REPORT OF THE DIALOGUES ON THE OIL SANDS

# dialogues

Engaging Canadians and Americans

April 2011

CAPP CANADIAN ASSOCIATION OF PETROLEUM PRODUCERS

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# executive summary

This Oil Sands Dialogue paper sets out in Part I to report on the conversations that took place during the "2010 Oil Sands Dialogues" and in Part II to outline the broad consensus response of the oil sands producers to what was heard in the Dialogues process.

The Oil Sands Dialogues are an integral part of the Canadian Association of Petroleum Producers' desire to engage Canadians and Americans in a deeper discussion about the development of Canada's energy assets, with particular focus on the oil sands.

The purpose of the Dialogues was to understand the diversity of views on energy in a broad context, including the challenges and opportunities facing the oil sands. Through this exchange of views, it was our intention to help advance possible solutions to improve the performance of companies working in the oil sands and to assist in clarifying the role of oil sands in Canada's energy future.

CAPP's desire is to engage Canadians and Americans in a deeper discussion about the development of Canada's energy assets, with particular focus on the oil sands.

Participants came from an array of perspectives including business, the investment community, environmental groups, labour, academia, Aboriginal leadership, and broader social, local, community, and faith-based perspectives.

The Dialogues in Canada began in Vancouver, followed by Edmonton, Ottawa, Toronto, and Montreal. Dialogues held in Washington, D.C., New York, and Chicago covered the major population centres in the eastern and north-central United States.

While we believe the Dialogues convened in these communities resulted in perspectives that were broadly representative of the larger population, the Oil Sands Dialogues paper focuses only on the views of the Dialogues participants. We fully expect and appreciate that others have views on oil sands that are not represented in this paper.

CEOs acting on behalf of the oil sands industry participated in each Dialogue.

The Dialogues resulted in a respectful sharing of diverse views among all participants. From the perspective of oil sands producers, the Dialogues process largely accomplished its goals, and in many respects, the knowledge demonstrated and shared, and the constructive and solutions-oriented nature of the discussion, exceeded expectations.

# part 1:
## WHAT WE HEARD

According to several independent thinktanks, the world will rely on a mix of all forms of energy, with a reliance on energy produced from fossil fuels for several decades. However, Dialogues participants' views differed greatly about the pace of transition away from fossil fuels and the role public policy could or should play in accelerating this transition. Most participants recognized the important role of oil sands in economic growth and energy security, but wanted assurances that oil sands would be developed responsibly and that environmental challenges would be addressed. Participants also discussed energy consumption, including oil sands products, and concluded that given the predicted large increases in energy demand, energy should be consumed responsibly, efficiently, and with an eye toward conservation so that we can maximize resources of all kinds.

Most participants agreed that Canada has a global role as a responsible steward of its vast energy resources, including the oil sands. Canada has the opportunity to be a global leader in technological innovation, especially in the development of unconventional oil and gas resources, renewable energy, and the reduction of greenhouse gases (GHG).

Most participants also accepted the need to transition to lower carbon fuels over time and discussed the appropriate timeline, weighing environmental concerns with economic, competitiveness, and security of supply issues.

Many participants recognized the economic and financial benefits that come from the production of fossil fuels—oil sands in particular. These benefits come from the technological developments and advances necessary to reduce carbon emissions, implement the next generation of renewable energy, as well as the opportunity to export these technological innovations throughout the world.

Many participants spoke of the need to diversify markets for Canada's energy to take advantage of the growing demand for energy in the developing world, especially in Asia.

Many participants emphasized the role of oil sands in job creation in both Canada and the United States. Many felt that employment and the related economic activity from the oil sands benefit every region in Canada. Also that direct and indirect employment, as well as the taxes paid by individuals and corporations associated with energy production greatly help finance Canada's health and social programs. However, if oil sands are to be a truly national resource, the oil sands industry must do more to embrace all parts of Canada, especially with respect to contracting and procurement opportunities.

Many participants spoke of the need to diversify markets for Canada's energy to take advantage of the growing demand for energy in the developing world, especially in Asia. Frequent mention was made of the need to develop oil export capacity from Canada's west coast. However, a number of participants at the Vancouver Dialogue expressed serious concerns about the impact of any pipeline to the west coast, and subsequent tanker traffic, might have on First Nations territorities and their traditional way of life.

The main cautionary note injected into the Dialogues' economic discussion was the pace and scale of oil sands development. While very few participants called for a moratorium on expanding development of the oil sands, most believed that further development should proceed only as long as it is carefully planned to achieve responsible environmental and social outcomes. However, many participants acknowledged

Many participants accepted that a number of environmental challenges faced by oil sands developers would be addressed through the development and implementation of transformative technology.

that shutting down the oil sands or significantly curtailing oil sands growth would damage the Canadian and American economies.

Significant discussion centred on oil sands development and its effect on the environment. Nearly all participants raised or offered perspectives on a wide range of environmental issues, including greenhouse gases, water (quality and use), air pollution, land use, habitat, and sustainability. Several participants asked oil sands producers to demonstrate real environmental progress through concrete, measurable benchmarks and results. Additionally, many participants supported the implementation of thresholds related to cumulative environmental impact.

Many participants accepted that technology is an energy problem solver in the oil sands and elsewhere. However, perspectives varied about where to focus technology investments (e.g. transportation, alternatives, oil sands technology) for maximum benefit. Many participants were of the view that a number of environmental challenges faced by oil sands developers could be addressed through the development and implementation of game-changing or transformative technology. Several participants voiced a strong desire to have technology developed and deployed at an accelerated rate.

Some participants expressed concern about the effectiveness of the existing regulatory regime. Most participants expressed support for a "world class" regulatory regime, with one standard for environmental assessment.

In discussing oil sands development from a social values perspective, some concern was raised about trust in the context of environment and human health, and whether producers had fully earned the social license to operate. Some participants also expressed the view that a special duty of care was owed to those living in adjacent communities and to Aboriginal populations because of their special relationship with the land. It was also acknowledged that oil sands provide considerable employment and economic benefit for Aboriginal peoples via direct jobs, training programs, contract and business opportunities, community investments and socio-economic agreements.

During the Dialogues held in the United States, many participants concentrated on the economic importance of oil sands development, including the proposed Keystone XL pipeline, with specific attention given to job creation and economic recovery. Several felt that Canada should be a preferred country from which to import energy because it is a safe, stable, and free market supplier of energy, respectful of trade agreements and the rule of law. For them, Canada is viewed as at least a partial answer to the issue of energy security in the United States.

A number of comments were made that directly touched on the need for a Canadian energy strategy. Many believed that opportunities and challenges of oil sands might be best dealt with through a comprehensive longer-term Canadian energy strategy. Such a plan or strategy could maximize Canada's energy strengths in a coherent fashion across the entire energy spectrum. It could spur technological development to address environmental issues, as well as encourage commercialization of scientific research in the area of greenhouse gas reduction.

Many participants indicated the Dialogues were a positive experience. Some suggested the Dialogues should continue, involving more participation from civil society and perhaps including governments. Many participants expressed appreciation for the participation of oil sands CEOs and encouraged their continued engagement as the process continues.

# part 2:

# OIL SANDS INDUSTRY RESPONSE TO WHAT WE HEARD

The purpose of this section of the Oil Sands Dialogues paper is to outline the broad consensus response of the oil sands producers to the discussions that took place during the Oil Sands Dialogues.

CAPP believes the Dialogues achieved their purpose to provide a forum for key influencers to voice their views directly to oil sands producers. The Dialogues were helpful in improving and identifying areas of common understanding, and in highlighting areas where there are significant differences in views.

The Dialogues also confirmed the value of multi-stakeholder dialogue related to both the oil sands and Canada's broader energy system. The suggestions that were advanced have been considered seriously, and together with other ongoing input, form the basis for this part of the Oil Sands Dialogues paper. In particular, oil sands producers acknowledge the issues and concerns expressed by Dialogues participants and the challenge put forward to improve performance.

Oil sands producers will continue the public engagement process on oil sands in 2011, using this Oil Sands Dialogues paper as a foundation for further discussion.

It is in Canada's interest to view the oil sands in the context of the "3Es": economic growth, environmental performance, and energy security and reliability. All three are important, and all must be advanced concurrently.

The industry will continue to provide the economic growth opportunities and will undertake initiatives to increase the breadth and transparency of its supply chain, engaging both its conventional suppliers and emerging "clean technology" providers that may provide innovative new technologies to oil sands producers. Deepening relationships with academia, as well as technology researchers and providers, represents an opportunity to increase diversity, and accelerate the pace of technology development and innovation.

Oil sands producers will continue to focus on ensuring there is a competitive supply and safe reliable infrastructure to deliver oil sands production to markets, in order to realize the benefits of energy security and reliability from the oil sands resource.

## The Canadian and Global Energy System

Oil sands producers believe hydrocarbons will play a key role in the global energy system for several decades, a view shared by many major independent energy analysts. Technology and innovation is enabling development of an increasing proportion of the oil sands resources at a lower cost and with a reduced environmental footprint. Innovation in the oil sands is a constant theme. At the same time, Canada's oil sands producers recognize that Canadians expect a transition to a lower carbon energy system, and that Canada's international commitments to reduce greenhouse gas emissions need to be addressed through action across the economy.

These concerns are best addressed in the context of Canadian and global energy systems, rather than solely with respect to oil sands. Canada's oil sands producers encourage, support, and will actively engage in efforts to develop a national energy strategy. Canada needs a coherent national framework that sets out a long term direction on energy and related economic, environmental, social, and energy security and reliability considerations. Development of a national energy strategy is our preferred process

Both market-based and regulatory GHG policy mechanisms are potentially applicable across the economy, with market-based mechanisms being the preference of most oil sands producers.

to reconcile the diversity of views regarding Canada's future energy system (including the role of oil sands in that energy system), for aligning cross-sectoral and cross-jurisdictional interests within Canada, and for representing a more cohesive and aligned position outside Canada. This requires broad engagement and leadership by Canadians across the full energy value chain. It should not be a "top down" process by governments.

A National energy strategy should benefit all Canadians, contributing positively to our standard of living and jobs, providing a secure and affordable supply of energy, while ensuring responsible environmental and social outcomes.

## GHG Reduction Technology Delivers Reductions, Policy Enables

Technology and innovation will be the key lever to address Canada's GHG reduction challenge. While well-designed policy is an important enabler, Canada's oil sands producers are firmly of the view that GHG reduction technology development and deployment is a critical priority for industry, governments, academia, research organizations and others. Oil sands producers are continuing their actions to reduce "on the ground" GHG emissions from their operations. These initiatives are ongoing on a major scale because it is simply good business to do so.

The Oil Sands Dialogues highlighted the diversity of views regarding climate policy and oil sands, in both a domestic and international context. They reinforced our view that much of the opposition towards oil sands is rooted in broader and deeply held views about the need to address climate change through global reductions in the production and use of hydrocarbons. The oil sands producers acknowledge these "off oil" views and recognize the need to engage responsibly in the climate policy conversation while continuing actions to reduce GHG emissions with the objective of being as good or better than competing supplies in the world market.

With respect to climate policy, we support a national approach to climate policy based on several key principles: balancing economic growth, environmental protection, and the reliability of energy supply; encouraging investment in technology; predictability and stability; compatibility with major trading partners to maintain Canada's competitiveness; and harmonization across jurisdictions in Canada. Among other key elements of GHG policy, the oil sands industry supports a national framework for emissions pricing, building on established existing models, that is transparent, is applied broadly across the economy in a revenue-neutral manner, mitigates regional or international economic re-distributions, does not impact Canada's international competitiveness, sets out a predictable methodology for determination of emissions pricing, and incents action by both producers and consumers of energy to reduce GHG emissions. Both market-based and regulatory policy mechanisms are potentially applicable across the economy, with market-based mechanisms being the preference of most oil sands producers.

## Local and Regional Environmental and Social Impacts

A number of participants raised pace of development as a concern. We strongly support regional planning in the Lower Athabasca Region, leading to acceptable environmental and social outcomes. Sound science should provide the policy foundation for regional planning. However, the science cannot, in and of itself, determine acceptable environmental and social outcomes. Judgment must be exercised by policy makers in determining what constitutes an "acceptable"

From our perspective, the Dialogues process has been a very useful step in sharing perspectives and improving understanding across a broad range of interests.

outcome and it is the governments' role to make these determinations in the broader public interest. Regional planning could result in potential constraints on the scope and/or pace of oil sands development.

Arbitrary constraints on development are inconsistent with the "3E" approach to oil sands development, would inhibit continued development and deployment of performance enhancing technology and innovation and are not justified by the actual impacts of oil sands development in either absolute or relative terms. Market forces, operating within a regional planning framework, should instead drive the pace of oil sands development.

