

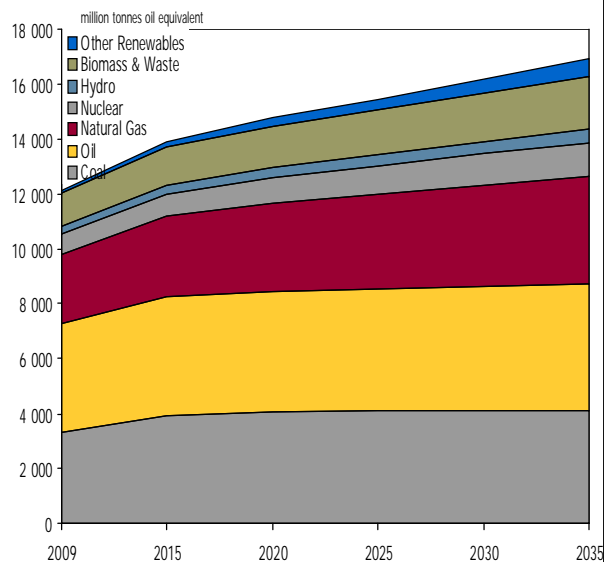


Canadian Oil and Gas Industry Outlook – Opportunities & Challenges

APEGA Luncheon – Calgary, April 19 2012

Dave Collyer, President

- **Significant energy demand growth:**
 - § Population, standards of living.
- **Need all forms of energy:**
 - § Increasing role for renewables.
 - § Continuing reliance on hydrocarbons.
 - § Increasing role for non-conventional crude oil & natural gas.
- **Technology is a key lever for sustainable growth**
 - § Production.
 - § Cost competitiveness.
 - § Environmental performance.



Canada is a Global Energy Player



#3

Canada is third to Saudi Arabia & Venezuela in crude oil reserves

#3

Canada is third in the world in natural gas production.

#6

Canada is sixth largest oil producer in the world.

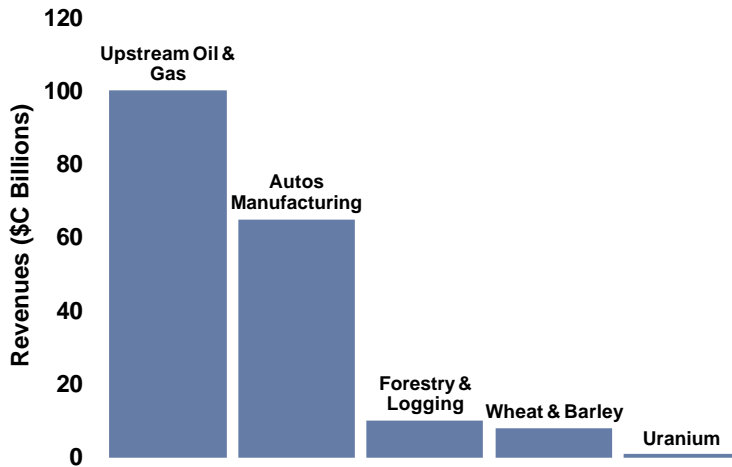
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Canada is second in the world in hydro-electricity generation.

- \$55 billion investment in Canada in 2012
 - § Largest single private sector investor in Canada
- \$21 billion paid to governments in 2011
- ~ 25% value of TSX
- Employs more than 550,000 Canadians (direct & indirect).
- A national industry – jobs, taxes, supply chain
- Key contributor to Canada's trade:
 - § Oil & natural gas accounted for ~18% of all exports
 - § Largest supplier of crude oil & petroleum products and natural gas to U.S. (24% of oil, 90% of natural gas imports)

A Comparison of Annual Revenues

Major Canadian Product-Selling Industries



Source: Statistics Canada, CAPP, Canadian Wheat Board, Natural Resources Canada, Canadian Nuclear Association, ARC Financial Corp.

