

# Crude Oil Developments in Canada

2012 APER Forum  
Washington, DC

John Foran  
Government of Canada



Natural Resources  
Canada

Ressources naturelles  
Canada

Canada 

# Presentation Overview

- Canadian crude oil market overview and trends
- Focus on Pipelines
  - Jurisdiction and Regulation
  - Capacity Gaps
  - Proposed new pipes
  - Regulatory developments
- Conclusions



# Overview: Canadian Oil Statistics

- In 2011, Canadian crude oil production was 3 million barrels per day (mb/d), sixth largest globally
  - 1.6 mb/d of production from the oil sands
- Canada's proven oil reserves are the world's 3rd largest at 173.4 billion barrels (98% of Canada's reserves are oil sands)
- 99% of Canadian oil exports go to US, 1% to Asia
- In 2011, Canada supplied 24% of U.S. crude oil and petroleum product imports and satisfied 14% of US domestic oil consumption



# Importance of Canadian Oil Trade to Canada ...

- Canada's crude oil exports were valued at Cdn\$68.9 billion in 2011; refined product exports were Cdn\$20.7 billion
- In 2011, crude and petroleum products exports accounted for 20% of Canada's Cdn\$447.5 billion of total merchandise trade
- According to the Canadian Energy Research Institute (CERI) the number of oil sands-related jobs (including the related pipeline jobs) could rise to an average of 700,000 a year across Canada for the next 25 years, and generate as much as \$3.3 trillion in economic activity
- Crude oil production provides significant benefits to Canadian society, via revenues, jobs, and \$22 billion per year in taxes and royalties to governments