Producers also support an efficient and effective regulatory system, with oversight by the "best placed"[1] regulator. Where appropriate, producers also support raising the bar on regulatory requirements over time, with the proviso that these decisions are based on sound science, consideration of technological capability, and reflect a balanced approach to the environment, economic growth and reliable and secure energy supplies.

We are strongly focused on advancing technology development through significant investments in research, pilots, and commercialization, as well as through collaboration among producers and with other parties. Tailings collaboration is a good example, with producers forming the Oil Sands Tailing Consortium to develop and deploy tailings solutions faster than would otherwise have been possible. Together, industry is investing more than $1 billion in tailings research and upgrades to reduce tailings inventories, speed up reclamation and reduce water use.

We heard about values, especially regarding people throughout the Dialogues. Social performance responsibilities, especially related to Aboriginal people, are fully recognized, as is the responsibility to be good corporate citizens in the communities where we operate. Our industry is Canada's largest employer of Aboriginal people. And in addition to direct employment, the oil sands industry awarded more than $800 million in contracts to Aboriginal companies in 2009 alone. However, at the same time, there is no question that oil sands development has substantive impact on Aboriginal peoples' way of life with many shifting from hunting, fishing, and trapping to the wage economy. We must continue to work with First Nations and Métis as they manage economic and social change, supporting their efforts to retain their culture while realizing benefits from oil sands development and operations activity.

We are also conscious of our role in society. It is not the role of our industry to deliver fundamental social, health and community services. Our contribution to Canada's health and social programs is via royalties and taxes paid to government and by the investments we make in the communities where we operate.

Where public health concerns exist, we fully support, and advocate for, further health studies in the region, provided they are led by the responsible health authorities and grounded in good health science.

Addressing labour safety, training and mobility issues will be of value to both oil sands producers and the skilled trades benefitting from job opportunities and skills development. We will continue to support Canada's skilled trades people, promoting careers in the skilled trades, supporting training programs, and helping to address labour mobility issues.

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i.1 'Best-placed' means that respective federal and provincial jurisdictions are respected, but that regulatory oversight is integrated in a manner that eliminates duplication and overlap. This may be facilitated by equivalency or similar agreements that effectively create a single regulator for the oil sands industry. Oil sands producers believe the best-placed regulator is in most cases the government closest to the issue. For oil sands, the closest government is the Government of Alberta.

## Energy/Environment Education and Public Engagement

We agree with many Dialogues participants that transparency in performance reporting is essential. To that end, CAPP will report annually on oil sands performance through its Responsible Canadian Energy™ program, which includes a third party advisory panel and process. There is also general recognition that understanding about energy production and use must improve in Canada. We are prepared to do our part to advance energy awareness.

The oil sands industry will continue to take a balanced, constructive, and solutions-oriented approach to engaging stakeholders on issues relating to oil sands, including discussions with those who have expressed strong opposition to oil sands development.

The Dialogues have proved to be a positive experience for oil sands producers, providing a foundation for further dialogue and additional impetus to advance solutions. The oil sands producers will continue a public engagement process in 2011, using this Oil Sands Dialogues paper as a foundation for further discussions. This will include a number of follow-up Dialogues planned for the first half of 2011. It is also our intention this process will contribute to other energy-related initiatives, such as Energy Policy Institute of Canada's (EPIC) development of a national energy strategy.

## Conclusion

In convening these Dialogues, it was our goal to facilitate positive, respectful, interesting, and mutually informative discussions, initially among all participants, and thereafter more broadly among decision-makers and the Canadian public.

From our perspective, the Dialogues process has been a very useful step in sharing perspectives and improving understanding across a broad range of interests. It is our hope that the responses outlined in this paper provide a foundation for further dialogue and additional impetus to advance solutions that are in the interests of Canadians.

# introduction

# 1: Context

## Why Oil Sands Dialogues?

The purpose of this Oil Sands Dialogues paper is to report on the conversations that took place during the 2010 Oil Sands Dialogues. It is our hope that the views of those who participated in the dialogues are accurately reflected here. Part II of this Oil Sands Dialogues paper, written by the Canadian Association of Petroleum Producers, includes recommendations for future action by the oil sands industry, and in some cases, by governments as well.

The Oil Sands Dialogues are a part of the Canadian Association of Petroleum Producers' (CAPP) move to engage Canadians and Americans in a deeper discussion about the development of Canada's energy assets, with particular focus on the oil sands. Hill & Knowlton assisted CAPP in convening the Dialogues. The Canada School of Energy and Environment (CSEE) facilitated the sessions. In the United States, the Canada Insitute of the Woodrow Wilson Center helped host, convene and facilitate the Dialogues.

It was CAPP's goal that these Dialogues would do the following:

- Inform all participants, including oil sands CEOs, about the diversity of views on energy in a broader context, and more specifically, on the role of oil sands;
- Share views and help advance possible solutions to improve oil sands performance, especially from an environmental perspective;
- Work toward defining a consensus on the energy future, both nationally and internationally; and,
- Clarify the role of oil sands in Canada's energy future.

## Format

To be successful and to achieve our goals CAPP sought participants representing a diversity of views to participate in the Dialogues. We developed the invitation list and responded to word-of-mouth inquiries and suggestions. While some individuals and organizations were unable or unwilling to participate in the Dialogues, all parties who expressed interest in the process and/or participating were invited to join the discussions. Attendees were provided with a background paper on oil sands[1]. Those who attended represented serious-minded Canadian and American businesses, customers, and investors; environmental, labour, academic, and Aboriginal leaders; as well as the broader social, local, community, and faith-based perspectives. In total, there were approximately 160 participants in the Dialogues. To respect privacy, participants' names are not being disclosed, however some participants may self-identify in response to this Oil Sands Dialogues paper.

Dialogues in Canada began in Vancouver, followed by Edmonton, then Ottawa and Toronto. The final

1.1 www.capp.ca/dialogues

The Oil Sands Dialogues are an integral part of the Canadian Association of Petroleum Producers' (CAPP) move to engage Canadians and Americans in a deeper discussion about the development of Canada's energy assets, with particular focus on the oil sands.

Canadian Dialogue was held in Montreal in January 2011. The major population centres in the eastern and north-central United States were covered by Dialogues held in Washington, D.C., New York, and Chicago.

While CAPP believes the Dialogues convened in these communities resulted in perspectives that were broadly representative of the larger population, this Oil Sands Dialogues paper focuses only on the views of the Dialogues' participants. We fully expect and appreciate that others have views on oil sands that are not represented in this paper.

Each Dialogue began with a presentation by one of the oil sands CEOs, acting as host, giving perspectives both from a personal and business point of view on oil sands development, as well as the many challenges and opportunities it presents for Canada, the United States, and the greater global community. At the conclusion of this brief presentation, in order to ensure that all views were recognized, we conducted a "tour de table," during which all participants shared their views. After a break, we engaged in a cross-table discussion where many diverse perspectives were expressed and often challenged. The Dialogue concluded with a final "tour de table" where concluding thoughts and ideas were expressed. Each session ended with comments from one of the oil sands industry CEO hosts.

"Time is right for a dialogue. Time is right for this industry to seize this. You have to be prepared to allow for uncomfortable issues to be put on the table like pace and scale. Time is right. Go."**—Participant**

It is important to stress that each Dialogue had at least one oil sands CEO in attendance to act on behalf of the industry; in almost all cases a minimum of two CEOs were present. All Dialogues were convened and held under the Chatham House Rule[2], which enabled a freer exchange of opinions, positions, and thoughts than would have been possible in an environment of quotes and attributions.

## General Thoughts on the Process

The Oil Sands Dialogues resulted in a respectful sharing of views. As one participant suggested, it is more productive to engage in dialogue than debate. Or as another expressed, we don't have to agree with each other, but it is good to get into the same room.

The views shared were diverse among participant groups, both from city-to-city in Canada and between Canada and the United States. We believe all views were expressed in a manner meant to be helpful.

We believe the Dialogues' goals were not only accomplished, but in many ways the knowledge demonstrated and shared exceeded our expectations. We believe all left the Oil Sands Dialogues knowing and appreciating various strongly held views and opinions on challenges and opportunities, on specific policy, and on technological and economic solutions. The active participation by oil sands CEOs helped bring knowledge and perspective to the subject matter, and the greater need to move toward defining a broad consensus on the energy future, especially the role oil sands and crude oil in general will continue to play.

1.2 "When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed". www.chathamhouse.org.uk/about/chathamhouserule/

# 2: Convening Entities

The Oil Sands Dialogues are part of CAPP's broader outreach program. CAPP and the CEOs of 11 different companies directly involved in oil sands development initiated the Dialogues and acted as hosts. Canada's two largest pipeline companies also supported the effort. (See Table of Contents for listing.)

CAPP is the voice of Canada's oil, oil sands, and natural gas exploration and production industry, representing companies that produce more than 90 per cent of Canada's natural gas and crude oil. CAPP's mission is to enhance the economic sustainability of the Canadian petroleum industry in a safe and environmentally and socially responsible manner, through constructive engagement and communication with governments, the public, and stakeholders in the communities in which they operate.

The Canada School of Energy and Environment (CSEE) facilitated the Dialogues. CSEE's vision is to contribute to a future of abundant supplies of clean energy, a vibrant and healthy environment, sustainable prosperity, and social well-being for Canadians by informing and collaborating in policy development, and by encouraging scientific research and technology commercialization.

In the United States, the Canada Institute of the Woodrow Wilson International Center for Scholars assisted CAPP and CSEE. The Wilson Center, a non-partisan policy forum based in Washington, D.C., promotes policy-relevant research and dialogue to increase understanding, and enhance the capabilities and knowledge of leaders, citizens, and institutions. The Center's Canada Institute works to increase awareness and knowledge about Canada and U.S.-Canadian relations among U.S. policymakers and opinion leaders, focusing on energy and environment, trade, and border and security issues. It does not have a research or legislative agenda.

The Oil Sands Dialogues are part of CAPP's broader outreach program.

Also in attendance at the Dialogues as observers[1] were representatives of the Government of Alberta's ministries of energy and environment who are interested in stakeholders' perspectives on oil sands development. Representatives of the Government of Canada's Department of Foreign Affairs and Natural Resources Canada also attended some of the Dialogues as observers.

In the United States, the Canadian Ambassador to the United States, Gary Doer, the former United States Ambassador to Canada, Gordon Giffin, as well as the Honourable Gary Mar, the Government of Alberta representative in Washington, participated in the Dialogues.

2.1 Canada's and Alberta's government observers did not present positions, policies or participate in the Dialogue discussion except in the U.S. as noted.

# 3: Global Energy Context: The Canadian Crude Oil Energy Context in Western Canada

## International Energy Agency World Energy Outlook 2010

Dialogues participants received a background on oil sands. For the purpose of this report also, an objective assessment of global energy demand is useful. The International Energy Agency's (IEA) World Energy Outlook 2010[1] provides a recent neutral perspective.

The IEA report indicates in its "New Policies Scenario" that energy demand will increase globally by 36 per cent between 2008 and 2035. This Scenario is based on broad policy commitments and commitments made by countries around the world to reduce GHG emissions and phase out fossil fuel subsidies. Developing countries will account for 93 per cent of that projected increase. China alone will account for 36 per cent of that increase due to faster rates of growth in economic activity, industrial production, population, and urbanization. Fossil fuels, including oil, coal, and natural gas, will remain the dominant sources of energy to 2035. Regardless of what measures are taken globally to address climate change, oil will remain a key source of energy supply.

The IEA references specifically the contribution of the oil sands to this scenario. It states:

> *Unconventional oil is set to play an increasingly important role in world oil supply through to 2035, regardless of what governments do to curb demand…unconventional output rises from 2.3 million barrels per day in 2009 to 9.5 mbarrels per day in 2035. Canadian oil sands and Venezuela extra-heavy oil dominate the mix.*

Furthermore, the report recognizes the challenges faced by the oil sands: the resource is expensive to develop, requires large upfront capital investment, and incurs the cost and necessity of mitigating environmental impacts.

