

Focus Canada: Alberta's Energy Sector

Economic, Environmental and Social Licence Imperatives

Salon Soleil Lecture

Union League Club and
Columbia Business School
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Shane Pospisil

Senior Partner, Western Canada
New West Opportunities



Introduction: New West Opportunities

- ❑ Shane Pospisil, Senior Partner, Western Canada
- ❑ 37 Partners and Associates
- ❑ Offices in Edmonton, Calgary, Fort McMurray, Vancouver, Seattle, Houston and Detroit
 - Business Strategy
 - Project Development, Implementation and Execution
 - Community Development
 - First Nations Capacity-Building
 - Strategic Communications and Branding



Lecture, Discussion, Respectful Dialogue

- ❑ Most public policy issues are rarely either “black” or “white.” They often exhibit multiple shades of grey, with various elements (i.e., political, social, ideological) “competing” to prevail in public decision-making.
- ❑ As practitioners of public policy, today’s lecture will be an opportunity for you to engage in a discussion on Alberta’s energy sector and the future development of the Canadian oil sands.
- ❑ Our discussion will also provide an opportunity to debate the future of hydrocarbon **production** and **consumption** in an increasingly carbon-constrained world.
- ❑ We’ll have our own public policy discussion, hopefully one that goes beyond the usual 30-second sound bites, and that focuses on the potential trade-offs and various interests at play.
- ❑ Respect for the views and values of others, and recognizing their potential biases on a particular public policy issue, is always important...but informed facts-based decisions and opinions are what we should all be striving to achieve.
- ❑ What are my political, social and ideological biases? What are yours?

What's Trending? Fort McMurray Wildfire



Fort McMurray Wildfire

- ❑ **May 3, 2016**: Hot dry weather and strong winds allow wildfires that had been burning in the nearby boreal forest to breach fire protection and suppression assets in and around Fort McMurray.
 - Almost 90,000 residents (Regional Municipality of Wood Buffalo) face mandatory evacuation orders, most quickly fleeing the flames, smoke and intense heat on their own from mid- to late-afternoon and into the evening.
 - Fort McMurray, Alberta's fourth largest urban community and the geographic centre of the Canadian oil sands, experiences a natural disaster the likes of which will take the community and its residents years from which to recover and rebuild.
- ❑ **June 3, 2016**: The Fort McMurray Wildfire remains out of control, although it is now deemed to be 50% contained and has largely shifted away from urban and industrial development/activity areas.
 - The wildfire, covering an area almost equal to that of the Province of Prince Edward Island, is now estimated to cover 581,695 hectares with a new perimeter estimate of 984 kilometres.

Fort McMurray Wildfire



Fort McMurray Wildfire

May 3, 2016:
Fire Protection and Suppression Assets Breached



Fort McMurray Wildfire

May 3, 2016:
Fire Protection and Suppression Assets Breached



Fort McMurray Wildfire

May 3, 2016: Evacuation of Residents



Fort McMurray Wildfire

June 1-2, 2016:

Re-Entry of Evacuees (Residents) Begins



Fort McMurray Wildfire

- ❑ 2,400 structures destroyed.
- ❑ Preliminary estimates of insurance losses at \$4.2 billion to \$6.5 billion.
- ❑ 1.1-1.3 million barrels per day (Mbpd) of upstream oil production offline over the evacuation period.
- ❑ Families and businesses uprooted and many still traumatized by the losses they and their community have suffered.

June 1-2, 2016: Re-Entry of Evacuees into Fort McMurray Begins

“Today is not the end of the story. It is not a return to normal life and its not yet a celebration. There is still a lot of work to recover and rebuild Wood Buffalo. This will be the work of years, not weeks.”