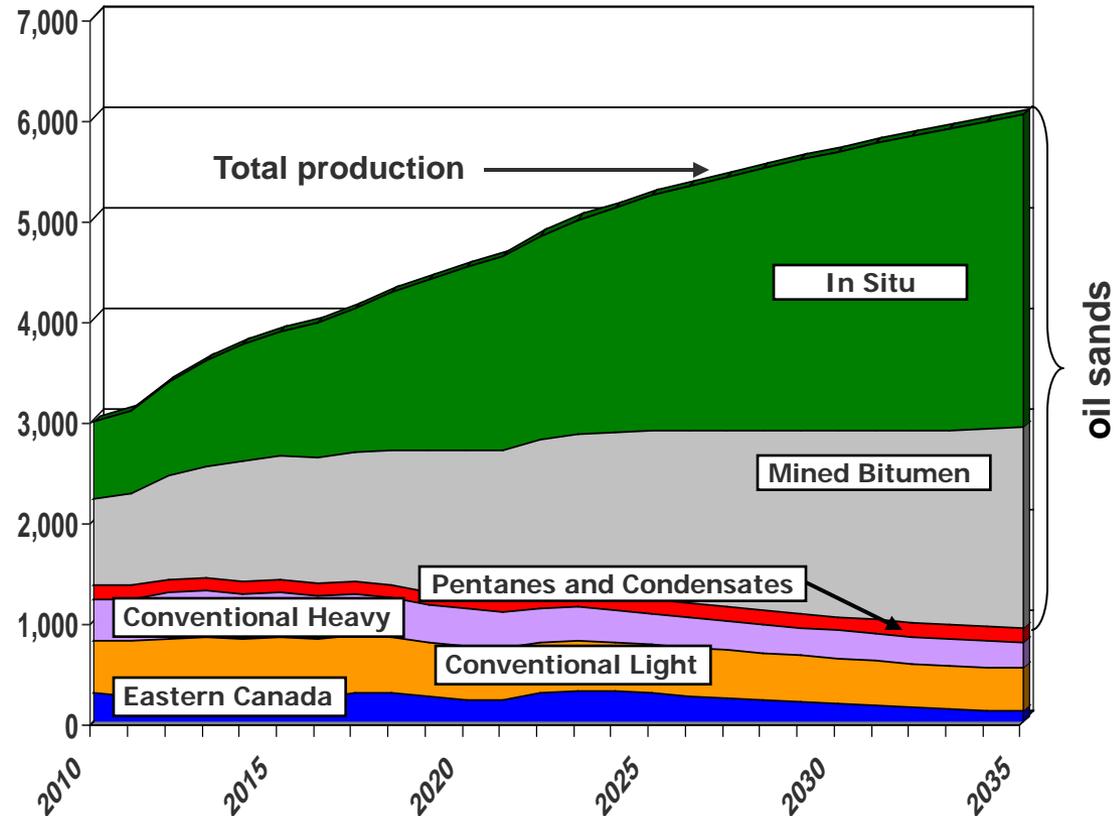
## ... and to the US

- Canadian crude oil supply is secure and growing
- For every \$1 the U.S. spends on oil from Canada, a significant percentage is returned to the U.S. economy through Canadian purchases of US goods and services.
- Between 2010 and 2035, Canadian oil development is anticipated to support, on average, an estimated 93,000 jobs per year in the United States.
- If additional pipeline capacity is built, this average is expected to grow to 160,000 U.S. jobs per year
- Roughly 1,000 U.S. companies supply the Canadian oil producing sector



# Canadian Crude Oil Production Outlook

- Canadian crude oil production forecast to double to 6 mb/d by 2035
- By 2035, oil sands accounts for nearly 85% of production compared to 54% in 2010
- Over the 2010-2025 period, oil sands production roughly triples, reaching 5.1 mb/d
- The majority of the oil sands growth occurs in the in situ category which accounts for 80% of oil sands reserves

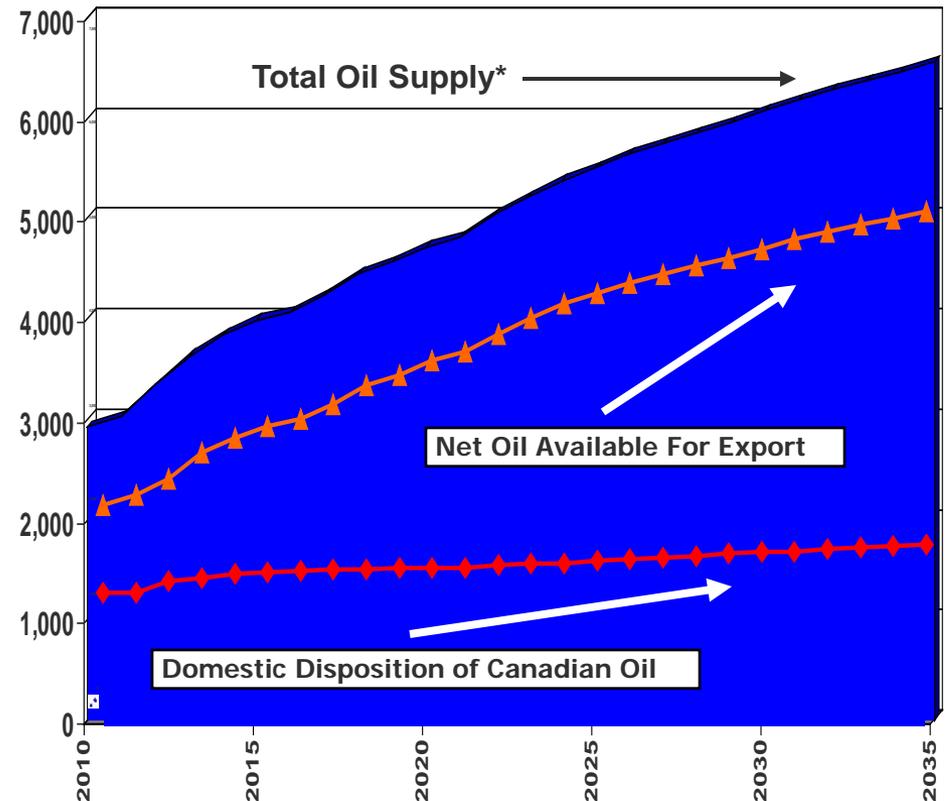


Source: National Energy Board, November 2011. Thousands of barrels per day.



# Domestic Disposition of Canadian Oil, Supply and Net Exports

- Canadian crude oil and equivalent demand is 1.8 mb/d. This demand is currently being met by domestic oil production and imports
- From 2011 to 2035, total Canadian refinery feedstock requirements are projected to rise by 28% to 2.4 mb/d
- Canadian net oil exports will continue to increase with rising oil sands production
- From 2011 to 2035, total oil exports (light and heavy) are projected to rise by 148% to 5.0 mb/d



Source: National Energy Board, November 2011. Thousands of barrels per day.

