

Responsible Development  
of  
Canada's Oil Sands

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**Check against delivery**

Good afternoon ladies and gentlemen. I'm very pleased to be part of the Calgary Chamber of Commerce speaker series. From the beginning, the speakers invited by the chamber have served to inform Calgarians about issues that are relevant to the business community and to each of us as citizens of the larger community. For that reason, I'm thankful they've extended this gracious opportunity for me to speak to you today.

This speech comes at a time of tremendous economic challenge, not just in Canada but around the world. Since the recession began, nearly 400,000 Canadians have lost their jobs. Many companies have cut back on their investments for the future. Some of the world's largest corporations have had to contend with bankruptcy and seek government aid. Governments are experiencing tremendous fiscal pressures as revenues fall and deficits soar. On a positive note, financial markets are stabilizing and some sectors are showing signs of recovery. But overall, it continues to be a time of great economic uncertainty around the world. An important contributor to economic recovery will be Canada's energy industry.

For more than 100 years, the energy industry has played an important role in Canada's economic growth. It continues to help drive the Canadian economy by providing reliable and affordable energy, well-paying jobs, tax and royalty revenues, technological innovation and shareholder value. Despite being one of the brighter spots of the Canadian economy, our industry is operating in a period of unprecedented public scrutiny. And the oil sands — the topic of my speech today — is the focus of considerable global and national interest, with environmental concerns at the forefront.

This has certainly made for interesting times. Despite this challenging investment climate, our company has chosen to move ahead with the Kearl oil sands project, a multi-year, multi-billion-dollar mining project that will be the largest capital project in Imperial Oil's history.

I've been asked many times how we can continue to advance our project in today's tough and uncertain business environment. So, to shed light on our approach and our

decision to move forward, I'd like to speak about three things:

- First, why development of the oil sands remains critical.
- Second, how the Kearl project fits with our approach to responsible energy development.
- Third, how technology will continue to be a source of solutions to tough issues associated with oil sands development.

## **GLOBAL ENERGY OUTLOOK**

Let me focus first on the energy and economic side of the oil sands equation.

Today most of the energy we consume in Canada and around the world comes from hydrocarbons, with oil and gas being the dominant source to fuel transportation, generate electricity, run farms and factories, heat and cool homes, and more. This will likely continue for the next several decades. Despite the current economic downturn, global energy demand will grow. Nearly all forecasts predict 30-35 percent higher energy demand by 2030. Such growth is good news. In developed nations, it promises greater

access to the technologies and services that sustain prosperity. For developing nations, energy offers something more fundamental. It represents hope and opportunity. In the developing world, energy means expanded industry, increased trade and improved transportation --- all of which create jobs that help people escape poverty. Affordable and reliable energy is vital to building new homes, schools, hospitals, and sanitation systems that improve people's quality of life.

This brighter future comes with challenges.

To meet the growing demand for energy, the energy industry must operate at a size and a scale and over a long time horizon that many people have a difficult time understanding. The world currently uses the equivalent of more than 230 million barrels of oil per day. Our company's majority shareholder, ExxonMobil, is the world's largest publicly traded energy company — yet accounts for a mere two percent of the world's total energy. It is an enormous global energy industry.

The fact of the enormous scale and growing energy demand means that we must pursue policies that allow energy to be developed from all available resources. We will need to increase the use of alternative energy sources such as wind and solar. We will also need nuclear, hydroelectric, and geothermal power. And, we will also require new transformative technologies such as second generation biofuels. These transformative technologies will require long term research investments but will have the potential to effect change on a global scale.

Not only is this an enormous challenge in terms of size, it demands long-term planning horizons. Time in the oil and gas industry is not measured in business cycles, and it's certainly not measured in election cycles. The energy we use today is the product of investment decisions and technical work, that was made years, even decades ago. In addition, for most nations, the energy that powers their economies requires a vast, complex infrastructure. New supplies of energy can come from hundreds, even thousands of kilometers away – often originating thousands of meters below the sea or drawn from resources once thought as being undevelopable.