Alberta Premier Rachael Notley

Fort McMurray Wildfire



Fort McMurray Wildfire

DISCUSSION SEGMENT #1: IMPACTS AND PUBLIC POLICY IMPLICATIONS

- ❑ Social
 - ❑ Economic
 - ❑ Environmental
 - ❑ Fiscal/Financial
-
- Public Policy Paradigm: Interconnected, Interdependent

 - Public Policy Challenge: Balance, Sustainability

Fort McMurray Wildfire

DISCUSSION SEGMENT #1: ONGOING PUBLIC POLICY DEBATE

- ❑ Global Warming? Mitigation, Adaptation and the Need for Meaningful Public Policy Responses (Action) in Both Areas?
- ❑ Industry-Environment Interface?
- ❑ Industry-Driven Urban Growth-Environment Interface?
- ❑ Municipal Planning Frameworks and the Need for Increased Fire Protection/Suppression Buffers?
- ❑ Industry-Environment-First Nations/Métis Communities Interface?
- ❑ Boreal Forest Eco-System “Management” or Stewardship?
- ❑ Evolving Wildfire Protection/Suppression Strategies?
- ❑ Cost-Sharing of Increased Risk Mitigation and Disaster Recovery Expenses?

Alberta's Energy Sector

DISCUSSION SEGMENT #2: KEY INFLUENCERS AND DRIVERS

- ❑ Economic, environmental, social, cultural, political...the “public” is ultimately (or, at least, should be) paramount in “public policy” formulation and implementation.
- ❑ Jobs, investment, economic growth, increased energy/national security and energy self-sufficiency...many feel this is the bottom line.
- ❑ Growing awareness of the need to address global warming/climate change.
- ❑ Fuel switching opportunities (e.g., coal and liquid fuels to natural gas and renewables)?
- ❑ Governments, industry, ENGOs and court- and constitutionally-mandated First Nations/Métis communities consultation and accommodation obligations.
- ❑ ENGOs: A principled, facts-based stand against oil sands development...or proposed pipeline developments? Or a purely ideologically-driven “winner take all” agenda?

Alberta's Energy Sector Political Influencers and Drivers



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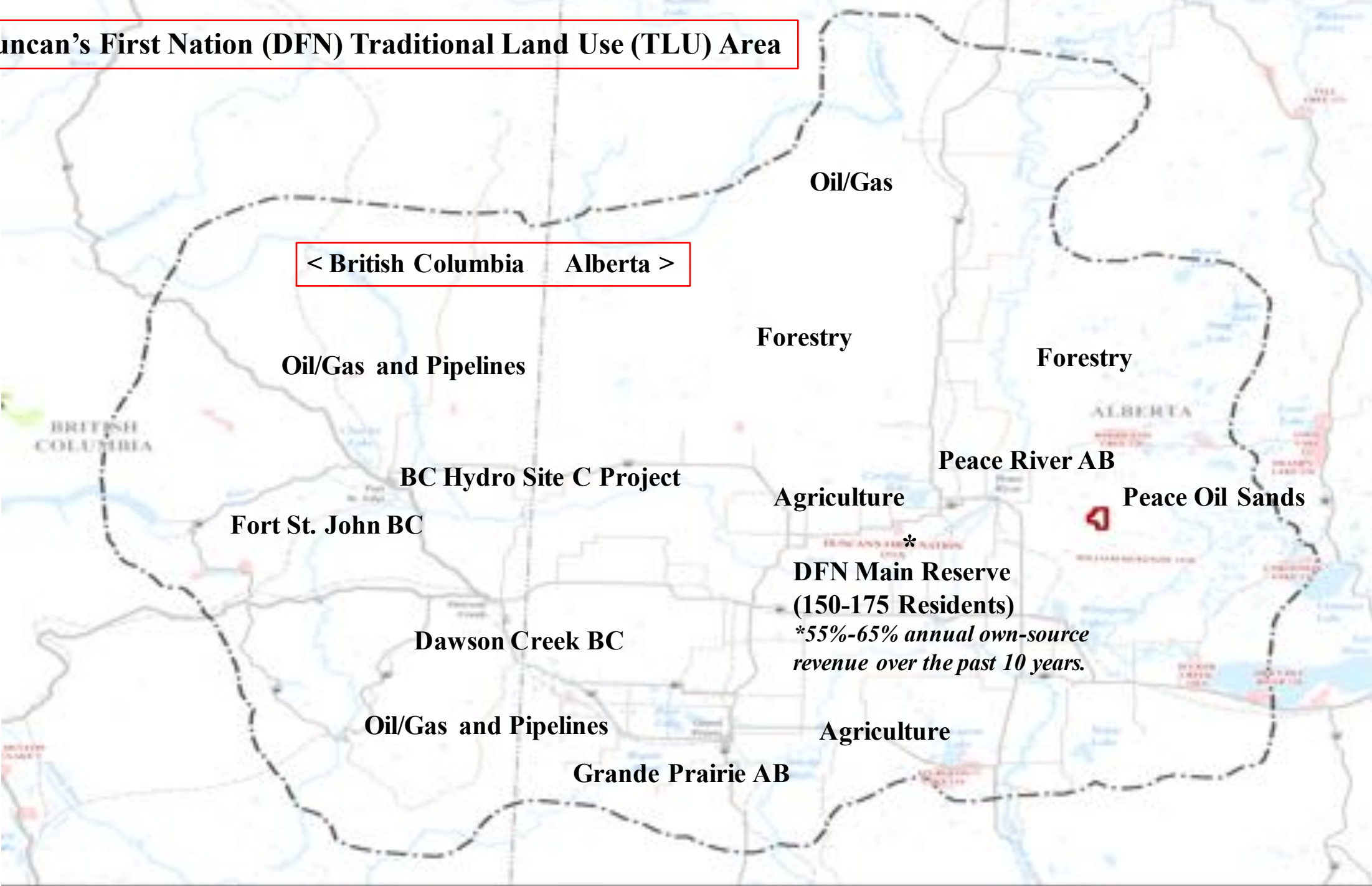