5

Northern Canada			
2010	2011E	2012F	
\$0.3	\$0.3	\$0.3	

Oil Sands			
2010	2011E	2012F	
\$17	\$19	\$20	

Western Canada			
2010	2011E	2012F	
\$32	\$33	\$33	

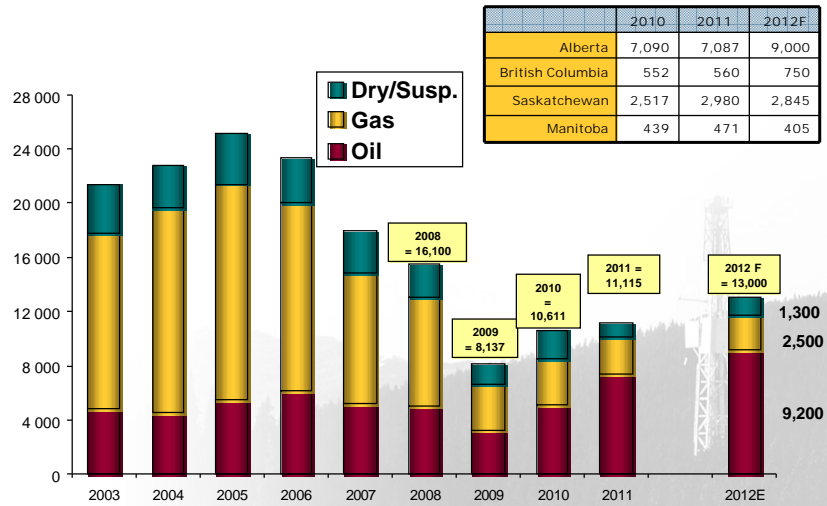
	2010	2011E	2012F
AB	\$21	\$22	\$22
BC	\$7	\$6	\$6
SK	\$4	\$5	\$5

Oil & Gas Investment Spending:	
2010:	\$51 billion
2011:	\$54 billion (estimate)
2012:	\$55 billion (forecast)

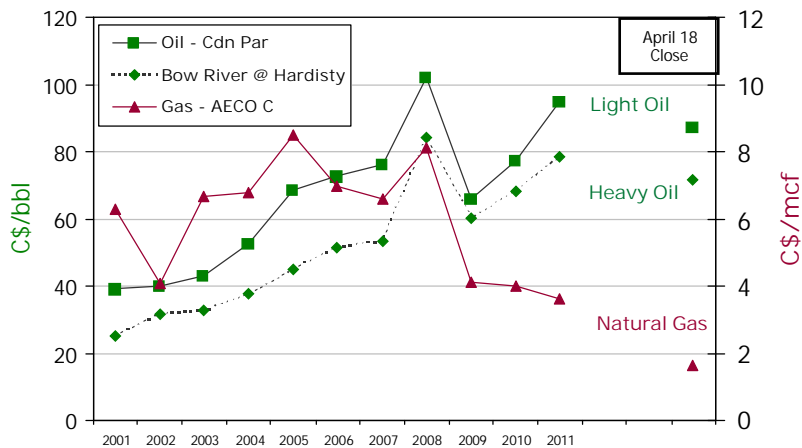
East Coast Offshore			
2010	2011E	2012F	
\$1.4	\$1.5	\$1.5	