## **CANADIAN OIL SANDS -- A WORLD CLASS RESOURCE**

Given this energy outlook, Canada is in a very strong position. The reason is, of course, this country's enormous oil sands resource. At 173 billion barrels, the oil sands have the size and scale to make a difference to meet the world's growing energy demand. Canada's history of responsible development and political stability enables long-term planning horizons. And much of the infrastructure needed to deliver new oil sands energy to the world's markets is already in place.

Canadians should feel proud of their good fortune in having such a world-class energy resource available to them.

Not surprisingly, development of this resource has become a driving force in the national economy. Over the next two decades, production from the oil sands is expected to rise from 1.3 million barrels a day to 4 million barrels a day.

Even with the recent slowdown, more than \$200 billion will be invested in the oil sands for new production over the next two decades. This will create jobs and economic benefits in every region of Canada, not just Alberta and the west.

Earlier this year, the Canadian Energy Research Institute completed a detailed study on the economic impact our industry has on the rest of Canada. You may be surprised to learn that next to Alberta, the provinces that benefit most from oil sands investments are Ontario, British Columbia, and Quebec.

I emphasize the opportunities and economic benefits offered by the oil sands resource simply because they are often downplayed or forgotten in the current public debate. Curtailing development of a resource that offers such benefits to Canada --- and is essential to meeting world energy demand --- would come at a critically high price, both economically and socially.

At the same time, I want to emphasize that those of us who are involved in oil sands development must continue to pursue these opportunities in ways that are environmentally responsible. Let me draw your attention to the set of guiding principles for developing the oil sands that was placed at your seat. These principles have been developed by Canada's major oil sands developers and represent a clear

and unambiguous statement about our commitment to responsible development of this significant resource.

At Imperial, we believe that we can have reliable and affordable energy, a strong economy and a clean environment, and we're committed to making it happen. And I say this from the viewpoint of a company that has had a long history of involvement as an oil sands producer ..... being involved from the 1960's as a major partner in Syncrude and through our Cold Lake asset, the largest thermal in-situ recovery operation in the world.

## **KEARL PROJECT**

As you know, earlier this year we officially announced our decision to proceed with the Kearl oil sands project. Our decision is an outcome of our company executing a consistent business strategy: that strategy includes taking a long-term balanced view of development, constantly improving our operating performance, and investing in a disciplined manner to grow the business. This is a strategy that the company has pursued for a very long time. This business strategy is even more relevant in the uncertain times that we face today.

Our plans call for an initial mine of about 110,000 barrels a day and subsequent phased expansions to over 300,000 barrels a day. The project will use proven technologies such as truck and shovel mining and hydro transport. We will couple the proven technologies with an innovative new proprietary froth treatment technology that allows us to ship pipeline transportable bitumen without the need for an on-site upgrader.

We know this is a challenging time to begin moving forward and we know that this decision brings great interest, given the environmental concerns of many Canadians.

Earlier this year, the Canadian Association of Petroleum Producers surveyed thousands of Canadians across the country to get a better read on current attitudes toward oil sands development. The results were interesting. We were encouraged to find that Canadians believe, as we do, that responsible development of the oil sands is possible. They also gave us a clear message: the economic and energy security benefits cannot come at the expense of the

environment. Canadians told us that as an industry we need to do better.

Taking part in this survey has reminded me once again of the significant responsibility we have as an industry and at Imperial.

As a company, we certainly don't have all the answers. But we are absolutely committed to finding innovative and integrated solutions to delivering environmentally responsible energy from the oil sands. And this approach is reflected in our plans for Kearl. This includes a strong emphasis on advanced technology to minimize environmental impacts in three areas:

- working to reduce life cycle greenhouse gas emissions
- minimizing our impact on water resources
- and reclaiming land and protecting habitat

Let's start with the issue of greenhouse gas emissions.

