



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

Pierre-Olivier Pineau
HEC Montréal, Canada
April 15, 2020



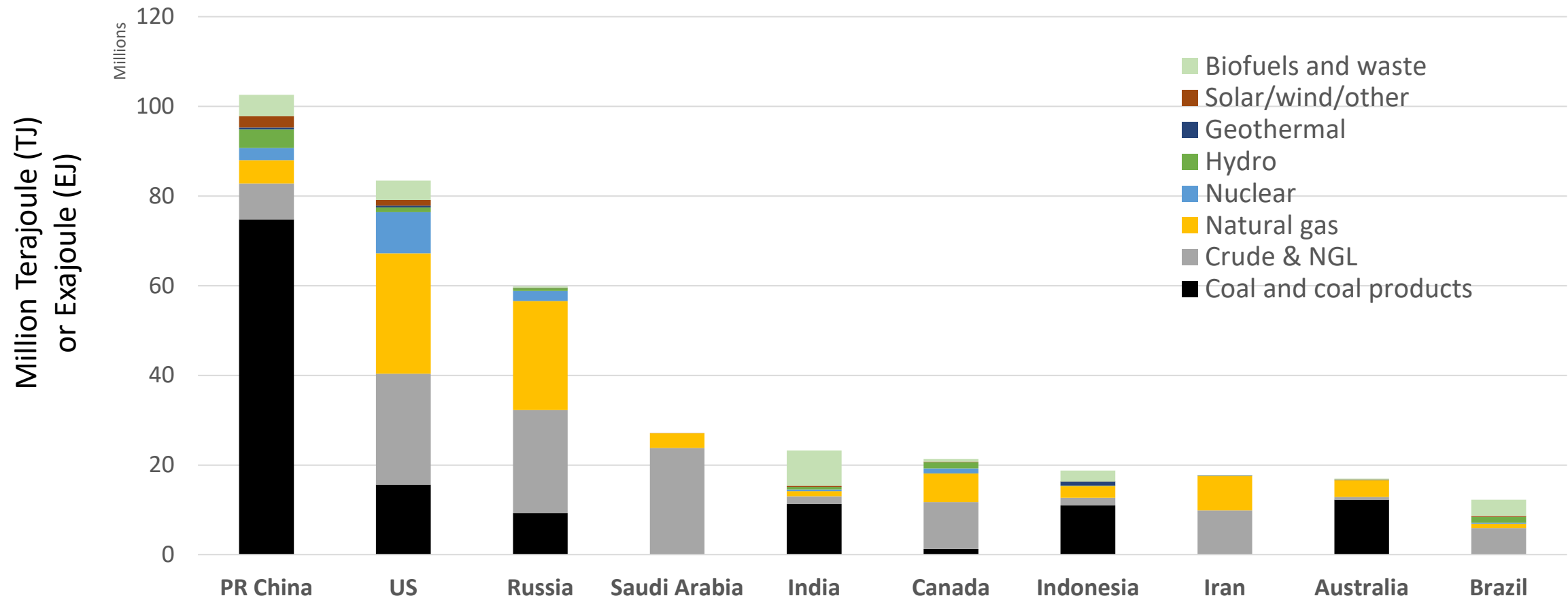
Chair in Energy Sector
Management
HEC MONTRÉAL