Note:
Excludes spending mergers & acquisitions

Total Wells Drilled in Western Canada

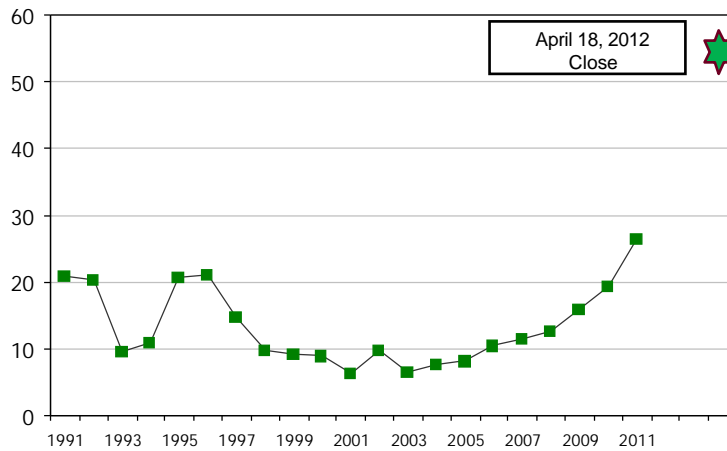


Source - CAPP. Based on Rig Release



Source: CAPP Crude Oil & Natural Gas Report

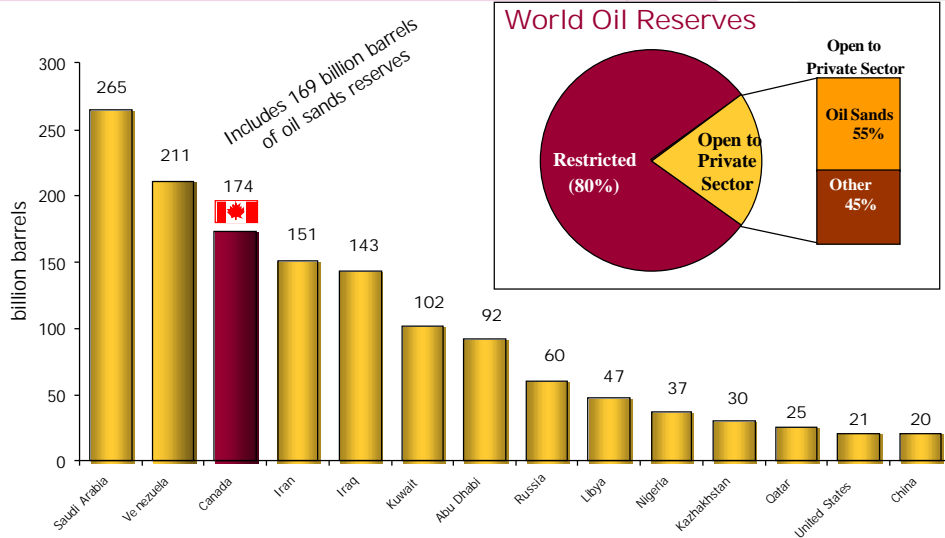
Crude Oil Vs. Natural Gas Prices (Based on Cdn. Par & AECO C)



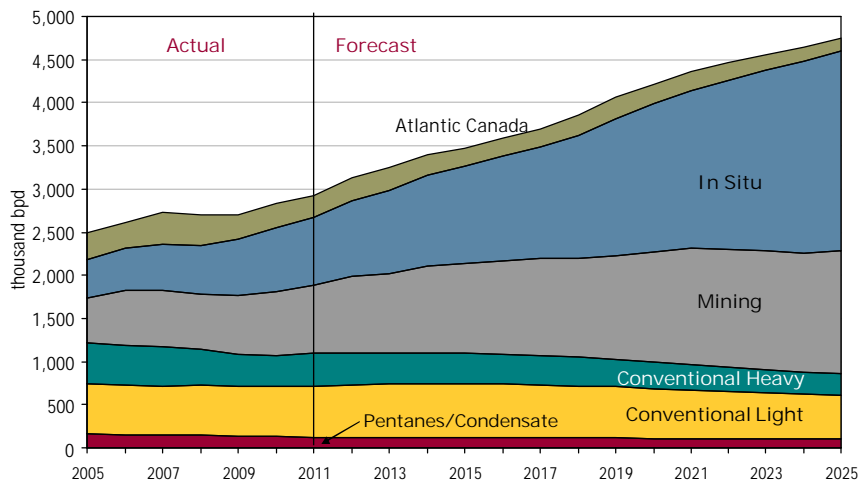
Source: CAPP Crude Oil & Natural Gas Report

- Resource base & production growth potential - oil and gas.
- Market demand.
- Established infrastructure.
- Human resources – skills and experience.
- Technology and innovation capability.
- Track record in environmental & social performance.
- Political stability.
- Financial resources.
- Broad public support for responsible oil & gas development.