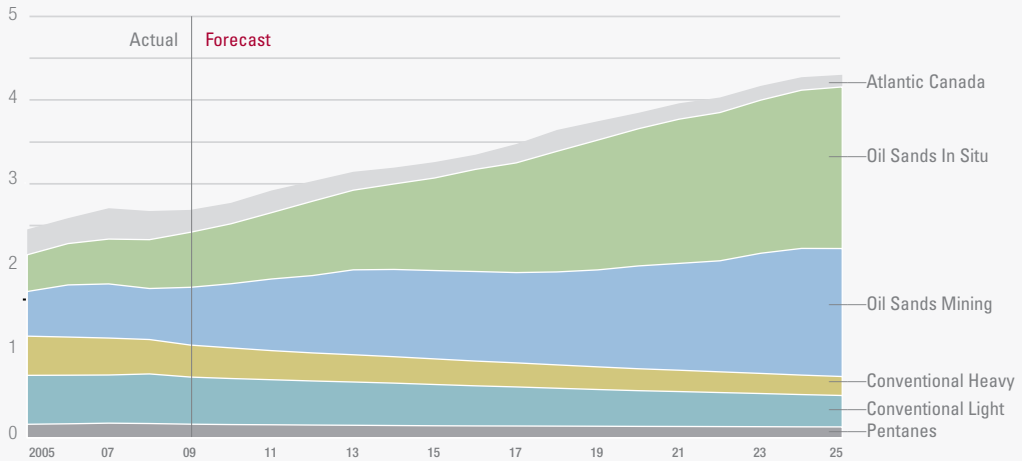
The IEA report recognizes that demand for all fuel sources will increase with renewable energy volumes set to triple during the period, increasing renewable energy's share of total energy demand from seven per cent to 14 per cent by 2035[2].

3.1 http://www.worldenergyoutlook.org/

3.2 http://www.worldenergyoutlook.org/docs/weo2010/WEO2010_ES_English.pdf

**GROWTH CASE—CANADIAN OIL SANDS AND CONVENTIONAL PRODUCTION**

[million barrels per day]




Source: CAPP

CAPP has provided specific factual information on the size and production of oil sands for the purposes of this report.

## Future of Crude Oil Production in Western Canada

Canada's oil sands deposits contain established reserves of 170 billion barrels, which are economical to develop given current technology and current prices.

On the basis of geological evidence, there is additional oil that is recoverable using current technology, but not economic given current conditions, which could raise Canada's bitumen resources up to 315 billion barrels.

### Canadian Oil Sands and Conventional Production

Oil sands production currently makes up 55 per cent of Western Canada's total crude oil production. In 2009, Canadian oil production was 2.7 million barrels per day with 2.5 million barrels per day sourced from Western Canada. The growth case put forward by CAPP shows production is expected to reach 4.3 million barrels per day by 2025. In this growth case, oil sands production is expected to grow from more than 1.3 million barrels per day in 2009 to approximately 2.2 million barrels per day in 2015, and to about 3.5 million barrels per day in 2025. The capital required to achieve this production growth is estimated at $100 billion, not including ongoing investments in sustaining capital to maintain plants and production.[3]

Both development and operating costs of oil sands continue to be toward the high end of the range of costs for oil projects on a global basis. Although growth in global demand is expected to continue to provide impetus for oil sands development, high costs are a competitiveness issue for Canadian oil sands producers and reinforce the importance of technology development to lower unit costs.

3.3 Alberta Government, Inventory of Major Projects, January 2011.

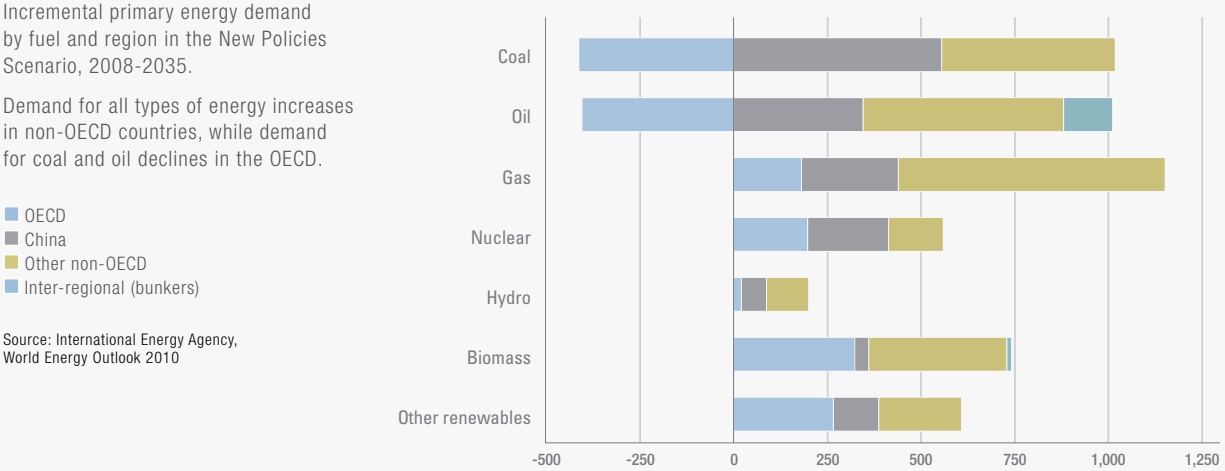
The International Energy Agency's 2010 World Energy Outlook provides "updated projections of energy demand, production, trade and investment, fuel by fuel and region by region to 2035. It includes, for the first time, a new scenario that anticipates future actions by governments to meet the commitments they have made to tackle climate change and growing energy insecurity."

**EMERGING ECONOMIES DOMINATE THE GROWTH IN DEMAND FOR ALL FUELS**

[Mtoe]

Incremental primary energy demand by fuel and region in the New Policies Scenario, 2008-2035.

Demand for all types of energy increases in non-OECD countries, while demand for coal and oil declines in the OECD.




Source: International Energy Agency, World Energy Outlook 2010

For more information visit www.worldenergyoutlook.org

# part 1:
## WHAT WE HEARD

The purpose of this section of the Oil Sands Dialogues paper is to summarize the Oil Sands Dialogues, reflecting the diversity of perspectives that were expressed.

# 4: Oil Sands in an Energy Supply Context

Throughout the Oil Sands Dialogues process, most participants addressed the current and future challenges facing the energy sector, including growing demand for energy in the developing world (especially from India and China), and that fossil fuels, especially easily accessible and cheaply produced oil, are becoming scarcer.

Many participants' energy paradigm reflects the IEA 2010 Report's growth scenario with the recognition that for the foreseeable future, the world will need a mix of all forms of energy, including fossil fuels. There were differing views on the pace of transition away from fossil fuels and the role of public policy in accelerating this transition. With respect to oil sands, specific concern was expressed that oil sands companies must develop oil sands responsibly with sufficient measures[1] taken to mitigate environmental impacts. Likewise, most participants indicated consumers should use oil products in a responsible manner, with measures taken to address and improve energy efficiency and conservation to help curb growth in or reduce energy demand.

Many recognized that increasing the standard of living in the developing world is linked to the availability of energy. This is especially true for the 1.46 billion people currently without access to electricity[2]. For some, the connection between quality of life and availability of energy only reinforces the need to develop all forms of energy. Others see a conflict in bringing up other countries' standard of living while negatively affecting our own environment, which compromises local communities, particularly Aboriginal peoples', quality of life. Energy demand growth in the developing world underscores Canada's global role as an energy producer but also as an energy steward and technological leader. As such, views on and the definition of becoming an "energy superpower" or energy leader ranged from Canadian innovation in energy technology and production (all forms including oil) and Canada becoming a global leader in the move away from oil.

Many participants talked about the need to increase the amount of lower carbon fuels and clean energy in the consumer energy mix. Discussions between those who argued the need for all forms of energy and those who advocated for primarily renewable sources concentrated on the appropriate and realistic timeline for this transition, weighing environmental concerns with economic, competitiveness, and security of supply issues.

Becoming an "energy superpower" means Canadian innovation in energy production and leadership in developing, implementing and engaging the world in GHG management and emission reduction technology.

4.1 Definition of "sufficient measures" differed among participants.

4.2 www.worldenergyoutlook.org/electricity.asp

# 5: Oil Sands in an Economic Context

## General Overview

An underlying theme for many in the Oil Sands Dialogues discussions was that the energy industry (in all its forms—oil sands in particular) has become a crucial part of Canada's economy. There was recognition by many that Canada's economy today benefits from the production of fossil fuels, and from renewable forms of energy, including hydro, solar, wind, geothermal, and biofuels. There are also economic benefits derived from the development and implementation of energy efficiency and carbon reduction and technologies with oil sands producers and other countries being key markets for both.

Several participants expressed that energy production and technology contribute greatly to Canada's economic growth, which has become especially apparent during the recent economic challenges faced in Canada and throughout the world.

The main cautionary note injected into the economic discussion related to the pace and scale of oil sands development, which a number of participants suggested should be managed or slowed, and that "world class" environmental standards should be implemented before any new oil sands projects proceed. Some participants indicated that shutting down the oil sands entirely would increase oil imports to Canada and/or would weaken the Canadian economy. Several advocated for a significant increase in renewable energy investments that would support the transition to renewable and sustainable fuels and transportation systems instead of oil sands growth. However, there was little agreement on who would pay for solutions: the private sector, taxpayers or consumers.

Differing regional perspectives on oil sands were apparent in the Dialogues process. The Dialogues groups suggested that if Canada is to consider oil sands a national natural resource, industry should embrace all regions of the country, especially those parts distant from the resource itself (i.e., outside Alberta), and that procurement of technologies and manufactured parts should occur in all parts of Canada. As such, the benefits of the resource would be shared across Canada.

## Specific Positive Comments

Many participants found energy production (oil, natural gas, hydro, etc.) and economic development overall as a major contributor to the social well-being of Canadians. Canada's social safety net, health care system, and equalization and transfer payments that flow to "have not" provinces all benefit from the energy sector. Every region of Canada develops and produces some form of energy; every region benefits

> "There is huge economic development for manufacturers in Ontario from oil sands."
> **—Participant**

The positive economic effect that oil sands have on job creation was discussed by both Canadian and American participants. Oil sands development is one of the main contributors to the training and employment of skilled trades people.

from the direct and indirect employment, as well as from the taxes and royalties paid by all of those associated with energy production. In addition, some participants recognized many Canadians realize additional value through direct and indirect shareholdings in companies active in the oil sands. Some participants also noted that it is important for the industry and for Canada to remain attractive to foreign capital for the oil sands. Many indicated that oil sands has a positive influence on technological innovation in Canada, and the flow of that technology through the economy.

Some participants identified risk and vulnerabilities to Canada in having one principal foreign market for oil sands crude, that being the United States. The diversification of markets, and true access to the global crude oil market, was seen by these people as important to ensure the continued economic benefits derived from oil sands.

Some participants pointed out that the oil sands could provide a supply buffer should the OPEC countries decide to drastically reduce supply, or should there be supply disruptions.

A number of participants suggested how the oil sands industry might counter negative opinions about oil—and oil sands in particular. One suggestion was for the industry to compare oil sands on a range of metrics with other sources of energy to put the role of oil sands in perspective. Such an energy awareness and education program aimed at Canadian students could also increase understanding of energy sources, conservation, science, and economics generally.

The positive economic effect that oil sands have on job creation was discussed by both Canadian and American participants. Oil sands development is one of the main contributors to the training and employment of skilled trades people. This is particularly true in Alberta, which has only one-third the population of Ontario, but employs almost as many skilled trades people.

In the United States, the importance of the oil sands to jobs was reinforced by several participants who talked about skilled American workers who have travelled to Canada to work on large oil sands maintenance projects, providing work during a local downturn, and ensuring no disruption of wages and employment benefits such as health care. It was reported that short-term employment in Canada has been especially helpful during the current period of high unemployment in the United States. Also, jobs created by the construction and ongoing maintenance of refinery and oil sands infrastructure projects were recognized, including those jobs that would be

> "I am a beneficiary of the employment that came out of that area. Canada is really blessed with the resources and the technology." **—Participant**

created directly from the proposed Keystone XL pipeline project. Increased oil sands supply from Canada was seen as a job creator, as opposed to oil supply from other countries, which requires fewer pipeline and refinery investments.

Some participants concerned with jobs, especially skilled trades, recommended better coordination of health and safety training, as well as increased Aboriginal training and employment.

## Cautionary Economic Comments

While no participants suggested shutting down the oil sands completely (though the organizers understand that this view exists), and few suggested a moratorium on growth, a significant number spoke of the need to carefully review the pace and scale of development[1]. Oil sands have been developed more quickly than originally envisioned[2] and many participants felt it was time to step back and review progress and the costs versus the benefits.

In addition, some participants stated that Canada should keep the value-added manufacturing investments and jobs resulting from oil sands development.

While some identified an isolated North American market for oil sands as a risk to Canada's interests, a few participants advanced the view that oil sands should be developed to serve solely the North American market, since North America is not self-sufficient in oil. Additional support for this view came from those who disliked oil imports from unfriendly nations, those who opposed tanker traffic off Canada's west coast, and from those who believed the export of oil sands products would delay the transition to lower carbon fuels in the developing world—the countries to which the product would be exported.

It was suggested by some that Canada needs a full debate regarding the possible negative impacts of supplying markets beyond the United States. Oil exports, they said, simply encourage recipient countries to increase their carbon footprint.