Webinar Outline

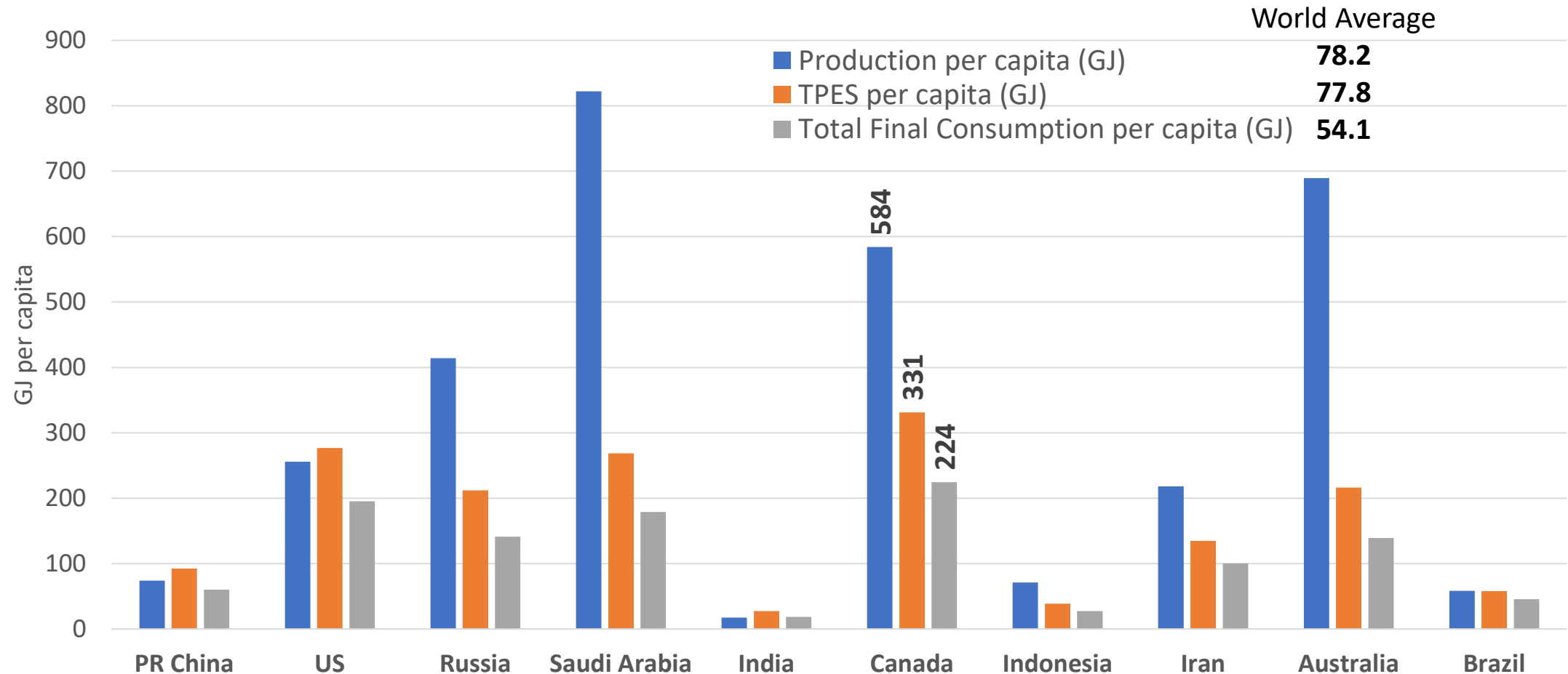
1. Canada's Energy Sector: Production & Consumption
2. Energy Crises in Canada:
 - Oil prices
 - Pipelines
 - Regulatory / First Nations / Social licence
 - Climate & GHG reduction paths
 - Other: LNG, hydro, transmission lines
3. Sustainable Paths