Global Crude Oil Reserves by Country



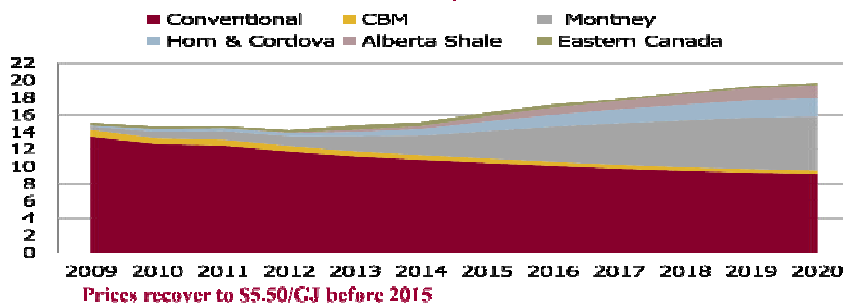
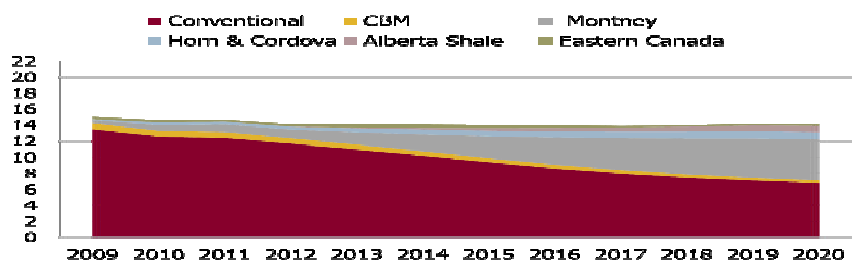
Source: Oil & Gas Journal Dec. 2011



North American Natural Gas – Supply Outlook



- Shale gas supply a game-changer
- Technology breakthroughs
- New producing regions
- Shifting S/D dynamic
- Emerging stakeholder environmental concerns (footprint, water – use & quality, seismicity)

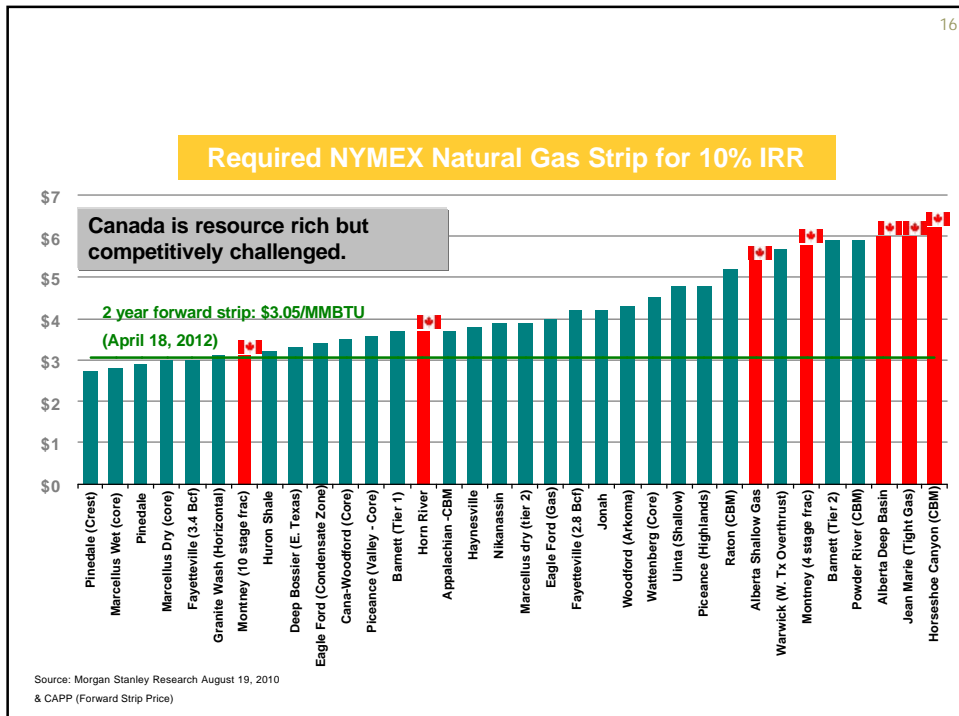


- **Competitiveness**

- § Fiscal & climate policy.
- § Market diversification.
- § Regulatory reform.
- § Workforce.