Our company is focused on finding and developing ways to reduce emissions. One such way is through energy

efficiency. As with all of our operations, we're focusing heavily on technologies that reduce energy use and minimize greenhouse gas emission intensity. The Kearl project will include cogeneration, a clean and efficient method of producing electricity and steam at the same time. Compared to purchasing electricity from the Alberta power grid and producing steam separately, we estimate that our overall greenhouse gas emissions will be half a million tonnes a year lower for just the first phase of Kearl.

We'll also use our new froth treatment technology to extract bitumen from the sand. The result will be more efficient use of energy and a higher quality grade of bitumen that negates the need for on-site upgrading. Kearl will be the first oil sands mining operation that does not require an upgrader to make a saleable crude oil. We will ship our bitumen directly to market as a "DilBit," a bitumen that's blended with a diluent to lower its viscosity. I recognize, however, that not everyone in Alberta is happy with this technology development. But it's clear that upgrading bitumen once, rather than upgrading two times in an upgrader and a refinery reduces life cycle greenhouse gas emissions.

Before moving off this topic, I'd like to add that we're encouraged by recent Alberta Energy Research Institute studies on life cycle greenhouse gas emissions. The studies show that the life cycle of greenhouse-gas emissions from Alberta's oil sands are much smaller than previously reported. In fact, the AERI study predicts that the Kearl project design of mining, cogeneration, and producing diluted bitumen without an upgrader, will have about the same life cycle greenhouse gas emissions as the average of conventional crude oils refined in North America. This compares to the frequently quoted mistruth of oil sands emissions being three times higher than conventional crude oils.

Next, there's the issue of water use. It takes water to produce oil from Canada's oil sands. And like other similar developments in the region, Kearl will draw water from the Athabasca River. And here some context is important: Less than 3 percent of the river's natural flow is currently allocated to the oil and gas sector. By comparison, a total of 60 percent of the flow in the South Saskatchewan River basin, which includes the Bow River flowing through Calgary, is

allocated in total to agricultural, municipal and industrial users.

As part of industry's commitment to ensure water requirements are efficiently managed, we are working cooperatively with other oil sands companies. Together we've committed to a plan aimed at preserving acceptable flow rates in the Athabasca River, as set out in a water management framework established by the Alberta and federal governments.

Kearl will use advanced technologies developed at our Cold Lake operation to recycle process water and reduce water demand. Oil sands production facilities like Syncrude and Cold Lake already recycle 80-90 percent of the water used in production. We also plan to use water storage to lessen water withdrawals from the river during winter low flow periods.

With respect to the issue of tailings, Imperial is committed to continually advancing and applying the best commercially-proven technologies for tailings management. Our plans include comprehensive procedures to manage and reclaim

tailings, which initially will be stored in an external tailings area surrounded by an extensive network of monitoring and collection wells. As mined-out areas become available, fine tailings will be recycled from the external tailings area and treated to remove water and create a solid material. This material will then be placed in mined out areas and later covered with topsoil and other reclamation materials.

Finally, there's the issue of project impacts on land and habitat.

Recently, National Geographic published an article that purported to tell the story of oil sands development. My issue with the photos in that story is that it only told part of the story: the beginning and the current part. It didn't show the final part of the story. Despite the fact that the photographer took a significant number of photos of the reclaimed areas at Syncrude, the magazine chose not to publish them. If they had, they would have been able to show readers across North America that our industry is committed to reclaiming land that we disturb. Not only are we personally committed to reclaiming the land, it's the law. In addition, oil sands mining operators are required to post

hundreds of millions of dollars in financial security to assure the government that these obligations will be met.

Imperial's Kearl project includes a major commitment to progressive land reclamation, where land used early in the project life will be reclaimed when new areas are entered. This commitment includes fully engaging local stakeholders in reclamation planning so that the lands reclaimed will provide improved wildlife capabilities and will be accessible for traditional use by the local community. Our goal is simple: in 75 to 100 years, we want no evidence that we were ever there.