1. Canada's Energy Sector: Production & Consumption

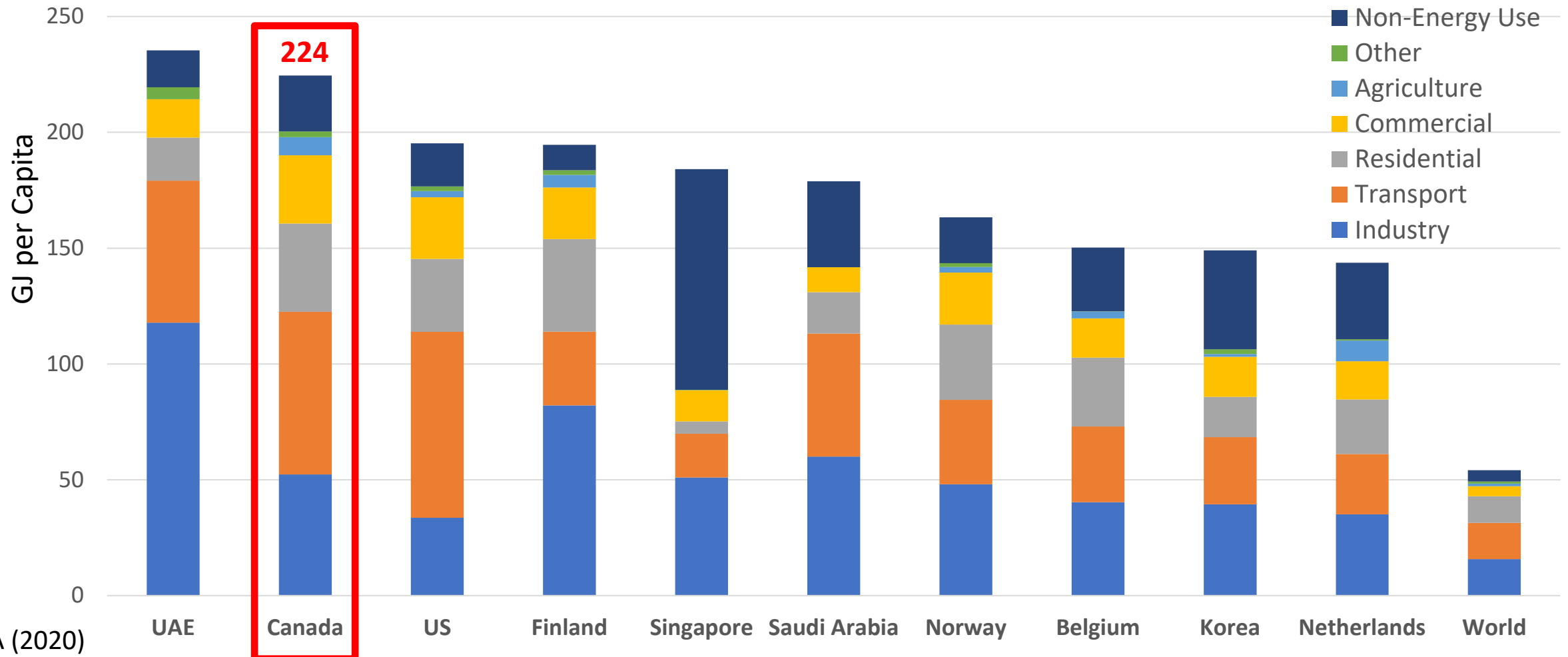
Top 10 - World Energy Producers, 2017



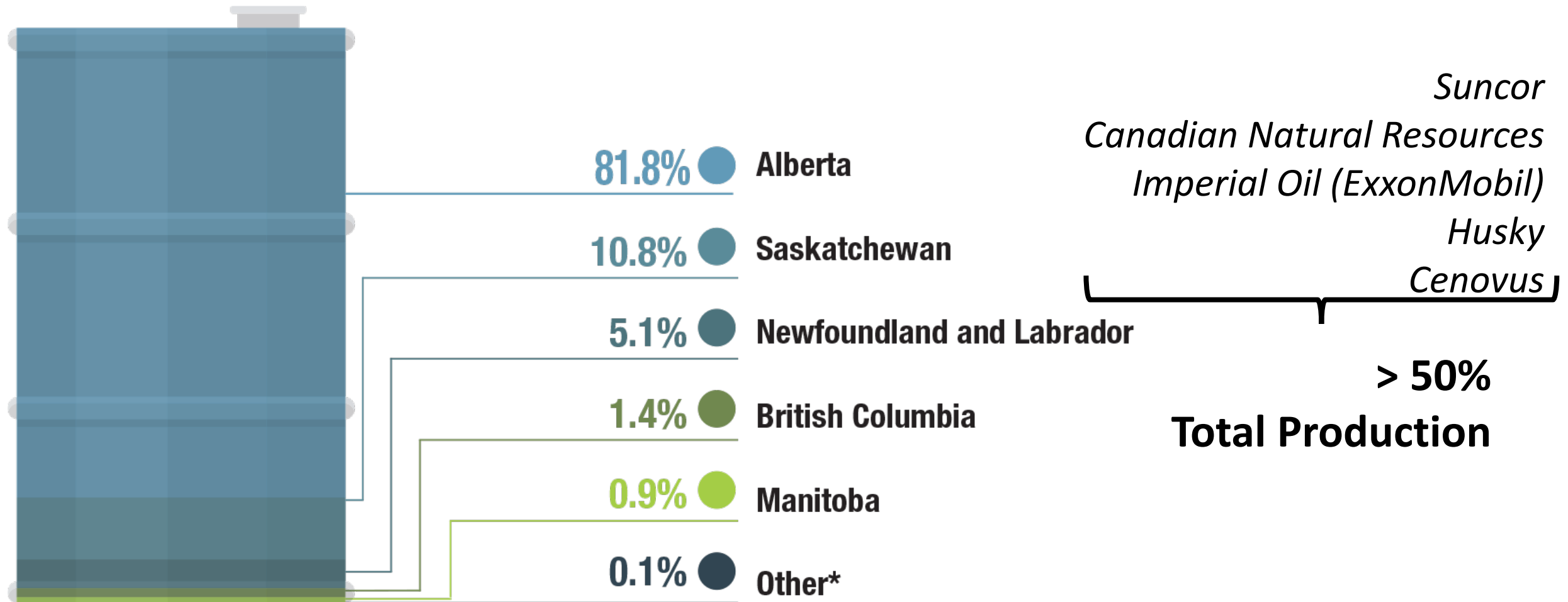
Per Capita Production, Total Primary Energy Supply and Total Final Consumption, 2017



Per Capita Total Final Consumption Breakdown, Countries >5 million people, Top 10, 2017