Concern was expressed by some that Canada's economy is too dependent on the production of fossil fuels. In order to counteract this, Canada should move from a non-renewable resource-based economy to an economy based on renewable, clean energy. This diversification of Canada's energy mix would help prepare it for the post-oil sands and post-oil world.

5.1 2010 CAPP Crude Oil Forecast, Markets & Pipeline—Production and Supply Data

5.2 In June 1996 Prime Minister Jean Chretien, the Government of Alberta and the presidents several Canadian oil companies signed the "Declaration of Opportunity" for Canada's oil sands. The Declaration outlined a goal to increase production from 400,000 barrels a day in 1996 to 1.2 million barrels a day by 2020.

"Why would we ship a product to another country that we are trying to get off? They will find other ways to get by."
**—Participant**

# 6: Oil Sands in an Environmental Context

## General Overview

The effect of oil sands development on all aspects of the environment—GHGs, water (use and quality), air pollutants, land, habitat, and sustainability—was a top-of-mind issue for most participants. One participant suggested that environmental protection be considered a human right. Reference was also made to the need to find a balance among the three related constructs: environment, energy, and economy.

Many participants made suggestions as to how environmental concerns should be addressed. Many also stated that oil sands companies must demonstrate sustained and significant efforts, as well as real progress with concrete results on the range of environmental issues. Setting and working toward aggressive performance-improvement targets was suggested, with progress reports at regular intervals. Other participants with technical knowledge of the environmental challenges of oil sands suggested that specific investments in proven technologies be made, complemented with ongoing research and development to support the creation and commercialization of new technologies to reduce air, land, and water impacts associated with oil sands development.

Other participants proposed that oil sands companies should recognize the necessity of moving to renewables and support this movement. Some participants advocated against the use of fossil fuels overall given environmental impacts that result from both production and use. Oil sands companies were urged to think long term, with emphasis on the need to develop and integrate renewables into their energy mix as a means to offset the carbon footprint of oil sands fuels.

## Greenhouse Gas Emissions—Reducing Carbon

Carbon emissions were recognized by many participants as a significant challenge to oil sands growth. While reductions in GHG emissions from oil sands on a per barrel or intensity basis were acknowledged, there was significant discussion that efforts to reduce GHG emissions must increase. Some thought oil sands producers should set specific GHG reduction targets, while others were focused on the competitiveness of Canada's oil sands sector, and the potential downside of setting GHG policies in advance of competitors and major trading partners such as the United States.

Oil sands were often referred to as a significant part of Canada's GHG emission reduction challenge, and as such have had a negative impact on Canada's international environmental reputation. Several participants clearly saw GHGs as a human rights issue and, while concerned about Canada's environmental reputation, these participants placed emphasis on the social and moral duty we have to reduce GHGs, a view often paired with moving away from oil all together.

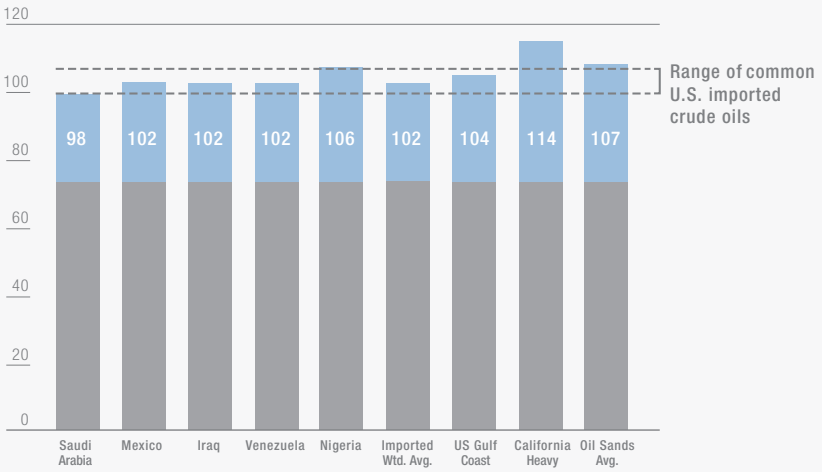
**FULL CYCLE GHG EMISSIONS**

[g $CO^2e$/MJ gasoline]

This graph provides a comparison of the emissions from most supplies of crude used in the United States and shows that greenhouse gas (GHG) emissions from crude produced in Canada's oil sands are similar to those from other energy sources. It also demonstrates that the majority of GHG emissions are generated in the consumption, not production, of gasoline from crude oil.

- GHG emissions from production and refining
- GHG emissions from gasoline consumption

Source: Jacobs Consultancy. Life Cycle Assessment Comparison for North America and Imported Crudes, June 2009




In discussing oil sands within the broader GHG context, oil sands GHG emissions performance was generally understood, both in term of GHG emissions per barrel compared to other oil supply sources, and in terms of absolute and per barrel GHG emission trends[1]. However, there was a range of views on the path forward. One participant in particular made it very clear that Canada and the oil sands industry should no longer be seeking to achieve balance between environment and economy; instead, total concentration should be on significant reduction in GHGs from the development of oil sands. Thus, finding GHG reduction solutions should be an overarching, concerted goal of the industry.

It was suggested that a North American price on GHG emissions could reduce the GHG footprint of oil sands, which in turn would encourage the production of renewable energy. A price on GHG emissions flowing through the economy would engage energy consumers in the fight to reduce emissions. Emission reduction is related to both economy-wide energy efficiency gains and demand side reduction, and was recognized as an issue for both energy consumers and producers.

Knowledge of existing GHG regulations was low among Dialogues participants, such as the Alberta requirement involving a mandatory 12 per cent reduction in GHG emissions intensity for oil sands facilities, or a payment in lieu of (current carbon price is $15/tonne)[2].

6.1 Absolute emissions from the oil sands have increased as production has grown while emissions intensity (the amount of GHGs per barrel) have decreased considerably with new technology and more efficient processes. Source: Environment Canada.

> "The oil sands are increasing while the rest of the country is decreasing. How do you get to minus 17 if the oil sands are continuing to grow in terms of their emissions profile?"
> **—Participant**

## Technology

Views on technology, especially the purpose and end goals of technological investments and focus, varied significantly. Many participants were of the view that a number of the environmental challenges faced by oil sands producers could be addressed through the development of transformative technology and that timing and development was a matter of cost and priority. The discussion here was not about incremental change, but rather the introduction of innovative methods for oil sands production that would significantly reduce GHG emissions.

At some of the Dialogues, the CEOs talked about the cooperative efforts of oil sands companies in the development of tailings pond reclamation and of "dry" tailings technology. The discussion around

6.2 www.oilsands.alberta.ca/climatechange.html

While some participants called for a moratorium on expanding development of the oil sands, most believed that further development could proceed as long as it was carefully planned to achieve responsible environmental and social outcomes.

the development and production of new technology, especially with respect to tailings ponds, water, and GHGs, was positively informed by the presence and participation of oil sands CEOs at the Dialogues.

Some participants also referenced the research by universities and other organizations that was set out in the Oil Sands Dialogue Background Paper[3]. Some participants mentioned the work being done to address environmental issues. Many participants stressed, however, that addressing environmental issues through transformative, game-changing technology was of such importance that oil sands companies should work together to address these overarching issues.

## Pace and Scale

Many participants raised the issue of pace and scale of oil sands development. Development has moved at a pace that far exceeds original expectations for this resource[4]. Their concern was that the cumulative effect of unprecedented growth would have permanent negative effects on the environment.

> "How do we not increase the environmental effects on par with the increase in development? We need to define environmental thresholds."**—Participant**

Some participants called for a moratorium on expanding development of the oil sands, but most believed that further development should proceed only as long as it was carefully planned to achieve responsible environmental and social outcomes. Various suggestions were advanced to address this point. For example, environmental thresholds could be established, and development staged in such a way to comply and operate within established ecosystem limits, beyond which further development would irretrievably damage the ecosystem. It was also suggested that a risk-management plan be established for GHG emissions, water, reclamation of mined lands, and Aboriginal issues. Such a plan would be designed to protect the environment and inhabitants should problems arise in these areas.

Concern over the extent of surface mining or the large amount of land that could be subject to oil sands development might be addressed by oil sands companies supporting the establishment of habitat conservation areas. One participant suggested that these areas should be equal in size to the oil sands area. The Government of Alberta is currently

6.3 www.capp.ca/dialogues

6.4 In June 1996 Prime Minister Jean Chretien, the Government of Alberta and the presidents several Canadian oil companies signed the "Declaration of Opportunity" for Canada's oil sands. The Declaration outlined a goal to increase production from 400,000 barrels a day in 1996 to 1.2 million barrels a day by 2020.

Measuring regulatory strength and quality, especially among similar energy-producing countries and regions, was generally seen as a goal. Many participants wanted to ensure that Canada's regulations are "world-class."

completing a land use planning process[5] for the Athabasca oil sands region. However, few Dialogues participants outside of Alberta were aware of the process and no participants outside of Alberta indicated they had participated in the process.

## Regulatory Framework

Some participants expressed criticism regarding the regulatory framework that governs oil sands, which they felt was not sufficiently stringent. Several people said there is a need for certainty in the regulatory process with defined limits on environmental impacts from oil sands activity. Some stated they had no confidence in the provincial regulatory process and would prefer a federal regulatory scheme be developed. Others believed that the oil sands are well-regulated, but that there are opportunities for improvement, specifically in regards to environmental monitoring, establishment of environmental baseline information and thresholds, and in regulatory processes including a broader range of stakeholders.

Many advanced the view that any regulatory plan to be put in place for oil sands should be rigorous. Measuring regulatory strength and quality, especially among similar energy-producing countries and regions, was generally seen as a goal. Participants wanted to ensure that Canada's regulations are "world class." Some participants noted that there should be alignment of energy and environment regulations between Canada and the United States, while others criticized the lack of any federal regulatory plan to reduce GHGs.

6.5 http://landuse.alberta.ca/

# 7: Oil Sands in a Social Context

## General Observations

Some participants raised questions about the relationship between oil sands production and Canadian values, including whether the oil sands developers had actually earned or established a "social license to operate." Other participants stated that trust issues exist between Canadians and those operating in the oil sands. The issue of trust mainly focused on environmental issues, but extended to human health and the effect that oil sands development has had on the social fabric of the communities, especially Aboriginal communities, around which development is taking place.

Some participants also expressed the view that the oil sands industry needs to review its role in adjacent communities as well as the industry's contribution (beyond jobs) to the lives of those living in these communities. Furthermore, some participants believe that better addressing the social and health needs of the greater community, whether by governments or industry, will help create and maintain the "social license to operate" that is so necessary for successful work in these remote areas.

Aboriginal people participated in the Dialogues, but not in every city. Aboriginal participation grew markedly lighter as the Dialogues moved away from Western Canada. Perspectives on Aboriginal benefits and impacts were offered by the Aboriginal people attending, as well as by legal, environmental, and social justice experts who have worked on Aboriginal issues. According to some of these participants, oil sands companies have a special duty to the local Aboriginal population. Oil sands developers were urged to be more sensitive to the unique characteristics and needs of Aboriginal communities; however, it was also recognized that oil sands have become a major source of employment and economic benefit for Aboriginal peoples. This is not just a case of balancing employment against social needs; all aspects of the Aboriginal way of life must be respected.

On a broader scale, it was noted by some that oil sands could play a positive role in addressing energy poverty in developing nations of the global community. It was reiterated that enhancing the standard of living of those living in developing countries is directly related to the availability of energy.

### OIL SANDS RESOURCES AND COMMUNITIES

Alberta's oil sands lie beneath 142,2000 square kilometres of land, and deposits that are suitable for surface mining are contained within 4,802 square kilometres or about three per cent of the total area. The remaining reserves that underlie 97 per cent of the oil sands surface area are recoverable using in situ methods, which create less surface land disturbance.

Oil sands recoverable using in situ techniques
Oil sands mineable area


## Canada's Social Safety Net

There was general awareness among participants that oil sands development generates government revenues in various forms that contribute to funding Canada's social safety net, health care, and equalization transfers. This has become especially true during the recent economic downturn that has severely affected Canada's manufacturing sector. Revenues from oil sands development contribute positively to the quality of life in Canada.

Part of this contribution can be seen in jobs created in Alberta and across Canada. The oil sands currently employs 144,000 people, directly or indirectly, across Canada. This is expected to grow to more than 590,000 jobs over 25 years with 103,000 jobs being sourced from other provinces other than Alberta[1]. Concern was raised about the level of training of workers with particular regard to health and safety. It was suggested that oil sands developers, with provincial help, design a standard health and safety course curriculum that could be used as a template to train both those inside and outside of Alberta who may wish to work in the oil sands industry.