So, those are some of our key plans to address environmental issues related to Kearl.

You may ask: What is different about this project?

Other than our Kearl project continuing to progress when most other oil sands projects have been sidelined, an important difference is that we have applied 40 years of our oil sands continuous improvement experience and have

reduced the environmental impact even further through new technologies.

## **THE POWER OF TECHNOLOGY**

From the outset, the key to development of the oil sands has been industry's continuous improvement and use of new, more efficient, environmentally effective technologies to produce the resource.

This continuous improvement principle has certainly been proven over and over throughout our industry's and our company's history. And a good example is the history of our Cold Lake heavy oil operation.

Back in the early 1960s, we acquired our heavy oil leases at Cold Lake. This was at a time when there was little reasonable expectation that the massive underground bitumen reserves could ever be developed commercially.

But, starting with the first pilot project in the late 1960s, the company worked to develop the technologies that would enable bitumen to be recovered at acceptable costs. It was

a slow, incremental, sometimes frustrating learning process that took place over two decades.

Since Imperial's bitumen recovery operation at Cold Lake first went into commercial production in the mid-1980s, the cost of producing a barrel of oil has been reduced by about one third. And now Cold Lake is the third largest producer of crude oil in Canada.

And along with advances in oil recovery have come significant environmental innovations at Cold Lake:

- We've pioneered state-of-the-art water recycling techniques. In 1985, more than four barrels of fresh water were required to produce a barrel of bitumen. Today the requirement is roughly one-half a barrel — a reduction of nearly 90 percent.
- And we've developed directional drilling techniques at Cold Lake that enable clusters of wells to be drilled from a single "pad," or location, dramatically reducing our impact on the land.

To sum up, our Cold Lake operation is a classic example of how innovative and capable people can transform a challenging resource into one of the largest sources of crude oil in Canada – and do so in a responsible way.

At Imperial, we certainly don't believe that the current oil sands technologies are the best they can be. They can — and will — be improved.

Investing in research and technology is critical to finding cleaner, more efficient ways of developing the oil sands. And the key to innovation is to encourage and support innovative research, and I'm proud that Imperial has been a leader in this respect.

At Imperial, about four out of every five research dollars are focused on developing innovative oil sands technologies. Last year our investment in oil sands research exceeded \$90 million.

In addition to the research that is carried out at our own Calgary research laboratory, we sponsor a wide range of energy research programs at Canadian universities and

other institutions. This brings some of the best and youngest scientific and engineering minds together to seek breakthrough technologies leading to radically better new oil sands processes. Currently, researchers are working on a number of mining technology projects that could eventually lead to a non-aqueous bitumen extraction process that would significantly reduce water use, eliminate tailings ponds and lower greenhouse gas emissions.

### **MORE RESEARCH INVESTMENT REQUIRED**

So, in closing, I'd like to leave you with one final message: the need to continue to invest in research and technology.

In these times of uncertainty, it's tempting to cut back on investments in research and technology. The current economic downturn and the increased public scrutiny, if anything, emphasizes the importance of bringing the best technology to bear on the challenges of oil sands development. This is the time to make the kinds of investments that will position Canada's oil sands business for even greater success in the future.

And so I hope that governments, academic institutions and other groups will continue to lend their support to this challenge. Partnerships between industry, governments and academia will be an important ingredient in meeting the energy challenge. We believe now more than ever ..... business and government must work cooperatively together to restore confidence and to address the needs of all Canadians in the issues of energy, the economy, and the environment.

As a company, we've always been committed to providing Canadians with reliable and affordable energy, protecting the environment, and contributing to healthy and growing national and regional economies. It is our firm belief that Canadians do not have to choose between energy security, economic well-being and a clean environment. It's not an either-or proposition. Both a healthy environment and a strong economy are important, and all of us should expect nothing less.

Thank you for your time and attention.