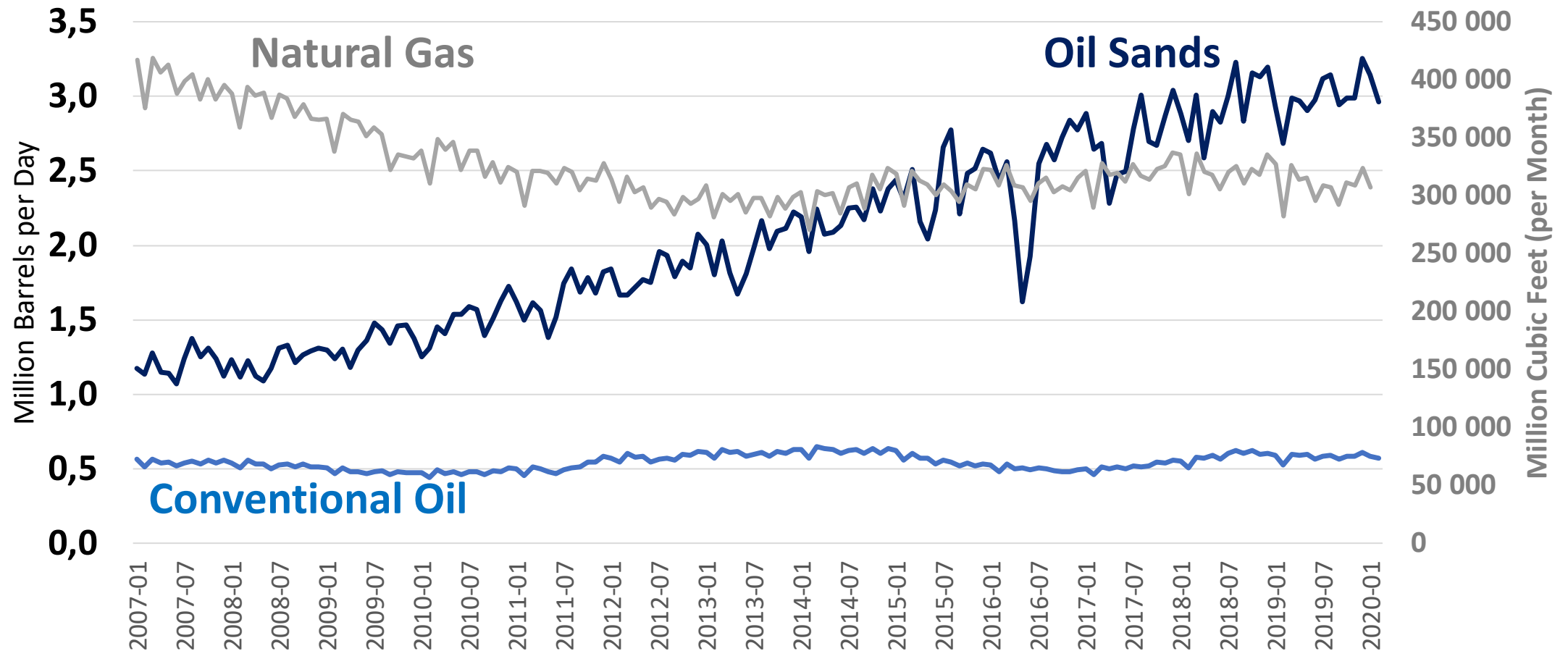


Canadian Oil Production: 4.6 Mb/d, 2018



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