Alberta's Energy Sector

DISCUSSION SEGMENT #3: SOCIAL LICENCE

- ❑ Regardless of established regulatory review frameworks, it is critical that project proponents also work hard to build and maintain broad public support.
- ❑ ENGOs and industry now often compete openly, strategically and tactically to “win” the “hearts and minds” of the public.
- ❑ The Crown’s duty to consult and accommodate Aboriginal and Treaty Rights.
- ❑ Traditional Land Use (TLU) areas – see Duncan’s First Nation TLU on next slide.
- ❑ Emergence of Aboriginal (First Nations and Métis) Social Licence.
- ❑ Offset Benefits (e.g., Revenue Sharing, Community Capacity-Building, Jobs, Training, Opportunities for Affiliated Joint Venture Partnerships, Aboriginally-Owned Companies, etc., etc.).

Duncan's First Nation (DFN) Traditional Land Use (TLU) Area



< British Columbia Alberta >

Oil/Gas and Pipelines

Oil/Gas

Forestry

Forestry

BC Hydro Site C Project

Peace River AB

Fort St. John BC

Agriculture

Peace Oil Sands

DFN Main Reserve (150-175 Residents)

***55%-65% annual own-source revenue over the past 10 years.**

Dawson Creek BC

Oil/Gas and Pipelines

Agriculture

Grande Prairie AB

Alberta's Energy Sector

Conventional and Oil Sands Production

- ❖ **TOTAL Alberta Production (2015 NWO estimate): 3.075 Mbpd**
- ❖ Conventional (2015): 0.575 Mbpd
- ❖ Oil Sands Mining (2015): 1.1 Mbpd
- ❖ Oil Sands In-Situ (2015): 1.4 Mbpd

- ❖ **TOTAL Canadian Production (2015 NWO estimate): 3.8 Mbpd**
- ❖ 440,000 direct and indirect jobs across Canada (2014).
- ❖ \$81 billion in CAPEX (2014).
- ❖ The largest non-retail direct, indirect and induced industry sector contributor to government revenues Canada-wide.