## Local Issues, Infrastructure, Labour, and Health

Concern was expressed over the hierarchy of decision-making when it came to oil sands development, and to related matters such as the routing and construction of oil sands pipelines. The following questions were posed: Whose rights or concerns should be paramount? How should that decision be made? And, in fact, who actually has the right to rank local, national, and global concerns? Participants expressed a need to develop a better process to ensure local voices are given the opportunity to be articulated and heard, particularly on development issues in oil sands communities such as Fort McMurray on proposed pipelines to the west coast. First Nations special relationship to the land and the connection between environmental health and human health was also raised.

Many participants also felt that current plans to address health concerns, issues and family problems caused by social and economic disruption are inadequate. They argued that oil sands developers have a duty to address these issues with the local communities.

7.1 Canadian Energy Research Institute: Economic Impacts of the Petroleum Industry in Canada. July 2009.

### ABORIGINAL PEOPLES—WOOD BUFFALO REGION

There are five First Nations within the Regional Municipality of Wood Buffalo, with a registered population of about 6,400 members.

The **Mikisew Cree First Nation (MCFN)** is the largest with about 2,550 registered members. MCFN has nine reserve areas located in and around Fort Chipewyan with a total land area of approximately 6,440 ha.

The **Athabasca Chipewyan First Nation (ACFN)** has a registered population of 888. ACFN has eight reserve areas in the Athabasca Delta and on the south shore of Lake Athabasca in and around Fort Chipewyan with a total land area of approximately 21,205 ha.

The **Fort McKay First Nation** has five reserve areas with about 648 registered members. The Fort McKay reserve areas are in and around the hamlet of Fort McKay and total approximately 14,886 ha.

**Fort McMurray No. 468 First Nation** has four reserve areas with approximately 3,231 ha and 608 registered members. Three reserve areas are located near Anzac on Gregoire Lake while the fourth is located about 20 kilometres east of Fort McMurray.

**Chipewyan Prairie Dene First Nation** has about 704 registered members and three reserve areas with approximately 2,669.7 ha located in and around the community of Janvier/Chard.

There are seven Métis locals of Region 1 of the Métis Nation of Alberta that lie within the Regional Municipality of Wood Buffalo:

**Fort Chipewyan Métis Local #125**
**Fort McKay Métis Local #63**
**Fort McMurray Métis Local #1935**
**Fort McMurray Métis Local #2020**
**Willow Lake Métis Local (Anzac) #780**
**Chard Métis Local #214**
**Conklin Métis Local #193**

Estimates of the regional Métis population vary with estimates in the range of 5-6,000.

Source: Oil Sands Developers Group (OSDG), 2010

It was suggested by some that oil sands companies—and indeed governments—begin to plan now for the time when development starts to slow down. An economic plan to attract and provide alternate employment should be developed by oil sands companies in partnership with local communities. It is essential that economic diversification and cultural investments occur in these communities to ensure they remain viable entities during and after oil sands production has passed.

## Aboriginal Peoples

There is a definite need for the Aboriginal population living near oil sands development to see more and ongoing direct positive results from the investments being made in oil sands. These results should be manifest in jobs and enhanced quality of life, including access to better housing, health care, education, and other services. It was felt by many that delivering tangible benefits is vitally important so that Aboriginal concerns over federal and provincial negotiations regarding rights or land claims do not spill over, thus having a negative effect on an otherwise generally positive relationship with oil sands companies. Oil sands producers indicated they want to move forward responsibly, but also in a timely manner, and consider themselves outside the government land claims processes.

It was made clear that some First Nations communities on Canada's west coast currently do not favour the construction of a pipeline through to the Pacific coast of British Columbia to carry product from the oil sands. Such a development would, it was stated, cause irreparable harm to their habitat and way of life. However, liquefied natural gas (LNG) was put in a different category; these same participants were generally supportive of the proposed LNG terminal at Kitimat, British Columbia. Because LNG does not involve crude oil tankers off Canada's west coast, in their view LNG thus presents less risk to both land and water should an accident occur.

There is a definite need for the Aboriginal population living near oil sands development to see more and ongoing direct positive results from the investments being made in oil sands.

# 8: Oil Sands in a Technological Innovation Context: Role of Technology

## General Observations

While many participants understood the importance of technology in addressing environmental impacts of oil sands development, it was clear they wanted technology that brings both incremental and game-changing performance improvements developed and deployed more quickly. Greater investment in technology development was urged. The collaboration of oil sands companies on tailings ponds technology should extend to other issues that detrimentally affect the environment, as well as to the national and global perceptions of oil sands.

It was put forward that reduction in energy use—steam to oil ratio in situ production and lower processing temperatures and shorter haul truck distances in mining—will reduce greenhouse gases. So will deployment of carbon capture and storage, both in the present pilot phase and in broader oil sands development. Further roles for universities in researching ways to improve energy efficiency and reduce GHG emissions, and in managing the emissions that are produced, were stressed, particularly by academics and producers.

> "Industry needs to get together and determine its goals and what it wants to get out of this. There are no simple solutions. Technology needs to be part of the solution. Hard to say stop producing when we are demanding."
> **—Participant**

It was also suggested that reliance on a single technology such as carbon capture and storage could be risky. Continued focus on energy efficiency, process improvements, and transformative production technology will also be needed.

Hope was expressed by some participants and organizers that many vitally important oil sands development issues could be addressed appropriately and resolved positively through technology. However, arriving at this point will take extensive sharing of ideas and experiences among all parties involved, and equally as important, necessitate the real-world application of well-funded research.

While participants understood the importance of technology in addressing environmental impacts of oil sands development, it was clear they wanted technology that brings both incremental and game-changing performance improvements developed and deployed more quickly.

# 9: Oil Sands in the Context of Energy Security and Canada-United States Relations

## General Observations

There was recognition by many of the importance of oil sands development to energy security in Canada. Energy security for Canada, of course, has at least two meanings: security of supply within Canada and security of markets beyond Canadian borders. The latter helped participants to recognize the need for market diversification, in that Canada cannot be an energy superpower with only one market for its energy.

Several participants noted the importance of oil sands in the broader energy mix to Canada-U.S. relations and to the United States' own energy security. Many Americans prefer to import oil from Canada rather than Venezuela or other oil-producing countries in the Middle East. The preference for Canadian oil supplies was based on reliability and geopolitical benefits, as well as reducing or avoiding the direct and indirect supply costs from other regions.

Another overarching theme heard consistently through the U.S. Dialogues was the importance of oil sands to job creation and the economic recovery in the United States.

## Engaging the United States

There was discussion by some participants in the U.S. Dialogues about the state of play of American energy and environment policy. In the early days of the Obama administration, there was a strong focus on environmental legislation, particularly a cap-and-trade approach to GHGs that would have had a direct impact on energy issues. The political balance in the United States has shifted. While the administration is still committed to a renewable energy and clean air agenda (which has significant support in Congress), and is still pursuing a regulatory approach to GHGs from stationary sources via the Environmental Protection Agency, the president is no longer talking about cap and trade.

Congress is also considering reducing EPA's authority to act. Depending on the fate of EPA's authority, it may be left to the states that are inclined to act alone or in concert with others in regional coalitions to develop GHG emissions policy and regulations.

Many participants advised producers to show the positive aspects of oil sands development, especially the importance of oil sands to job creation, to governors and state legislators. Elected officials at the state level will appreciate the creation of jobs related to processing of oil sands crude in-state and from supply of U.S.-made equipment to the oil sands region, benefits that are not associated with other import sources.

**TOP FIVE SUPPLIERS OF OIL TO THE U.S.**

| | Volume (million barrels per day) | Share of Total U.S. Imports |
|---|---|---|
| 1 Canada | 2.5 | 22% |
| 2 Mexico | 1.3 | 11% |
| 3 Venezuela | 1.0 | 8% |
| 4 Saudi Arabia | 1.1 | 9% |
| 5 Nigeria | 1.0 | 9% |

GHGs:
■ Currently regulated
□ Unregulated

Sources: U.S. Energy Information Administration, Cambridge Energy Research Associates

**CANADA'S ENERGY SUPPLY TO THE U.S.**

Canada is the largest supplier of energy to the United States

Canada is the world's third largest natural gas producer

Canada is the world's sixth largest crude oil producer

Canada is the fifth largest energy producer in the world

Canadian energy production almost doubled since 1980

- Oil and gas accounted for 90% of the increase
- Natural gas accounted for half of the increase

Many participants encouraged Canada—and oil sands producers in particular—to engage American industry as well as state and federal officials in the development of a coherent North American energy strategy. Since so much energy trade goes north and south, it makes sense for Canada to engage with the United States in this type of policy development.

## Jobs and Economy

Jobs and the economy are the current priorities for many in the United States. Some participants made it clear that oil sands development and the proposed pipeline to carry oil sands product to the southern United States were key elements for job creation and U.S. economic recovery.

Oil bought from Canada generates a flow of revenue to Canadians, which is then reinvested when Canadians purchase American goods and services. This was posed as a critical argument for Americans to buy Canadian oil. Revenue flowing from the Canada-U.S. trading relationship in energy is a key component of U.S. economic recovery.

Jobs and the economy are the current priorities for many in the United States. Participants made it clear that oil sands development and the proposed pipeline to carry oil sands product to the southern United States were key elements for job creation and U.S. economic recovery.

Jobs created by the oil sands in the United States are also important to the U.S. economic recovery. Pipelines for Canadian oil will be built by American workers with products manufactured in the United States. Upgrading U.S. refineries, necessitated by increased reliance on imports of Canadian oil, will employ American workers. It was also noted that U.S. energy workers have been employed in Alberta on projects in the oil sands, continuing their union wages and benefits. Reciprocity in this area should be sought for Canadian energy workers.

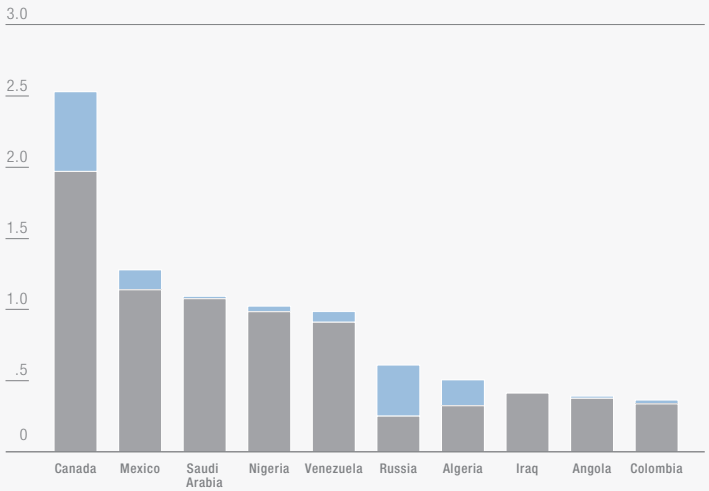
The U.S. Dialogues also revealed programs designed by American unions called "Helmets to Hardhats" to help veterans returning from overseas combat to complete trade skills training in order to seek employment in the energy sector.

**U.S. IMPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS BY COUNTRY OF ORIGIN**

(million barrels per day)

Canada is the largest supplier of crude oil and petroleum products to the U.S.


Source: EIA, Jan-Nov 2010




## U.S. Energy Security

Several participants in the U.S. Dialogues ranked American energy security as a paramount concern. They recognized that approximately 78 per cent of oil reserves in the world are controlled by state-owned enterprises, and a number of those states do not share the same global interests and outlook as the United States. Canada has more than 52 per cent of the global crude oil reserves accessible to private-sector investors. Americans, they said, should prefer oil imported from Canada—a safe, stable, free market supplier, respectful of trade agreements and the rule of law.

The view was also advanced that savings in defence spending could be achieved were the United States to import more oil from Canada rather than from sometimes unfriendly countries. Certain contentious and possibly dangerous waterways would no longer need to be patrolled by the United States. In addition, it was recognized that increased oil sands imports from Canada are displacing oil that has otherwise been imported largely from Venezuela and Mexico.

Canada has more than 52 per cent of the global crude oil reserves accessible to private-sector investors.

It was also pointed out that Canada's contribution to U.S. energy security will be taken for granted until it actually starts to build a pipeline to export crude oil from Canada's west coast.

Increasing the United States' supply of renewable energy was put forward as an alternative approach to American energy security. Increasing the use of renewables, some argued, would precipitate a reduction in the production or import of oil. It was also argued that the United States' energy security problem will be solved when it develops a serious agenda to develop and use its own sources of renewable energy, and not to continue to rely on imported oil.