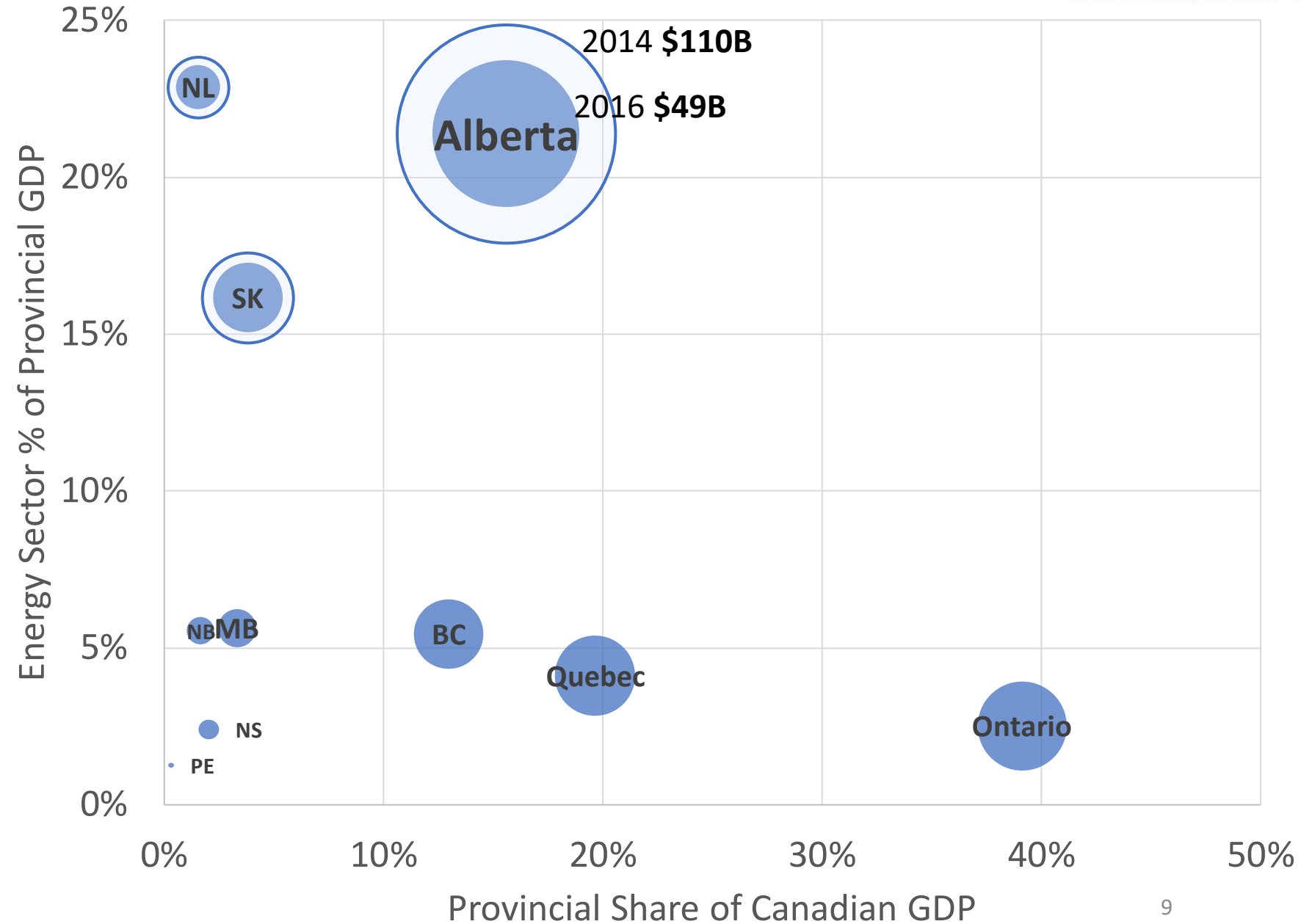
Oil & Gas Production in Alberta Monthly, 2007-2020