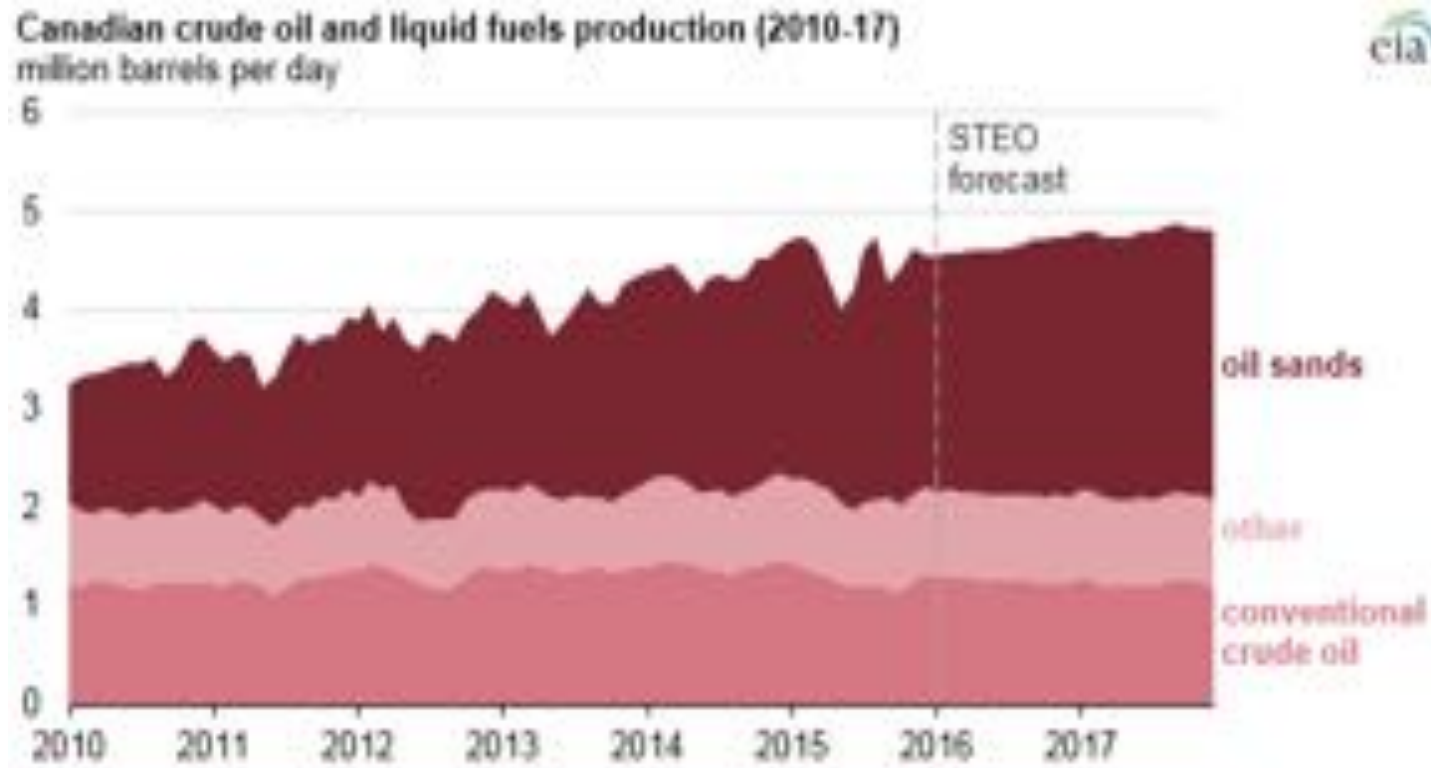
Alberta's Energy Sector

Oil Sands Development Potential

Alberta's three major oil sands deposits include:

- ❑ **Athabasca Deposit** (236 billion cubic meters of initial in-place volumes of crude bitumen)
 - ❑ **Cold Lake Deposit** (29 billion cubic meters of initial in-place volumes of crude bitumen)
 - ❑ **Peace Region Deposit** (21.5 billion cubic meters of initial in-place volumes of crude bitumen)
-
- For the province as a whole, an estimated 170 billion barrels of non-conventional oil is deemed recoverable.
 - This ranks Alberta 3rd after Venezuela (1st, 298 billion barrels) and Saudi Arabia (2nd, 267 billion barrels), and just ahead of Iran (4th, 158 billion barrels) and Iraq (5th, 150 billion barrels) in terms of recoverable reserves by country and/or producing jurisdiction.

Alberta's Energy Sector Oil Sands Development Potential



Source: U.S. Energy Information Agency, February 2016.