# 10: Canadian Energy Strategy

A number of comments made by participants directly touched on the need for a Canadian energy strategy. Several advanced the view that the opportunities and challenges presented by the oil sands could be best dealt with within the framework provided by a comprehensive long-term Canadian energy strategy. Such a plan or strategy could maximize Canada's energy strengths in a coherent fashion across our entire energy system. It could provide impetus for technological development to address environmental issues and to accelerate new opportunities in energy production and use.

A Canadian energy strategy could outline national goals for responsible development of all forms of energy, thereby contributing to a better appreciation by Canadians of the importance of energy production for their social and economic well-being. Infrastructure issues enabling both domestic supply and exports, including the development of an east-west electricity grid, could also be addressed in a national energy strategy.

An energy strategy could also address energy demand from both producer and consumer points of view. Improved understanding of Canada's energy system, particularly on the demand side, was stressed by many participants as an important long-term goal.

An energy strategy could also address the relationship between energy production and use and greenhouse gas emissions. A plan to reduce greenhouse gas emissions in Canada and related carbon pricing would be an important part of a Canadian energy strategy.

It was also suggested, during the Dialogues held in the U.S., that Canada and the United States should work to develop a North American energy strategy. The extent of north-south energy trade between the two countries argues for the development of joint strategies in the energy field.

> "How do we meet energy demand of the next 50 years? I believe in an energy mix."
> **—Participant**

# 11: Role of Oil Sands in Canada's Future

## Public Education

The lack of understanding about energy production and use was identified as a significant problem by participants at the Dialogues in both Canada and the United Sates. Comments acknowledged the general lack of knowledge of how energy is produced and consumed, as well as the role that energy plays in the economies of both countries, especially in job creation.

This was brought into stark relief through a university student survey conducted by a dialogue participant in Toronto. The survey demonstrated a low base knowledge of the oil sands and related issues; only one-third of students responding stated they were familiar with oil sands issues.

It was recognized, however, that it is never easy to inform the general public about a complex issue. Some participants suggested that education on energy and oil sands issues could start in elementary schools in Canada.

Many dialogue participants also suggested there is a definite role for both the industry and government to inform the public about the economic and social benefits of oil sands production, as well as environmental challenges and what is being done to address them.

## Legacy Issues

Many participants raised concerns about the future of the oil sands communities and their inhabitants. Thought must be given, they said, to managing the wealth generated by oil sands development in the future. Some felt that it is important that those who live in the oil sands area have employment beyond oil sands development, and that industry in the area must be encouraged to diversify.

It was pointed out that this is a generational issue. Revenue from oil sands generated today should be wisely invested to benefit future generations. The oil sands are a non-renewable resource, thus Canadians must be good stewards today to ensure benefits in the future.

> "I know this is obvious but there is a need for an education program."—**Participant**

The lack of understanding about energy production and use was identified as a significant problem by participants at the Dialogues in both Canada and the United Sates.

## Suggestions for Next Steps

Many participants in the Dialogues had a number of suggestions, both for this Oil Sands Dialogues Paper, and the next steps that could be undertaken by CAPP and oil sands producers. Some participants felt there was a lack of trust toward oil sands developers and their CEOs. This led to a discussion of a next series of dialogues with broader participation, perhaps including government, to demonstrate that CEOs are listening and will continue to listen for a long time to come. Some felt that the longer the CEOs remain engaged in dialogue with all stakeholders, the more trust would be built.

Many participants indicated the Dialogues were a positive experience. The organizers know that the success of this exercise, including the reception of this Oil Sands Dialogues paper, will be measured not only by how accurately it reflects all that was heard, but also and more importantly, how this report and its recommendations are put into play by CAPP and oil sands producers.

Many participants indicated the Dialogues were a positive experience.

# part 2:
## RESPONSE

The purpose of this section of the paper is to outline the broad consensus response of the oil sands producers to what was heard in the Dialogues.

# 12: Introductory Comments

The purpose of the Oil Sands Dialogues was to bring together business, environmental, sustainability, academic, Aboriginal, and community leaders for an open and direct discussion about oil sands.

The Dialogues were very successful in achieving their intended objective. We learned more about the perspectives of key influencers across Canada and the United States regarding oil sands. From the feedback we received from many participants, we believe they learned more about oil sands and obtained responses to many of their questions, and had an opportunity to voice their concerns to oil sands producers themselves. Overall, the Dialogues were helpful in improving understanding, identifying areas of common understanding about challenges and opportunities, and highlighting areas where there are significant differences in views. Where they exist, these differences are not only between oil sands producers and some of the Dialogues participants, but also among the participants themselves.

The Dialogues also confirmed the value of multi-stakeholder dialogue related to both the oil sands and Canada's broader energy system. We are extremely appreciative for the contributions from all of the Dialogue participants for their time, constructive engagement, and insights and contributions to the dialogue.

The Dialogues provided some very useful and constructive suggestions about actions that should be considered by oil sands producers. The perspectives raised during the Dialogues and summarized in Part I of the Oil Sands Dialogues paper have been seriously considered by the oil sands producers. In particular, the oil sands producers acknowledge the issues and concerns expressed by Dialogues participants, and the challenge put forward to improve performance. The feedback from the Dialogues, together with other ongoing input, forms the basis for our response.

It is in Canada's interest to view the oil sands in the context of the "3Es": economic growth, environmental performance, and energy security. All are important, and all must be advanced concurrently. As noted in Part I of this paper, the Dialogues provided feedback in all three areas.

As summarized in Part I of this paper, there was broad understanding among participants and oil sands producers in the Dialogues regarding the economic and energy security benefits arising from oil sands development.

"From declare and defend to listen and....?"
**—Participant**

It is in Canada's interest to view the oil sands in the context of the "3Es": economic growth, environmental performance, and energy security. All are important, and all must be advanced concurrently. As noted in Part I of this paper, the Dialogues provided feedback in all three areas.

The economic benefits of oil sands to both Canada and the United States were widely recognized, particularly with regard to jobs. Investment in the oil sands creates jobs and generates economic activity across North America. It also generates royalties, taxes, and shareholder value, which benefits all Canadians. The industry will continue to provide economic growth opportunities, and will undertake initiatives to increase the breadth and transparency of its supply chain, engaging both its conventional suppliers and emerging "clean technology" providers that may provide innovative new technologies to oil sands producers. Deepening relationships with academia and the research community, as well as technology providers, represents an opportunity to increase diversity, and accelerate the pace of technology development and innovation.

There was general acknowledgement that energy security is a significant benefit of oil sands development, and oil sands producers will continue to focus on ensuring there is a competitive supply and safe, reliable infrastructure to deliver crude oil to the United States and to other prospective markets.

The major concerns raised during the Dialogues were in regard to environmental and social performance of the Canadian oil sands industry. For that reason, the remainder of Part II will focus on these areas. The following sections of this Oil Sands Dialogues paper outline the response to what we heard from the Oil Sands Dialogues in four areas:

- The Canadian and global energy system;
- GHG emissions and climate policy;
- Local and regional environmental and social impacts; and,
- Energy/environment education and public engagement.

These responses are informed by the Dialogues process and other ongoing input from a diverse range of sources. They reflect the consensus views of Canada's oil sands producers.

# 13: The Canadian and Global Energy System

## Overview

Canada's oil sands cannot be viewed in isolation from the broader Canadian and global energy system. It is apparent that many of the perspectives shared by participants during the Dialogues are directly related to their views on how the oil sands fit into the broader energy system, both now and in the future. In particular, the timing and pace of transition to a cleaner energy system, and the role that oil sands plays in that future energy system, were the focus of much of the discussion.

The oil sands producers strongly believe that hydrocarbons will play a key role in the global energy system for several decades, a view shared by major independent energy analysts such as the International Energy Agency and U.S. Energy Information Administration. The key drivers for this outlook are the following:

- Significant growth in energy demand, due to global population growth and improvements in the standard of living in many parts of the developing world;
- Declining supplies of conventional hydrocarbons, shifting the focus to development of unconventional hydrocarbon supply sources such as oil sands and shale gas; and,
- Constraints on the growth of lower carbon energy sources, for reasons including pace of infrastructure development, economic viability, and energy density.

Given the projected growth in global energy demand, the world will need all forms of energy developed responsibly for the next several decades. Canada's abundant crude oil and natural gas resources provide a unique opportunity for Canada to play a key role in responsibly meeting rapidly increasing global energy demand. Technology and innovation are enabling development of an increasing proportion of the oil sands resource with a reduced environmental footprint and at a lower cost.

Given the projected growth in global energy demand, the world will need all forms of energy developed responsibly for the next several decades.

## Technology

From the outset, the key to oil sands development has been constantly evolving technology. An unwavering commitment to innovation and technology will continue to enable substantial progress over time, expanding opportunities for the economic and responsible development of oil sands resources to meet growing energy needs. Investing in research and technology with constancy of purpose is critical to finding cleaner, more efficient ways of developing the oil sands.

## CANADA'S RANK IN WORLD ENERGY

| | |
|---|---|
| #3 | Canada is third in the world in crude oil reserves. |
| #3 | Canada is third in the world in natural gas production. |
| #2 | Canada is the second in the world in uranium production. |
| #2 | Canada is second in the world in hydro-electricity generation. |

## ENDOWMENT RANK

| | | |
|---|---|---|
| #5 | Primary Energy Production | 19.3 quadrillion Btu |
| #2 | Crude Oil Reserves | 175 billion barrels |
| #6 | Crude Oil Production | 1,222 million barrels |
| #19 | Natural Gas Reserves | 57.9 trillion cubic feet |
| #3 | Natural Gas Production | 6.6 trillion cubic feet |
| #13 | Coal Reserves | 7,251 million tons |
| #13 | Coal Production | 76.5 million tons |
| #6 | Electricity Generation | 595 quadrillion Btu |
| #2 | Uranium Production | 12 kilotonnes |
| #2 | Hydro-electricity Generation | 352 terra-watt hours |

Source: U.S. Energy Information Administration (EIA), World Nuclear Association

As IHS CERA noted in its recent report, "The Role of Canadian Oil Sands in U.S. Oil Supply," "Innovation in oil sands has been a constant theme. Since its inception the industry has made and continues to make major technological strides in optimizing resources, innovating new processes, reducing costs, increasing efficiency, reducing greenhouse gases and reducing it environmental impact."

For example, since 1990, oil sands producers have through development and introduction of new technologies steadily reduced energy requirements for oil sands production. This has contributed to a 39 per cent reduction in GHG emissions per barrel since 1990. Technology developed to enable use of water extracted along with oil and gas production, has allowed industry to reduce freshwater use in one cyclic steam in situ project by almost 90 per cent. New drilling technology and increased use of in situ production techniques are helping significantly reduce surface disturbance. The industry remains committed to continuing the major research and development effort that contributed to those earlier breakthroughs, both at industry research facilities and together with major Canadian universities. This ongoing search for innovative technologies is essential to enable continuous improvement in reducing the environmental impact of oil sands development.

Among the innovative technologies being implemented or actively explored by oil sands researchers are:

- Different processes for using solvents together with steam in either CSS or SAGD production processes, improving recoveries and potentially significantly reducing GHG intensity of production;
- Technologies to process produced bitumen to remove on-site the heaviest hydrocarbon components, facilitating transportation direct to refineries, and eliminating the need for a separate upgrading step, and so helping reduce GHG emissions;
- Non-aqueous extraction technologies that may have the potential to virtually eliminate the need for water and the need for wet tailings ponds.

Canada's oil sands producers recognize that the opportunity for growth of oil and gas production (including oil sands) must be reconciled with expectations of Canadians for a transition to a lower carbon energy system and with global initiatives regarding greenhouse gas emissions reductions. These concerns are best dealt with in the context of Canadian and global energy systems, rather than solely with respect to the oil sands.

The Dialogues provided some very useful and constructive suggestions about actions that should be considered by oil sands producers. The perspectives raised during the Dialogues and summarized in Part I of the Oils Sands Dialogues paper have been seriously considered by the oil sands producers.

## Support for a National Energy Strategy

Over the past couple of years, there has been increasing impetus toward the development of a national energy strategy in Canada. This has primarily been driven by three factors: (1) broader realization of the critical importance of energy to our economy, security, and quality of life; (2) the need to understand better and act on what is meant by the term "Canada is an Energy Superpower"; and, (3) the focus on Canada and its energy system that has arisen from the ongoing global negotiations on climate policy.

Canada's oil sands producers encourage, support, and will actively engage in efforts to develop a national energy strategy. Canada needs a coherent national framework that sets out a long-term direction on energy and related economic, environmental, social, and energy security and reliability considerations. Development of a national energy strategy is our preferred process to reconcile the diversity of views regarding Canada's future energy system (including the role of oil sands in that energy system), to align cross-sectoral and cross-jurisdictional interests within Canada, and to represent a more cohesive and aligned position outside Canada. However, the challenges in reconciling divergent views and interests in developing such a national energy strategy should not be underestimated.

