 2008 to 2010, and now the community is in year two of a two-year project (2011 to 2012). Fort Chipewyan is in early stages of relationship development, with a two-year pilot planned for (2012 to 2013).

### Janvier Pilot & Youth-Led Initiatives

The community of Janvier is located 94 km southeast of Fort McMurray, the growing hub for oil sands operations. Janvier was targeted by OSIL because it is located close to operations of several OSIL companies. With support from the Janvier governance structure of Chief and Counsel, OSIL worked with Janvier's community influencers to arrive at a vision that the majority of the community supports. That vision is: the community's youth are the key to the community's success.

The community developed a voluntary, non-profit board called Sekweha (which means 'for the youth' in Dene/Chipewyan, the language of the Chipewyan Prairie Dene First Nations). The purpose of Sekweha is to provide structure to support developments, projects and processes with youth, and for youth in the community. Sekweha has seven community members on the board. Collaborative entities that sit as ex-

officios on the board include: OSLI, Northland School District (that oversees the Fort McMurray area), Father R. Perin School (located in Janvier), the Royal Canadian Mounted Police and the Health Centre.

Sekweha's vision is to create a healthy, safe and sustainable community that helps children and youth gain the knowledge, confidence and skills they need to make a positive contribution to their own future and that of their community. Sekweha and the community worked together to understand local needs and how they could best be met.

Programs developed by Sekweha to date include:

- the StartSmart kickoff to the school day
- youth summer camp,
- youth-to-elder outreach,
- development of a youth centre, and
- youth-to-industry program.

### StartSmart

StartSmart is an example of the Sekweha board's programs. It includes a combination of physical activity, a nutritious snack and dialogue about community values.

With the support and engagement of the community and in accordance with the community's values, the StartSmart program is delivered by the Sekweha Youth Team and community volunteers to elementary students in Father R. Perin School in Janvier. The pilot project is supported by the school's principal and staff, the local school board and the Northland School Division. The StartSmart program builds on contemporary research on the importance of high energy activity and good nutrition to support brain health and success in school.

The program was launched in September 2010 and operates for a half hour each day, beginning at 8:30 a.m. at the start of the school day. Students spend approximately five minutes doing warm-up, stretching exercises with names like "stir the soup," "scratch the giraffe's ears," and "popcorn" before launching into 15 minutes of high-energy activities that are age- and grade- appropriate. Following a cool-down period, students are given a nutritious snack to fuel their school day.

The values component includes "Thought of the Day" and is based on the Dene Seven Sacred Teachings — respect, love, honesty, truth, bravery, wisdom and humility— and how these values can be practiced in daily life.

The result has been the development of a tailored, evidence-informed program that is designed to contribute to the healthy social development of children and to enhance their readiness to learn.

The StartSmart pilot project is monitored and evaluated for ongoing program development. Once the pilot is complete, it will be expanded to the entire school, which includes ECS to Grade 9 and shared with neighbouring communities.

Testimonials from community members on the radical change this program has brought to students in Janvier are numerous.

### Fort Chipewyan Pilot

The second pilot with Fort Chipewyan is in its early stages. Fort Chipewyan is a unique and individual community that features several First Nations and Métis communities. Fort Chipewyan will therefore need to develop its own vision, processes and structures.

### **Developing the Workforce**

OSLI is also working on educational initiatives aimed at maintaining a strong, well-educated workforce.