A Shout Out to Innovation, “Best Practices” Performance and Corporate Responsibility

- ❑ **Alberta’s oil sands have been built on a history of technological innovation and continuous improvement in both operational and environmental performance.**
 - Improvements in technical efficiency and performance.
 - Reductions in environment impacts and significant and meaningful improvements in environmental performance.
 - **CRITICAL: Reductions in operating cost profiles through leading-edge innovation, all while continuing to meet some of the most stringent regulatory frameworks in the world.**
 - The development of even stronger relationships with First Nations and Métis communities, the true stewards of the lands upon which industry operates.

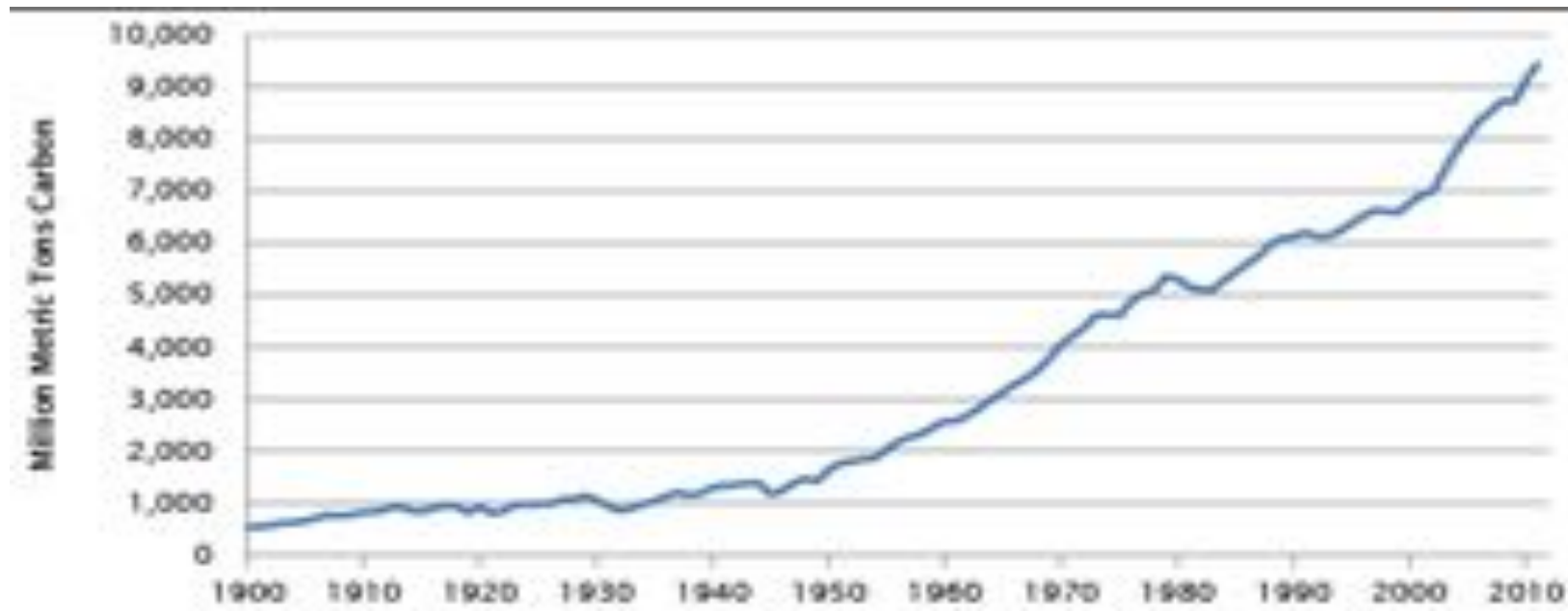
A Shout Out to Innovation, “Best Practices” Performance and Corporate Responsibility

- ❑ **PIPELINES**: The same can be said regarding each of the major Alberta-based pipeline proponents.
- ❑ These companies are all fully committed to environmentally-responsible projects...this means continuing to meet and exceed what are among the safest project build-out and pipeline operations standards that exist anywhere.