The development of a national energy strategy should not be a "top down" process by governments, but rather one that is inclusive and has the buy-in from a broad range of stakeholders across the full energy value chain, i.e. from producers and distributors to consumers. As an initial step in this process, a group of a dozen or so Canadian think tanks sponsored a multi-stakeholder workshop on the development of a Canadian energy strategy in Banff in 2010. The conclusion of that workshop, which included a number of representatives from the oil and gas sector, was that a Canadian Clean Energy Strategy would:

- Enhance our economic prosperity and energy advantage;
- Demonstrate our environmental leadership; and,
- Create a stronger federation.

The report from the Banff workshop[1] elaborates on these broad themes.

The oil sands producers support the above recommendations and further observe that a national energy strategy has the potential to address a number of the broad themes that emerged from the Dialogues:

- Placing oil sands, and the oil and gas industry more generally, in a broader energy context;
- Engaging the full energy value chain including consumers of energy, recognizing that energy conservation and efficiency must be key elements of any national energy strategy;
- Increasing awareness of the realities of global energy supply and demand in coming decades;
- Increasing the understanding of Canada's energy circumstances, which are very different from most OECD countries;
- Providing greater stability and predictability for investors regarding the principles that underlie Canadian energy policy, and the direction that Canada plans to take with regard to energy and related economic and environmental issues and opportunities;

> "I find it difficult to see oil sands in a discrete fashion and not part of a value, chain i.e. transportation service, in Canada and the world."**—Participant**

- Increasing awareness of the economic contribution of Canada's oil and gas sector, and the progress that has been made—and is being made—on environmental and social performance; and,
- Providing a constructive, open, and transparent forum for dialogue on the future of Canada's energy system, both in the relatively near and longer term.

A Canadian energy strategy needs to acknowledge the interconnected nature of energy supply, economic prosperity, and environmental and social performance. It should benefit all Canadians, contributing positively to our standard of living and jobs, providing a secure and affordable supply of energy, while ensuring responsible environmental and social performance. The development of such a strategy requires broad engagement, including input from producers, transporters, and consumers of energy.

13.1 http://www.nrtee-trnee.com/eng/news-media/events/other/banff-clean-energy-dialogue/final-report-national-clean-energy-14.strategy-eng.pdf

# 14: GHG Emissions and Climate Policy

## Performance

As noted earlier in the paper, there has been significant improvement in reducing the greenhouse gas emissions per barrel from oil sands—a 39 per cent reduction since 1990[1]. The competing barrel of world crude is generally getting heavier and therefore more GHG intensive. Canadian oil sands producers are striving to further reduce life-cycle (wells-to-wheels) GHG emissions per barrel, with the objective of being as good or better than competing supplies in the world market[2].

Due to overall production growth, GHG emissions from oil sands are increasing in absolute terms, as is generally the case for many major industrial segments experiencing significant overall production growth. As stated earlier, oil sands producers are working under the principle that the opportunity for growth of Canadian oil and gas production (including oil sands) and its commensurate positive impact on the Canadian economy must be reconciled with the expected transition to a lower carbon energy system and Canada's international commitments regarding GHG emissions reductions.

The Oil Sands Dialogues highlighted the diversity of views regarding climate policy and oil sands, in both a domestic and international context. The Dialogues also reinforced our view that much of the opposition toward oil sands development is rooted in deeply held views regarding the need to reverse GHG emissions and climate change trends through global reductions in the production and use of hydrocarbons. The oil sands producers acknowledge these "off oil" views and recognize the need to both continue to take action to reduce GHG emissions in our operations and to engage responsibly in the conversation about climate policy in Canada.

To that end, our views in both areas are outlined below.

## Technology and Innovation

Technology and innovation will be the key lever to address Canada's GHG reduction challenge. While well-designed policy is an important enabler, there must be emissions reductions opportunities available to producers, transporters and consumers of energy at a reasonable cost. GHG reduction technology development and deployment must therefore be a key priority for industry, governments, academia, research institutions and other organizations in Canada. Oil sands producers are continuing to take action to reduce "on the ground" GHG emissions associated with their operations. These initiatives are ongoing on a major scale because it is good business—they lower capital and operating costs and reduce environmental impacts.

14.1 Environment Canada

14.2 GHG emissions from oil sands fuels are on average 5–15 per cent higher on a well-to-wheel basis than those of the average U.S. crude import. Source: CERA

← Imperial Oil uses steam to recover the oil in the oil sands. Generating steam also creates greenhouse gases. Eddie Lui is part of an Imperial Oil team that developed Liquid Addition to Steam for Enhanced Recovery, a new technology that makes the process more efficient, reducing these emissions by 25 per cent. Eddie Lui has been featured in recent advertisements about oil sands technology.

## Climate Change Policy

With respect to policy, the Canadian oil sands producers support a national approach to climate policy that is aligned with CAPP's climate policy principles, which we believe should guide the development of climate policy in Canada:

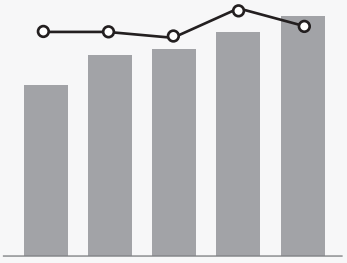
- **Balance:** A balanced "3E" climate policy delivers Economic growth, Environmental protection, and a secure and reliable Energy supply.
- **Technology:** Any policy should stimulate investment in the technologies necessary for significant reductions in GHG emissions in Canada.
- **Predictability and Stability:** A predictable and stable policy supports long-term capital investments, and creates jobs for Canadians.
- **Compatibility:** A climate policy for Canada should be compatible with its major trading and economic partners (particularly with the United States, our largest trading partner) and maintain Canada's competitiveness. (Note: This does not mean that policies must be identical, but rather that Canada must be very mindful of the policies of our key trading partners when establishing policy for energy intensive, trade-exposed sectors).
- **Harmonization**: It is important to attain policy harmonization across jurisdictions within Canada to an extent that is reasonable and practical.

More specifically, Canadian oil sands producers support GHG policy for Canada that will:

- Provide a coherent national approach, rather than divergent regional approaches;
- Harmonize with U.S. policy for highly integrated sectors of the economy, including energy intensive trade exposed (EITE) sectors such as oil and gas, to avoid distorting trade or creating barriers to Canadian exports;
- Provide further encouragement for research, development and investment in new cost-effective technologies to reduce greenhouse gas emissions "on the ground" in Canada; and,
- More specifically for the oil and gas sector, including oil sands, build on the established existing models for emissions pricing in Canada (e.g., the Alberta policy) to establish a national framework that:
  - is transparent;
  - is broadly applied across the economy and is revenue neutral, including an appropriate level of revenues directed into technology investments to drive real reductions in GHG emissions in Canada;
  - is designed so as to largely mitigate the impacts of regional or international economic redistributions arising from the implementation of emissions pricing;

### OIL SANDS GHG EMISSIONS

The deployment of new technology has seen the intensity of greenhouse gas emissions generated from oil sands production decrease 39 per cent since 1990*—while an increase in absolute GHG emissions can be attributed to increased production.

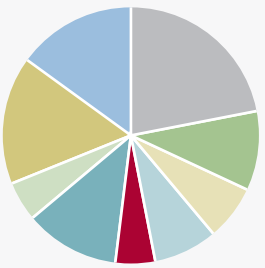


| | 05 | 06 | 07 | 08 | 09 |
|---|---|---|---|---|---|
| Absolute [millions of tonnes/yr] | 28.5 | 33.6 | 34.5 | 37.3 | 40.0 |
| Intensity [tonnes/m³ OE] | 0.48 | 0.48 | 0.47 | 0.52 | 0.49 |

* Source: Environment Canada

### CANADA'S GHG EMISSIONS BY SECTOR – 2008

[per cent]



| | |
|---|---|
| Residential | 7 |
| Service industries | 8 |
| Other fossil fuel | 5 |
| Conventional oil & gas production | 12 |
| Oil sands | 5 |
| Electricity | 16 |
| Manufacturing & heavy industry | 15 |
| Transportation | 22 |
| Agriculture | 10 |

Source: Environment Canada – National Inventory Report 1990-2008

- is designed so as not to negatively impact Canada's international competitiveness;
- sets out a predictable methodology for determination of emissions pricing, with prices starting at a relatively low level in order to allow industries and consumers time to adapt; and,
- encourages action by both producers and consumers of energy to reduce GHG emissions through further investment in cost-effective lower carbon technologies, reduction in consumption of energy, and shifts in consumption to lower carbon products and services.

Canada's oil sands producers and CAPP are of the view that considered policy principles and outcomes should provide the foundation for climate policy in Canada. Both market-based and regulatory policy mechanisms can be used for implementation across the economy to reduce GHG emissions, with the former being the preference of most oil sands producers.

Canada's oil sands producers will continue to engage in constructive and balanced conversations on Canada's climate change policy. These conversations must recognize how the oil sands factor into Canada's overall GHG emissions, the role of hydrocarbons in the world's future energy mix, and the need for all Canadians to engage in climate change solutions. The development of a national energy strategy would be one forum to address the question of climate policy in a broader "3E" or sustainable development context.

# 15: Local and Regional Environmental and Social Impacts



## Collaboration on Technology and Innovation

Industry is very focused on technology and innovation as a means to enhance oil sands resource recovery, reduce costs, and improve environmental performance. Oil sands producers are increasingly seeking collaboration opportunities among themselves and with governments, academic researchers, and other interests to accelerate the development and deployment of new technologies. Recent announcements regarding industry collaboration on tailings technology are an example of enhanced industry technology collaboration, particularly on environmental and safety performance. The oil sands producers involved in the Dialogues are strongly focused on advancing technology development and deployment through significant investments in research, pilots, and commercialization. It is important to note that new technologies are best developed through a mix of competitive and collaborative processes.

## Building a Better System

The pace of development was raised a concern by a number of participants in the Dialogues.

Oil sands producers and CAPP strongly support regional planning in the Lower Athabasca Region, leading to acceptable environmental and social outcomes. Sound science should provide the policy foundation for regional planning. However, the science cannot, in and of itself, determine acceptable environmental and social outcomes. Sound judgment must be exercised by policy makers in determining what constitutes an "acceptable" outcome and it is the purview of governments to make these determinations in the broader public interest. The oil and gas industry recognizes that regional planning could result in potential constraints on the scope and/or pace of oil sands development.

The oil sands producers are broadly of the view that arbitrary constraints on development are inconsistent with the "3E" approach to oil sands development, would inhibit the continued development and deployment of performance enhancing technology and innovation, and are not justified by the actual impacts of oil sands development in either absolute or relative terms. Market forces, operating within a regional planning framework such as that outlined below, should instead drive the pace of oil sands development.

A robust and credible regional planning framework should include the following elements:

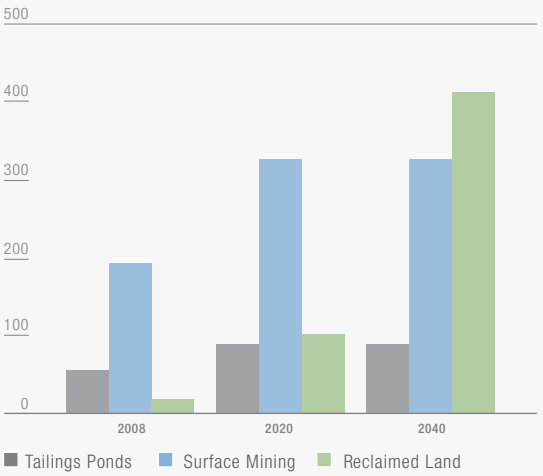
- System-wide performance metrics. There should be alignment among industry, governments, scientists, and key stakeholders regarding the appropriate metrics to assess local and regional environmental (water, land, air, biodiversity), social and economic

> "Industry is passionate and pained about their efforts not being appreciated. But the technology has to be for the right ends."
> **—Participant**

ConocoPhillips is one of several producers piloting aggressive reclamation processes on land used for steam assisted gravity drainage (SAGD) production in an initiative called "Faster Forests". Since the program was first introduced in the summer of 2009, close to 130,000 trees have been planted, with plans to continue this progressive reclamation in the coming years.

**OIL SANDS MINING FOOTPRINT AND RECLAMATION PROCESS**

[square miles]




Source: Cambridge Energy Research Associates

impacts arising from oil sands and other industrial activity. Oil sands operators encourage a multi-stakeholder approach to developing these metrics. From CAPP's perspective, these measures should be aligned with our Oil Sands Principles[1] for environmental and social performance. Such measures would also provide context for performance measurement and reporting by producers.