Energy Sector GDP by Province 2016

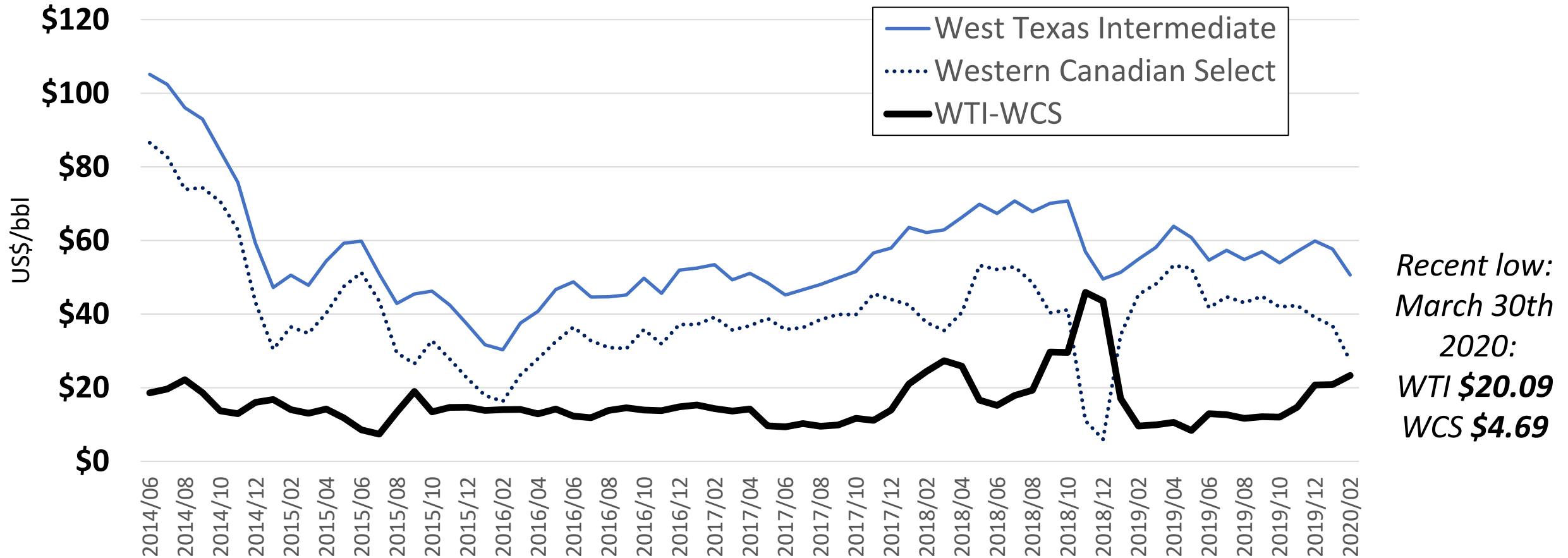
by
Provincial Share of Canadian
GDP, 2016