\* Total oil supply includes domestic crude oil production and some imported condensate (0.5 mb/d by 2035) which allows oil sands to flow through pipelines.



# Focus on Pipelines

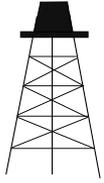


Natural Resources  
Canada

Ressources naturelles  
Canada

Canada 

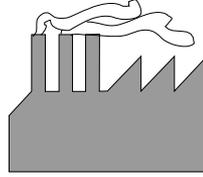
# Jurisdiction and Regulation of Pipelines in Canada



Production  
(Alberta)



Consumption  
(Ontario)



## Provincial

- Public Utility Boards
- Gathering
- Intra-provincial transmission

### Joint – Offshore Areas

- Offshore Petroleum Boards (NL, NS)
- Offshore gathering

## Federal

### National Energy Board

- Inter-provincial, international trade and transmission (pipes)
- Exploration & Development in other Frontier & Offshore

**Note:** NEB also approves Long Term Export Licences, such as the one recently issued to Kitimat LNG.

## Provincial

### Public Utility Boards

- Storage
- Distribution
- Intra-provincial transmission

## Rationale:

Provinces own the oil and gas resources in each province and regulate production activities.

## Rationale:

Federal government is responsible for inter-provincial and international trade.

## Rationale:

Provinces regulate market participants that operate only in that province.



# Crude Oil Pipelines: Existing and Proposed



- 1 - Enterprise/ETP Cushing-Gulf
- 2 - Enbridge Monarch
- 3 - Keystone Cushing MarketLink

Source: Canadian Association of Petroleum Producers

# Inadequate Crude Export Capacity now ...

- Current maximum crude oil pipeline capacity out of Canada is 3.5 mb/d
  - Crude oil shippers do not receive all the pipeline capacity they request (apportionments)
- Canadian crude oil currently discounted by \$10~\$30 compared to world market prices
  - Canada is losing over \$50 million per day, or \$19 billion per year in potential revenues<sup>1</sup>
- Expected incremental production growth of 3 mb/d by 2035 requires new pipeline capacity and market access
  - Representing potential revenues of \$300 million per day, or \$1.1 trillion per year<sup>2</sup>