Alberta's Energy Sector Oil Sands Development Challenges

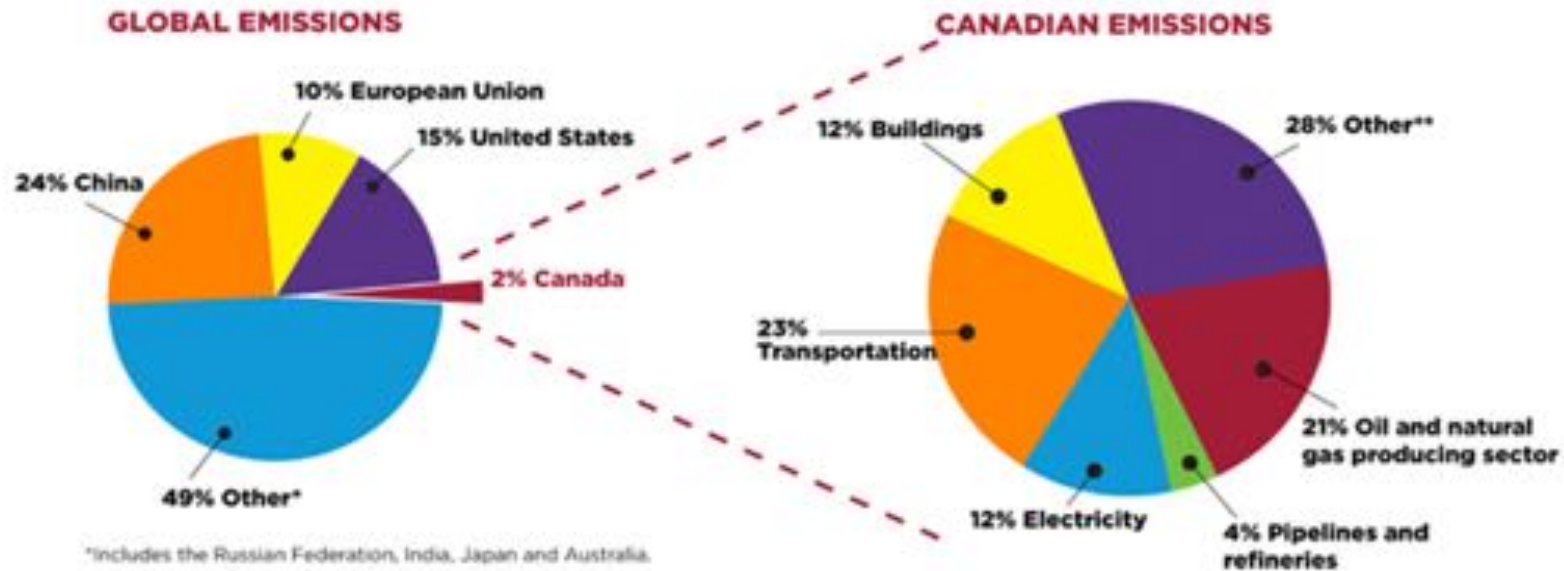
Global Carbon Emissions from Fossil Fuels 1900-2011



Source: U.S. Department of Energy, June 2015.

Alberta's Energy Sector Oil Sands Development Challenges

Global Carbon Emissions and Canadian Sector-by-Sector Breakdown



*Includes the Russian Federation, India, Japan and Australia.

**Agriculture, emission intensive and trade industries, and waste.

Source: Environment Canada 2015 & World Resources Institute 2012

Alberta's Energy Sector 2014 Q3 Economic Game Changer



Source: U.S. Energy Information Agency, February 2016.



Alberta's Energy Sector

2014 Q3 Economic Game Changer

TOTAL Canadian Oil and Gas Investment Spending

- ❖ 2014 (actual): \$81 billion
- ❖ 2015 (estimate): \$48 billion
- ❖ 2016 (forecast): \$31 billion (a staggering 62% decrease from 2014)

Other Related Impacts

- ❖ Announced Layoffs: 44,000
- ❖ Direct and Indirect Employment Losses: 110,000 Canadians
- ❖ The oil and gas service and supply industry extremely hard hit, some would say devastated, and at risk of losing **key core capacities** and **best practices (innovation) competencies** which have been developed and refined over decades.