and
Energy Sector Share
of Provincial GDP, 2018

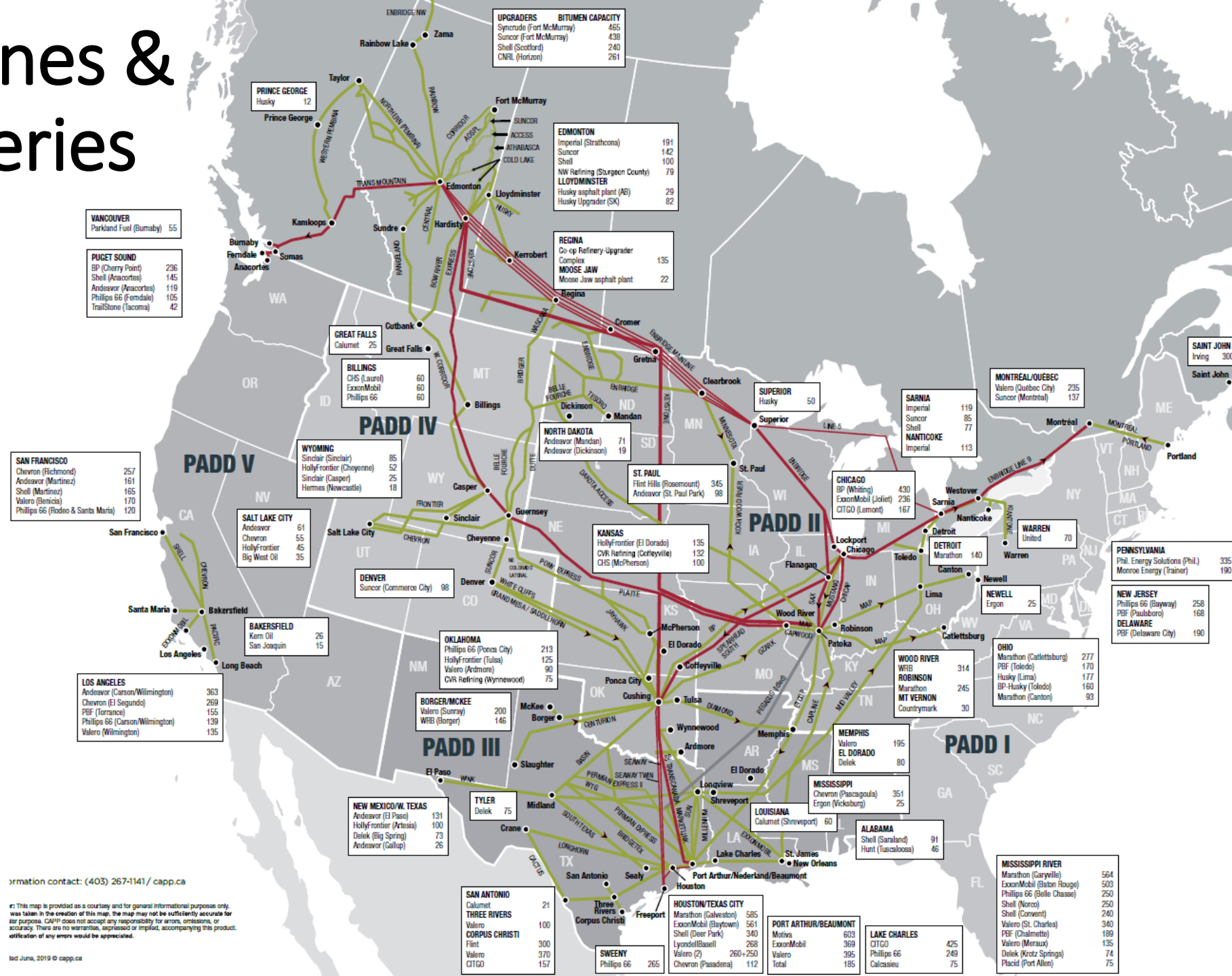