- Robust/transparent data collection and monitoring programs. The regional planning system must include world-class data collection, monitoring, and reporting programs that are open and transparent. It is the primary responsibility of governments to ensure that these programs are in place. This overall system is distinct from the requirements imposed by regulators on individual companies as part of their project regulatory approvals, although there may be opportunities for integration.
- Third-party system validation. The key elements of the regional planning system, including performance metrics and the data collection, monitoring and reporting programs should be validated and verified by an independent third party. Review of the system by an independent, knowledgeable and objective third party would increase credibility and public confidence in the policy and regulations pertaining to the oil sands industry, as well as potentially identify opportunities for improvement in the regional planning system. Recent examples of such an approach are the report of the Royal Society of Canada Expert Panel on Environmental and Health Impacts of Canada's Oil Sands Industry, and the Water Panels that have been established by the federal and Alberta governments. The engagement of external reviewers does not obviate the regulator from overall responsibility for regulatory oversight on the oil sands industry, nor should it create duplication or overlap in industry performance reporting.

Additionally, all scientific data, including raw data collected by publicly-funded researchers, should be made generally available to the public, stakeholders, industry, and other scientists. More transparency with regard to this data will contribute to broader understanding of results and progress against desired policy outcomes.

The oil sands industry is encouraged that governments are making progress toward a regional planning system that reflects the above elements. It is important that the system be both efficient and effective, with improved collaboration between the federal and provincial governments and oversight by the "best placed" regulator. This means that respective federal and provincial legislative requirements are respected, but that regulatory oversight is integrated in a manner that eliminates duplication and overlap. This may be facilitated by equivalency or similar agreements that effectively create a single regulator for the oil sands industry.

15.1 www.capp.ca/OIL-SANDS-PRINCIPLES

### RESPONSIBLE CANADIAN ENERGY KEY PERFORMANCE INDICATORS

The Responsible Canadian Energy key performance indicators provide a window on the oil and gas industry's performance, but by no means do they generate a complete picture. Readers are invited to review the data published in this report and on our website (www.capp.ca/rce), where there are links to additional sources of information.

← Suncor's TRO process helps separate the water and clay particles, accelerating tailings pond reclamation from 30 years down to 10 years.

The oil sands producers are of the view that in most cases the closest government on the ground, in this case the Government of Alberta, is the "best placed" regulator.

The oil sands producers understand that the public reasonably expects there to be a sound regulatory system in place for oil sands and that, where appropriate, there will be enhancement in regulatory standards over time. We support raising the bar on regulatory requirements over time, provided that these requirements are based on sound science, that they take into consideration an assessment of technological capability, and that they reflect a balanced approach to economic, environmental and social, and energy security and reliability issues.

There was a considerable amount of feedback from the Oil Sands Dialogues regarding the need for the oil sands industry to set specific performance overall targets or objectives. There are challenges in setting industry-wide performance targets and industry's focus, at least for the near term, will be on aligning metrics, monitoring and reporting performance. Broad alignment on key performance metrics, as noted above, would be an important initial step. CAPP's Responsible Canadian Energy™ report is one important element in industry's overall performance reporting process. In addition, individual oil sands operators report on performance and many have established company-specific performance targets and objectives, which can be better-aligned with the overall industry metrics and reporting systems.

## Aboriginal Consultation

The oil sands producers also recognize their responsibilities for good social performance. This was emphasized by a number of Dialogues participants, with specific reference to local and regional Aboriginal and non-Aboriginal communities.

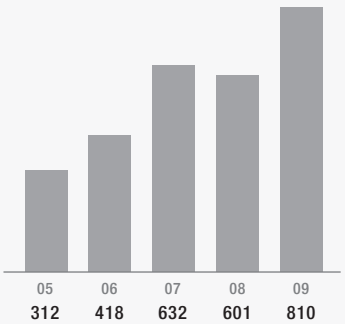
The oil sands industry believes that it has provided significant economic benefit and opportunities to local Aboriginal communities. Our industry is Canada's largest employer of Aboriginal people. In addition to direct employment, the oil sands industry awarded more than $800 million in contracts to Aboriginal companies in 2009 alone. However, at the same time, there is no question that oil sands development and operating activity has had a substantive impact on the way of life in these communities with many residents shift from hunting, fishing, and trapping to the wage economy.

Oil sands development does not go ahead without direct and meaningful Aboriginal consultation about both environmental impacts and economic benefits. Oil sands producers view productive relationships as crucial to their social license to operate. At the same

"We take great pride in being local, hiring local, support aboriginal development and hiring and supporting the local community—and being based in Fort McMurray." **—Participant**

**VALUE OF CONTRACTS WITH ABORIGINAL COMPANIES**

[$ millions]




Source: Oil Sands Developers Group

time, it is important stakeholders and government remain clear about the role of private industry in society, versus the role of elected policy makers and governments which collect and allocate resource revenues and are responsible for delivery of social, education, and health services to First Nations communities. Industry should also continue to support Aboriginal culture, working with communities to preserve cultural traditions and support cultural education and events.

Dialogues participants questioned the role of government and industry to consult with First Nations about land use and deliver benefits. Oil sands operators will continue to work with governments and Aboriginal groups to clarify the consultation and accommodation process for the benefit of all parties over the longer term.

## Community Health

With respect to health, the recent Royal Society of Canada report[2] concluded there is no evidence of linkage between health issues in local communities and oil sands development activity. However, public health in areas near oil sands development remains a concern to residents and others. The oil sands industry fully supports, and advocates, further health studies in the region, provided they are led by the responsible health authorities and grounded in good health science.

## Local Infrastructure

Some participants in the Oil Sands Dialogues noted the pressure on local infrastructure and community services arising from oil sands activity, particularly during the peak activity period that took place three to four years ago. The oil sands industry does not favour the “boom and bust” cycles that volatile commodity prices create and which make long-term business and community planning very difficult. Oil sands operators recognize their responsibilities to the communities in which they operate and view quality of life in local communities as essential to long-term attraction and retention of a skilled workforce. As such we will continue to work with governments around planning in an effort to ensure more timely investment in and development of infrastructure and community services. The industry also continues to contribute to the quality of life in the region through investments in the communities commensurate with the overall level of industry activity, and within the scope of its responsibilities.

15.2 http://www.rsc.ca/documents/expert/RSC%20report%20complete%20secured%209Mb.pdf

← Nexen works with Alvena Strasbourg, a 77-year-old Métis elder to provide their employees a first-hand account of Métis culture and history.

Canada's oil sands producers will continue to engage in constructive and balanced conversations on Canada's climate change policy.

## Labour Training and Mobility

Oil sands operators will also continue to improve and evolve operating practices, so as to increase labour availability and reduce demands on local infrastructure and community services. The oil sands industry recognizes that Canada's workforce is not concentrated in one area or region. Attracting sufficient skilled workers from across Canada to oil sands projects is a challenge given the significant number of people required on a temporary basis during project construction, and then on a recurring basis for the large planned maintenance intervals, called turnarounds, which occur at each site every two to five years. Few incentives currently exist to promote mobility among skilled trades people. Working with construction contractors and labour providers, oil sands producers have advocated for changes to the Canada's Income Tax Act to allow skilled trades to deduct travel expenses associated with temporary employment away from home.

In addition to promoting labour mobility within Canada, oil sands producers recognize a need for "front of the line" treatment for qualified skilled trades workers from the United States. "Front of the line" treatment means that qualified skilled traders workers from the United States (and vice versa) would be at the front of the line to receive work permits when foreign labour is required to meet short-term labour shortages. Producers expect labour shortages will be exacerbated given the impending demographic shift and retirement of thousands of Canada's skilled trades people. In addition to promoting better labour mobility, industry also champions trades training, a focus that includes Aboriginal people and women, who are currently underrepresented in the trades.

Large numbers of mobile workers convening in remote locations places stress on the community infrastructure and services designed and funded to support smaller, more permanent populations. To reduce impact on local infrastructure and services, most producers have invested in large on-site accommodations that offer a range of food and health services as well as recreational activities. In the competitive labour marketplace, quality accommodations, activities, and work/life balance are recognized the minimum required for constructive community and labour relations.

"Oil sands are a national training ground for construction workers. Alberta is a powerhouse in training young workers. With a workforce training plan, the oil sands can assist the country. In terms of industrial construction, oil sands is a game changer for all trades."**—Participant**

# 16: Energy/Environment Education and Public Engagement



The oil sands industry believes that transparency in its performance reporting is essential. To that end, CAPP is improving the Responsible Canadian Energy report, which will report annually on oil sands performance, and includes a third-party advisory group process. This is an example of initiatives by our industry to be more open in communicating and reporting on performance.

We plan to continue our public engagement process related to oil sands in 2011, using this Oil Sands Dialogues paper as a foundation for further dialogue. This will include a number of follow-up Dialogues planned for the first half of 2011, with the objectives to further validate the feedback from the initial Dialogues and continue the discussion of responses by oil sands producers. These sessions will be held in both Canada and the United States. It is also our intention that the outcome of this process will make a helpful contribution to other energy-related initiatives, such as the work being done on a national energy strategy by the Energy Policy Institute of Canada ("EPIC") in 2011. Follow-up thereafter will be determined by the outcome of these next steps, and by the evolution of policy and regulatory developments over the next several months.

The oil sands industry will continue to take a balanced, constructive, and solutions-oriented approach to engaging stakeholders on issues relating to oil sands. In addition, industry is open to discussions with those ENGOs and other stakeholders that oppose further development of oil sands, with a view to determine whether there is mutual interest in jointly working toward solutions that would mitigate or eliminate the current contention regarding oil sands.

The need to improve understanding of energy production and use was also a frequent theme during the Dialogues. We agree with this observation. Building better energy awareness and understanding will require a concerted effort by governments, industry, and other stakeholders, including non-governmental organizations. Industry is prepared to do its part to improve energy literacy among Canadians in order to help realize our energy and environmental objectives, and continue on the road to becoming an energy superpower.

> "I am more encouraged now than I was yesterday at this time. Make sure your process going forward is credible. Engage people that have an interest in this. Do something."
> **—Participant**

# 17: Conclusion

In convening these Dialogues, it was our goal to facilitate positive, respectful, interesting, and mutually informative discussions, initially among all participants, and thereafter more broadly among decision-makers and the Canadian public.

From our perspective, the Dialogues process has been a very useful step in sharing perspectives and improving understanding across a broad range of interests. It is our hope that the responses outlined in this paper provide a foundation for further dialogue and additional impetus to advance solutions that are in the interests of all Canadians.

"We need to look at this holistically. Need to change the inertia—and this discussion may help. The industry needs to find some simple solutions to make sure those doors stay open to civil society."**—Participant**

## Feedback

The Canadian Association of Petroleum Producers welcomes feedback and comment on this Oil Sands Dialogues paper.

Please contact us at:

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Email: communication@capp.ca

# oil sands

## GUIDING PRINCIPLES

Canada's oil sands industry will provide a secure source of energy, reduce its impact on the environment and provide economic benefits to society while developing this globally significant resource. We will achieve this through continuous improvement, by developing new technology and by committing to a set of guiding principles.

### People

- We will provide a safe environment for our employees, contractors and the communities where we operate.
- We will provide employment and business opportunities for regional communities, including Aboriginal peoples.
- We will respectfully engage directly affected stakeholders through all stages of our operations.

### Land

- We will mitigate our impact on the land while maintaining regional ecosystems and biodiversity.
- We will progressively reclaim all lands affected by oil sands operations, returning them to self-sustaining landscapes.

### Air

- We will design and operate our facilities to be better than provincial air quality objectives.
- We will continue to reduce greenhouse gas emissions per barrel equivalent of production by improving our energy efficiency and by development of new technologies.

### Water

- We will continue to reduce the amount of fresh water required per barrel equivalent of production by improving water recycle rates, using low quality (e.g. saline) water sources where feasible, and by developing new technologies.
- We will safeguard the quality of regional surface and groundwater resources.

## additional sources of energy information

Alberta Biodiversity Monitoring Institute (ABMI)
**www.abmi.ca**

Alberta Chamber of Resources
**www.acr.alberta.com**

Alberta Energy
**www.energy.alberta.ca**

Alberta Environment
**www.environment.alberta.ca**

Cambridge Energy Research Associates (CERA)
**www.cera.com**

Centre for Energy
**www.centreforenergy.com**

Clean Air Strategic Alliance (CASA)
**www.casahome.org**

Energy Resources Conservation Board (ERCB)
**www.ercb.ca**

International Energy Agency (IEA)
**www.iea.org**

Oil Sands Developers Group (OSDG)
**www.oilsandsdevelopers.ca**

U.S. Energy Information Administration (EIA)
**www.iea.org**

Wood Buffalo Environmental Association (WBEA)
**www.wbea.org**

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