Alberta Climate Change Strategy

DISCUSSION SEGMENT #4: PROPOSED CLIMATE LEADERSHIP PLAN

Four Proposed Components:

- 1) An Accelerated Phase-Out of Coal > Move to More Renewables and Natural Gas**
- 2) Carbon Levy and Rebates for Lower Income Consumers**
- 3) Capping Oil Sands Emissions at 100 Megatonnes (Mt) > Currently at 70 Mt**
- 4) Reducing Methane Emissions by 45% by 2025**

COAL A BIG PART OF ALBERTA'S ELECTRICITY SUPPLY

ALBERTA ELECTRICITY GENERATION CAPACITY BY FUEL TYPE AND ENERGY PRODUCED

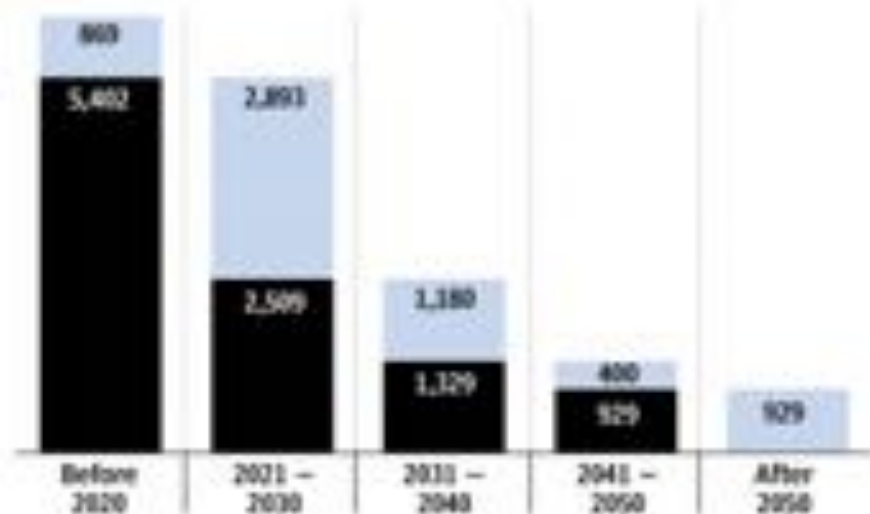
FUEL TYPE	SHARE OF ENERGY CAPACITY TODAY (MEGAWATTS)	PRODUCED IN 2014
Natural gas	7,204	20%
Coal	6,271	67%
Wind	1,434	5%
Hydro	894	3%
Other	428	1%
TOTAL	16,231	

ALBERTA'S COAL FLEET RETIREMENT SCHEDULE

Alberta's coal fleet is subject to the Federal Coal regulation which requires coal units to retire by their 50th year. The following is from the AESO and tracks retirement dates and residual coal supply:

COAL ENERGY CAPACITY IN MEGAWATTS

■ RETIRING COAL ■ REMAINING COAL



< Current Generation Mix (2014-15)



After > ?????

As Ontario learned,
the coal phase-out
announcement is the
easy part!

Alberta Climate Change Strategy

Proposed Carbon Levy Rates - Major Fuels

Type of Fuel	January 1, 2017 Rate (\$20/tonne)	January 1, 2018 Rate (\$30/tonne)
Diesel	5.35 ¢/L	8.03 ¢/L
Gasoline	4.49 ¢/L	6.73 ¢/L
Natural Gas	1.011 \$/GJ	1.517 \$/GJ
Propane	3.08 ¢/L	4.62 ¢/L

Source: Alberta Treasury Board and Finance, May 2016 (Revised).

Public Policy Priorities: What are we hearing from Albertans?

- ❑ Mitigate Environmental Impacts and Environmental Footprint
- ❑ Develop Pipeline Access to Tidewater and Eastern Canada to Diversify Markets
- ❑ Continue to Leverage Technology and Innovation
- ❑ Focus on Industry Awareness, Education and Communications – Facts are Our Friends!
- ❑ Alberta Needs More Value-Added and Diversified Markets for its Oilfield Services Companies – Jobs, Investment, Economic Growth
- ❑ Pursue Employment/Industry Support Programs such as the Petroleum Services Association of Canada's Proposal to Decommission Orphan Wells, Facilities and Pipelines, Other Legacy Assets and Inactive Wells

THANK YOU!

Contact Information:

Shane Pospisil

Senior Partner, Western Canada

New West Opportunities

Direct: (780) 758-7336

Email: Shane@NewWestAB.com

Web: NewWestAB.com