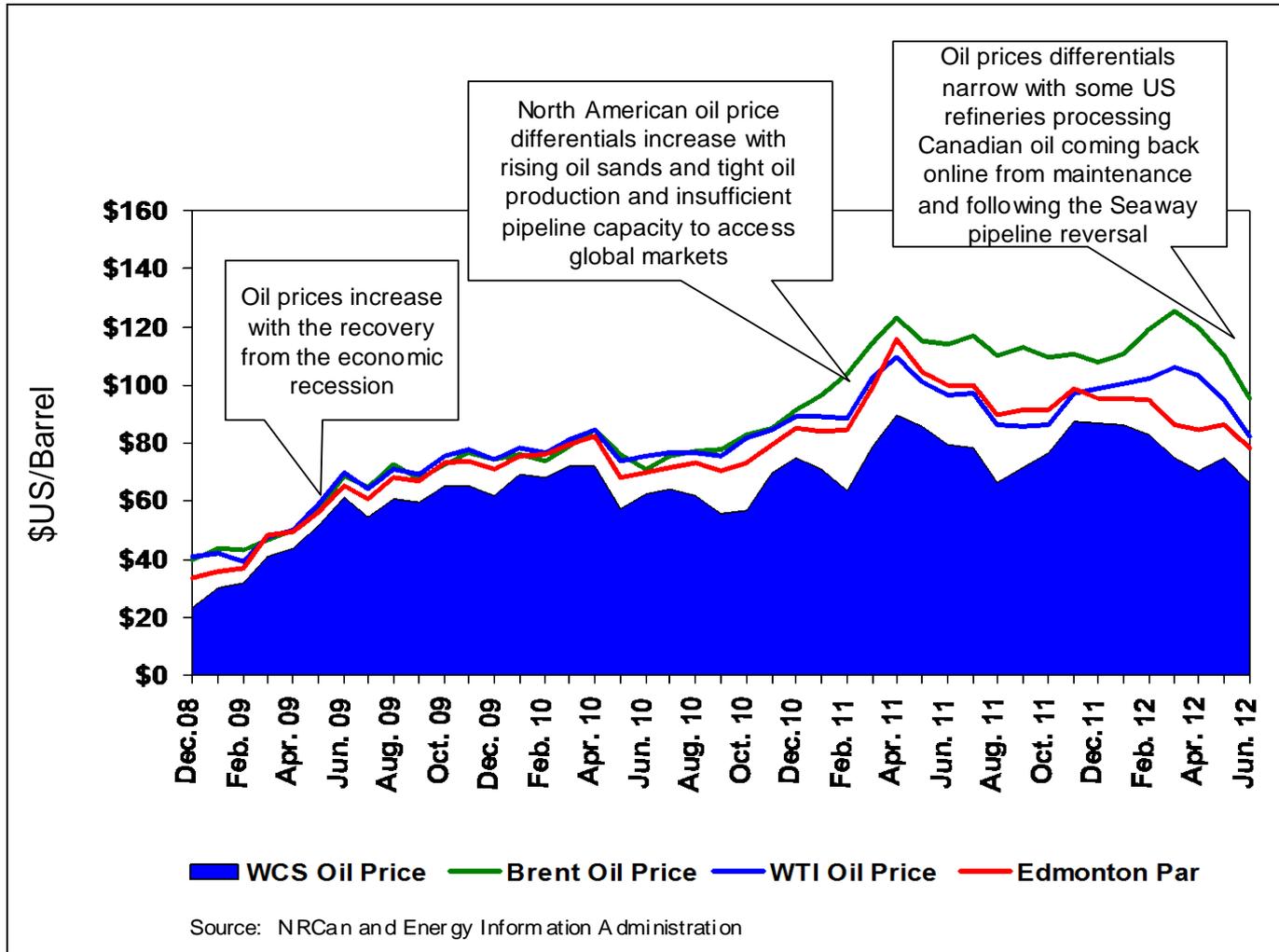
Footnotes:

<sup>1</sup> CIBC and Bank of Montreal

<sup>2</sup> Assuming oil price of \$100 per barrel



# Oil Benchmark Prices



## .. but Expected to Change - Crude Oil Transportation Capacity is Increasing

- Pipeline companies have responded by proposing expansions of existing pipelines and new pipeline projects to:
  - Debottleneck existing Canadian and US markets
  - Deliver incremental Canadian crude oil volumes to markets
  - Diversify markets
- Pipeline projects that result in more crude oil reaching tidewater would help Canadian producers realize better prices
- Other transportation options exist, such as converting underutilized gas pipelines, rail, and marine transport





# Supporting Pipeline Development

- The Government of Canada is committed to ensuring that new pipeline projects proceed in a manner that is environmentally sustainable, economically feasible and socially beneficial
- Canada's plan for *Responsible Resource Development* will modernize our regulatory system so that Canada's natural resources are responsibly developed for the benefit of all Canadians
- The measures would make regulatory reviews for major projects:
  - more predictable and timely;
  - reduce regulatory burden and duplication; and
  - strengthen environmental protection
  - Improve Aboriginal Consultations



# Improving Pipeline Safety & Environmental Protection

- In mid 2012 the Government of Canada provided its national pipeline regulator, the National Energy Board, with enhanced funding and powers.
- Key is the authority for the NEB to establish Administered Monetary Penalties (fines) to encourage individuals and companies to comply with NEB regulations and orders.
- NEB also provided with capacity funding to increase pipeline company audits and inspection.
- These measures build on initiatives already underway at the NEB, such as its Pipeline Safety initiative.
- Transport Canada also provided with new powers to improve oil tanker safety.



# Conclusions

- Canada endowed with enormous oil reserves
- Highly integrated pipeline network delivers crude oil and petroleum products to refineries and consuming regions in Canada and the US, and a small portion to Asia by tanker
- National Energy Board provides lifecycle regulation of international and inter-provincial pipelines
- Major pipeline projects are proposed - to accommodate supply growth and to diversify markets
- The Government of Canada's Responsible Resource Development plan is modernizing our regulatory framework for major pipeline projects

