Market Diversification for Canadian Oil and Gas

Presented by: John Foran
Natural Resources Canada
June 17, 2013
Canada/US Energy Trade Relationship

% US Market
- Electricity 1%
- Crude Oil 16%
- Natural Gas 12%
- Uranium 20%

- 51 TWh
- 14 TWh
- 840 MMb
- 3.1 Tcf
- 1.0 Tcf
- 2600 tU
Canada’s Energy Policy Agenda

- Market oriented energy policy
- Maximize benefits of resources for Canadians
- Ensure public health, safety, environmental protection
- Address concerns of Canadians
- Changing context
  - Outlook for increased Canadian energy production from shale gas, oil sands and tight oil
  - Prices less than global prices for same product. Infrastructure required to connect them
  - US becoming self sufficient
  - Social license
Energy Market Diversification is a priority for Canada

- “it is increasingly clear that Canada’s commercial interests are best served through diversification of our energy markets.” To this end, our Government is committed to ensuring that Canada has the infrastructure necessary to move our energy resources to those diversified markets.” – Prime Minister Stephen Harper

- Canadian oil and gas production far exceeds domestic requirements; resources are huge and growing; greater volumes will be available to export

- 99% of crude oil exports and 100% of Canada’s natural gas exports go to the United States

- US is becoming more self-sufficient, while global demand is growing

- North American prices are lower than global prices

- Growing need for, and reality of, foreign investment
Market Diversification:
Natural Gas / LNG
Global prices are higher

$ / MMBtu

Brent Crude Oil

Japan LNG

Natural Gas, Europe

NYMEX Alberta

Jan-03 Jul-03 Jan-04 Jul-04 Jan-05 Jul-05 Jan-06 Jul-06 Jan-07 Jul-07 Jan-08 Jul-08 Jan-09 Jul-09 Jan-10 Jul-10 Jan-11 Jul-11 Jan-12 Jul-12 Jan-13
US becoming more self-sufficient

Source: EIA, Annual Energy Outlook 2013
Canadian Supply will be available to export
Export Terminals Being Pursued

**West Coast (Proposed)**
- **Pacific Northwest LNG**
  - Up to 18 mtpa; In service: 2018
  - Petronas/Progress
  - Reg. applications pending

**Kitimat LNG**
- Up to 10 mtpa; In service: 2017
- Chevron, Apache
- Export license approved

**Prince Rupert LNG**
- 14 mtpa, expandable to 21 mtpa
- In service: 2017
- BG Group
- Regulatory applications pending

**Douglas Channel LNG**
- Up to 1.8 mtpa; In service: 2015
- BC LNG Export Co-operative
- Export license approved

**East Coast (Potential)**
- **Goldboro LNG**
  - Up to 10 mtpa; In service: 2019
  - Pieridae Energy Canada
  - Regulatory applications pending

- **Canaport LNG**
  - Existing import facility, up to 7.5 mtpa
  - Potential to convert to an export terminal

**Proposed Liquefaction terminals**
- **Spectral BG 4.2 bcf/d**
- **Prince Rupert 3.6 bcf/d**
- **Pacific Trails 1.4 bcf/d**
- **Coastal GasLink 5 bcf/d**
Market Diversification:
Crude Oil
Global light oil prices are higher.

For many years, Canadian crudes have tracked Brent. North American oil price differentials increase with rising oil sands and tight oil production and insufficient pipeline capacity to access global markets.
Global heavy oil prices are higher

Maya trades at a slight premium to WCS.

Heavy oil price differentials widen with rising oil sands and tight oil production and insufficient pipeline capacity to access global markets.
US Demand for Crude Imports Falling

U.S. dependence on imported liquids declines

U.S. liquid fuel supply
million barrels per day

History 2005 2011 Projections 2035

Consumption
Net imports 60%
45% 37%

Domestic supply


Source: EIA, Annual Energy Outlook 2013 Early Release
Canadian Supply has grown, expected to keep growing

Canadian Crude Oil Production

Source: Statistics Canada

Crude Oil Production Forecast

Source: Canadian Association of Petroleum Producers
Enbridge Northern Gateway (525k b/d) Under NEB Review

TransCanada Energy East (conversion) (500-850k b/d) Potential

a) Enbridge Line 9A, Sarnia-Westover Re-reversal (152k b/d), Approved
b) Enbridge Line 9B, Westover Montreal Re-reversal (300k b/d), Under NEB Review

TransCanada Energy East (500-850k b/d) Potential

Kinder Morgan Trans Mountain Expansion (590k b/d) Proposed

TransCanada Keystone XL (700k b/d) US Portion Under Review

Enbridge Bakken Pipeline (for US production) (145k b/d) Approved

Enbridge Oil Market Access Projects (400 k b/d):
- Alberta Clipper Expansion
- Spearhead/Flanagan South Expansion
- Seaway Reversal and Expansion

Pipelines
- Enbridge Pipelines, including Alberta Clipper to US Mid West (2,345 kb/d)
- Kinder Morgan Express (282 kb/d)
- Kinder Morgan Trans Mountain (300 kb/d)
- TransCanada Keystone (591 kb/d)
- Proposed Pipelines to West Coast
- Existing / Proposed to Gulf Coast
- Expansions

Source: CAPP / NRCan
Canada is a Responsible Resource Developer
Pipeline Safety

- National Energy Board (NEB) administers a rigorous regulatory regime, industry achieves a strong safety record

- Canada and US – NEB and PHMSA – similar approaches

- Canadian pipelines transport light crude oil, tight light oil, conventional heavy, synthetic light oil, and heavy oil blends (diluted bitumen)

- All Canadian crudes transported in pipelines are similar to US crudes transported in pipelines

- Bitumen-derived crudes (e.g. Western Canada Select) are heavy crudes similar to Mexico Maya, Venezuela or California heavy.

NRCan pipeline information
http://www.nrcan.gc.ca/pipeline/6698
Environmental Responsibility

- Canada is one of the few top 10 global oil producers that committed at Copenhagen to reduce its GHG emissions 17% from 2005 levels by 2020.

- From 2005 to 2011, overall GHG emissions have declined in Canada. We project this will get us half way to our emissions goal.

- GHG emissions per barrel have fallen 26% in the oil sands since 1990. The federal government, Alberta and industry are committed to further reductions.

- Canada will announce GHG regulations for the oil and gas sector in 2013.

- Canada and Alberta have established a robust monitoring system for air, water and land impacts from oil sands development.
Conclusions

- US is Canada’s biggest and most valued market
- Canada shares US goals of responsible, safe resource development
- Government and industry focussed on market diversification
- Projects being pursued to realize opportunities
- Resource is there; geology is destiny