- **Social License**

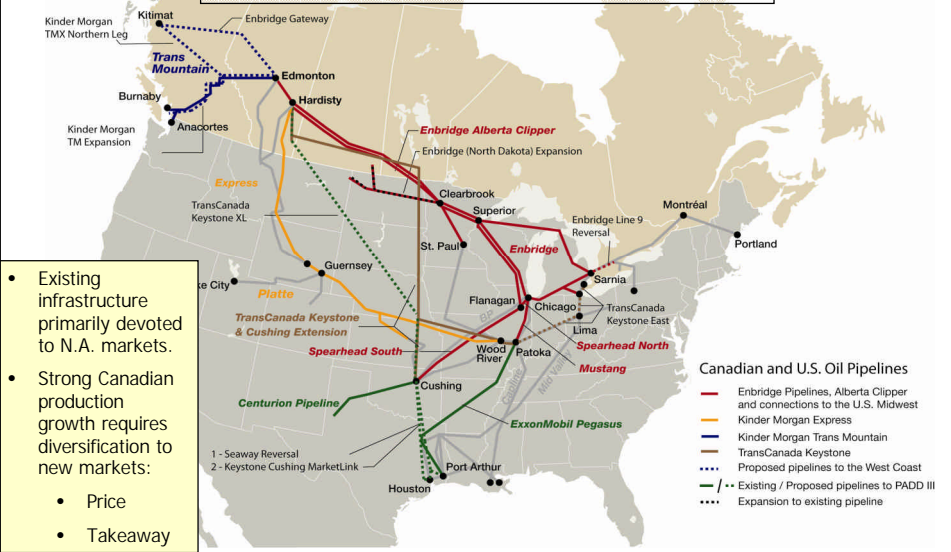
- § Media profile.
- § Industry reputation:
 - Landowner / community opposition (e.g., NIMBYism, BANANAism)
 - Heightened conflict w/ ENGOs
- § Performance (Environmental & Social).
- § Communications



