Canadian Energy in Multiple Crises: From Pipeline and Climate to Covid-19

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Webinar Outline

1. Canada’s Energy Sector: Production & Consumption

2. Energy Crises in Canada:
   - Oil prices
   - Pipelines
   - Regulatory / First Nations / Social licence
   - Climate & GHG reduction paths
   - Other: LNG, hydro, transmission lines

3. Sustainable Paths
1. Canada’s Energy Sector: Production & Consumption
Top 10 - World Energy Producers, 2017

IEA (2020)
Per Capita Production, Total Primary Energy Supply and Total Final Consumption, 2017

World Average
- Production per capita (GJ): 78.2
- TPES per capita (GJ): 77.8
- Total Final Consumption per capita (GJ): 54.1

IEA (2020)
Per Capita Total Final Consumption Breakdown, Countries >5 million people, Top 10, 2017

IEA (2020)
Canadian Oil Production: 4.6 Mb/d, 2018

- Alberta: 81.8%
- Saskatchewan: 10.8%
- Newfoundland and Labrador: 5.1%
- British Columbia: 1.4%
- Manitoba: 0.9%
- Other*: 0.1%
- Total Production: > 50%

*Other: Nova Scotia, Ontario and the Northwest Territories include crude oil, condensates and pentanes plus.

NRCan (2020)
Oil & Gas Production in Alberta Monthly, 2007-2020

Alberta Government (2020)
Energy Sector GDP by Province 2016

by Provincial Share of Canadian GDP, 2016

and Energy Sector Share of Provincial GDP, 2018

Statistics Canada (2020)
2. Energy Crises in Canada
Oil Prices: A Double Price Crisis, 2014-2020

Recent low: March 30th 2020: WTI $20.09, WCS $4.69

Alberta Government (2020)
Pipelines: Western Canada Takeaway Capacity vs. Supply Forecast, 2015

Western Canadian supply + U.S. Bakken movements

Rail

Keystone

Enbridge Mainline

Express

Trans Mountain

Trans Mountain Expansion

Northern Gateway

TransCanada Energy East

Enbridge Line 3 capacity restored

Alberta Clipper Expansion

Delayed

Delayed

2019
2015

CAPP (2015)
Regulatory Crisis: Assessment of Infrastructure Projects

- **Bill C-69** *An Act to enact the Impact Assessment Act and the Canadian Energy Regulator Act*
  - Impact Assessment Agency
  - Canadian Energy Regulator

- **Bill C-48** *Oil Tanker Moratorium Act*
  - Prohibits oil tankers along BC’s north coast (northern tip of Vancouver Island to the Alaska border)

Both bills passed in June 2019 – but are objected by the industry and the Alberta government.
Other Crisis: *Rail Blockades Feb.-March 2020*

LNG Canada & Coastal GasLink

LNG Canada
**3.5 Bcf/d**
Shell-Petronas-PetroChina-Mitsubishi-KOGAS

CBC (2020)
### Other Crisis: Hydropower

<table>
<thead>
<tr>
<th>Site C – British Columbia</th>
<th>Muskrat Falls – Newfoundland and Labrador</th>
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<tbody>
<tr>
<td>1,100 MW</td>
<td>824 MW</td>
</tr>
<tr>
<td>5.1 TWh/yr</td>
<td>4.9 TWh</td>
</tr>
<tr>
<td>Completed in 2025</td>
<td>Completed in 2020</td>
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<td>&gt;$9 billion</td>
<td>&gt;$11 billion</td>
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BC Hydro (2020)  
Nalcor Energy (2020)
Other Crisis: Transmission Lines

Massachusetts Clean Energy RFP

20-yr contract 9.45 TWh/yr
Awarded to Hydro-Quebec in 2018 (pending transmission)
Covid-19 impact

• Catastrophic economic situation in Alberta (+ Saskatchewan and Newfoudland & Labrador)

• Economic slowdown => lowers investment prospects in the energy sector (Oil and Gas + LNG, but also in hydro and other renewables)

• Forced GHG reduction

How to help the energy sectors?
3. Sustainable Paths
No Easy Solution

• Consolidation in the oil & gas industry, to prepare for a possible steady or declining production
• Seek a fundamental change in consumption levels
• Develop a sustainable fiscal framework
  • End preferential fiscal treatments for fossil fuels
  • Higher carbon prices
• For decarbonization, Canada has to reconsider its *provincial* approach to electricity and better integrate planning and operations
Thank You

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