According to the Petroleum Human Resources Council of Canada, even if energy prices and activity levels remain low, the petroleum sector will need to hire 39,000 workers between 2010 and 2020 to replace retiring workers. If prices and activity levels increase, the sector may need to fill over 130,000 positions.<sup>15</sup>

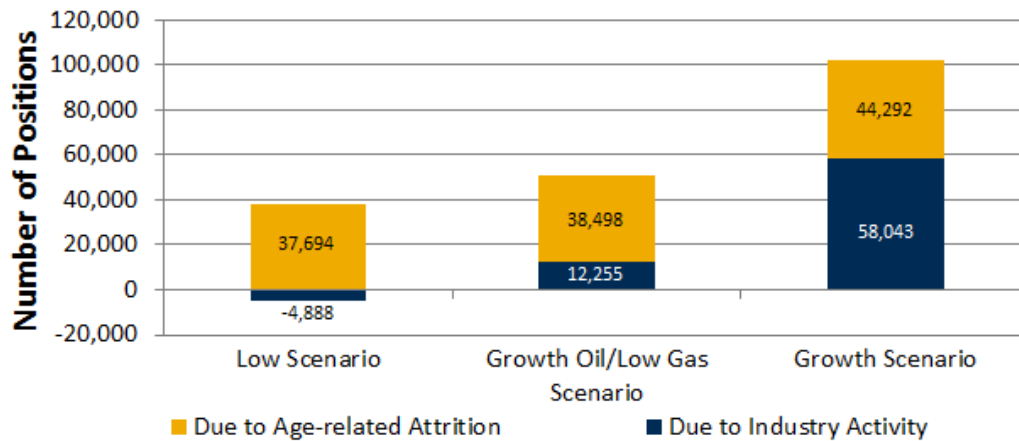


Figure 7: Oil and Gas Hiring Scenarios for Alberta 2010-2020;  
Source: Petroleum Human Resources Council of Canada

To support the development of the sector workforce, OSLI and the Southern Alberta Institute of Technology (SAIT) will launch the first certificate program for operating the complex water treatment facilities critical to Steam Assisted Gravity Drainage in situ operations.

The Water Treatment Operator Certificate Program aims to create a consistent skill set for operators, allowing SAGD in situ operations to maximize the efficiency and reliability of their water treatment and recycling facilities.

OSLI and SAIT are developing content for the 10-course program that will be taught in two semesters over an eight- to 10-month timeframe. OSLI companies anticipate graduating approximately 35 water treatment operators a year for 10 years. First offered to OSLI companies, the program will be extended to the rest of the oil sands industry operators.

### **Learning from Innovation in a Collaborative Model**

OSLI's objective is to improve the environmental, social and economic performance of Canadian oil sands development. Although we are a relatively small group of like-minded companies, OSLI members have found that by working together, we create a synergy that allows for a stronger focus and faster action that will accelerate the development of solutions to critical oil sands issues. Together we can take on bigger challenges and develop bolder solutions than any one company could do on their own.

As our five companies work together, we have also noticed some other changes occurring within each member company. Quite simply, OSLI appears to be transforming the culture of our companies, establishing collaborative bridges between corporations that have traditionally worked alone in competition with each other.

Make no mistake about it; OSLI companies still compete with each other. But we have found mutual ground and mutual benefits resulting from the early days of our collaboration, especially in non-

competitive areas, that benefit the environment or affected communities. OSLI companies are finding that solutions are more readily available when you can tap into the expertise of five companies. Working together and sharing the costs and risks associated with proving up new ideas allows companies to become involved in more research-oriented work and participate in more field trials that will move innovative ideas off the drawing board and into our operations.

There is still a great deal of work ahead of OSLI. We do not yet have all the answers, and in some ways we are still determining the nature and extent of the questions posed by oil sands development. But what OSLI has successfully accomplished in its short lifespan is a critical first step in establishing a workable collaborative structure that will allow us to tackle these highly complex, technical issues together to achieve results that will improve the economic, environmental and social performance of our own companies and, at the same time, raise the bar for all companies working in the Canadian oil sands.

## Acknowledgement

The authors acknowledge the support of the Oil Sands Leadership Initiative and of its members: ConocoPhillips Canada, Nexen Inc., Statoil Canada, Suncor Energy Inc. and Total E&P Canada Ltd. The authors also wish to express their gratitude to all the organizations that support OSLI's pioneering efforts and provide advice, staff, encouragement and new ideas, in particular the branches of the Alberta Government.

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