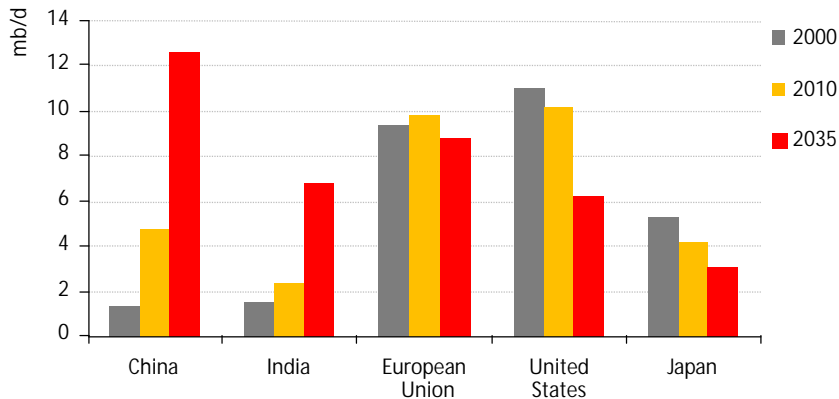
Access to Current and New Oil Markets



Canadian & U.S. Crude Oil Pipeline Proposals

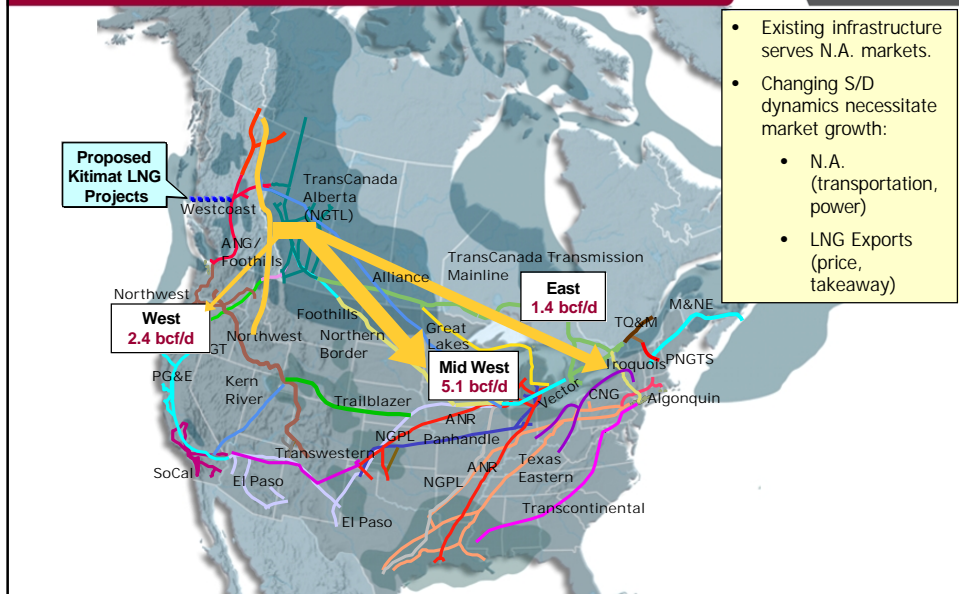


Net Imports of Oil in the IEA "New Policies" Scenario



Source: IEA World Energy Outlook 2011

N.A. Natural Gas Pipelines & 2011 Cdn. Exports to U.S. (bcf/d)

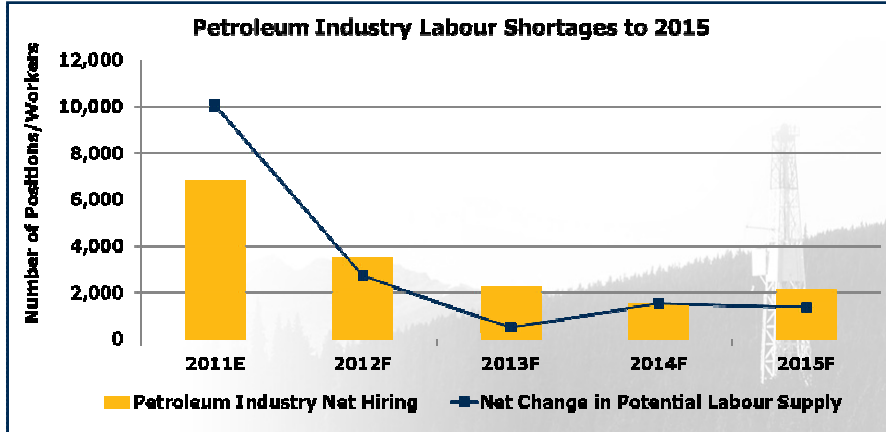


- Federal & provincial
- Key elements:
 - § Process clarity & efficiency based on risk assessment.
 - § Firm timelines.
 - § Eliminate duplication & overlap via consolidation & equivalency:
 - Within governments.
 - Between governments.
 - Among stages of review process.
 - § Improve Aboriginal consultation.
- Must ensure responsible environmental outcomes.
- More regulation is not better regulation.

Workforce Challenges Petroleum Industry Labour Shortages 2012-2015



Canada's petroleum industry will need to fill approx. 9,500 jobs over the next four years, due to employment change and age-related attrition. Up to 36% of the pending job vacancies may not get filled due to projected labour supply/demand gaps.



Source: Canada's Oil and Gas Labour Market Outlook to 2015 (to be released May 2012), Petroleum Human Resources Council of Canada
www.petrohrsc.ca

21

- **Local / Regional:**

- § Environment (air, land, water, biodiversity impacts)
- § Social (noise, dust, activity levels, impact on local services, infrastructure & wages, local benefits, employment, etc.)

.....The primary focus of landowners, communities, many Aboriginal peoples, many in public.

- **National / Global (first oil sands, now shale gas):**

- § Global climate change
- § Role of fossil fuels in future energy system

.....The primary focus of most ENGOs, some in the public..... oil & gas infrastructure is current focus of campaigns.

Industry Reputation / Social License – Framework



$$\text{Reputation / Social License} = \text{Performance} + \text{Communication}$$

•Performance:

- § Continuous environmental & social performance improvement (in context.....doing our part).
- § Technology is the key lever:
 - Improving industry collaboration.
- § Solutions-oriented advocacy for sound policy and regulation.

•Communications & Outreach:

- § Messaging - balanced “3E” focus, fact-based, solutions – oriented, “high road”, direct.
- § Delivery – diversity of mediums, approaches, spokespersons.
- § Strong focus on outreach – local / regional / national / international.
- § Grounded in performance improvement.

• Energy Efficiency

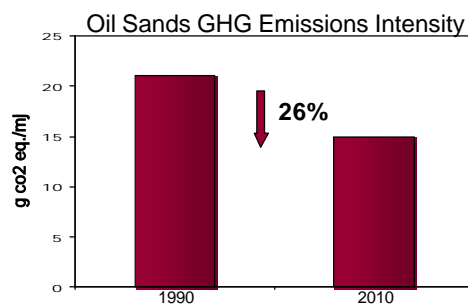
- § Using less energy input.
- § Reducing energy waste / losses.
- § Capturing waste heat
- § Cogeneration power / steam.

• Improved Recovery Processes

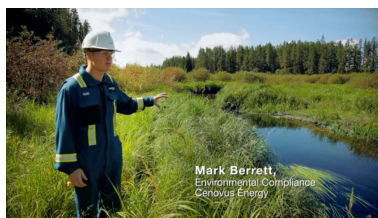
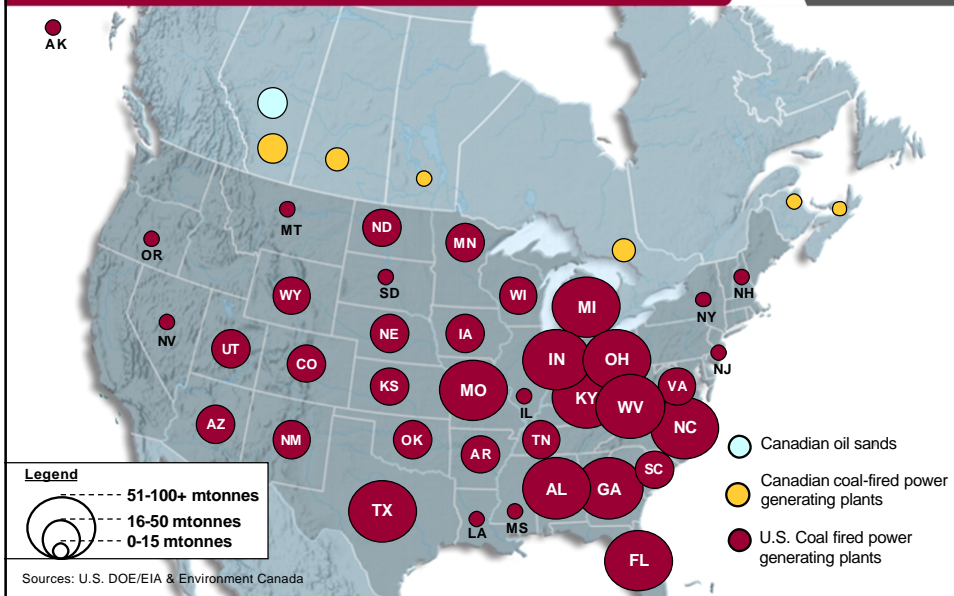
- § Lower temperature extraction.
- § Additives to reduce use of both water and energy (steam).
- § Use of electricity rather than steam.
- § Underground combustion rather than steam.

• Carbon Capture/Sequestration

- § Most effective at upgraders.



North American GHG Emissions (2010) Oil Sands and Power Generation



Diversifying focus of OS program & expanding scope of NG program in 2012.

The Way Forward



- **Opportunities**
 - § Resource scope, production potential.
 - § Market demand.
 - § Infrastructure, capacity, skills.
- **Challenges**
 - § Competitiveness.
 - § Social license.
- **Industry Social License**
 - § Performance + Communication.
 - § Must be earned (every day!).
- **Key Levers**
 - § Technology & innovation.
 - § Collaboration (within industry, along value chain).
- **The Way Forward**
 - § Focus on competitiveness & social license.
 - § Work together.....APEGA has an important role.
 - § "A marathon, not a sprint"



Q&A