2. Energy Crises in Canada

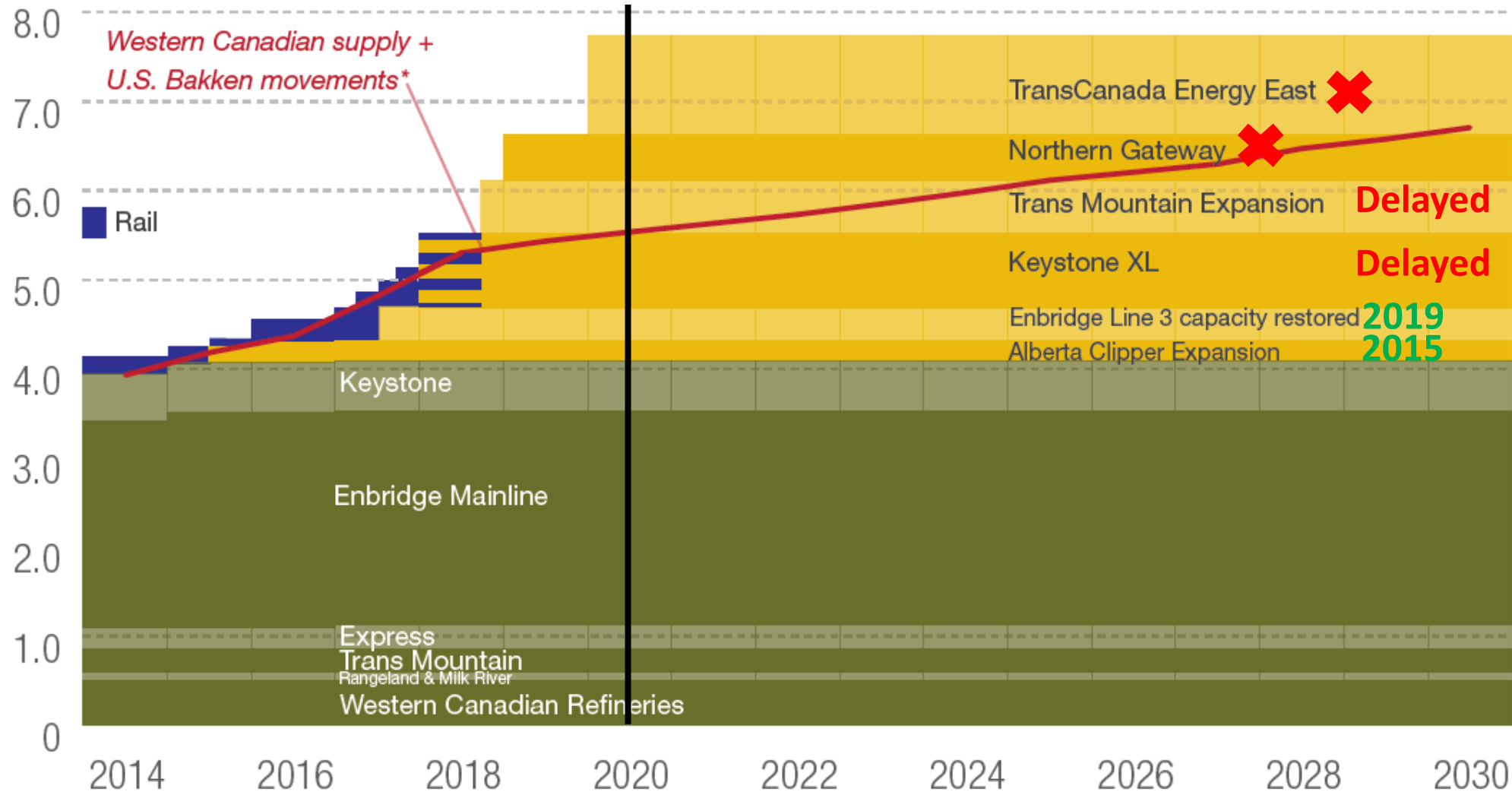
Oil Prices: A Double Price Crisis, 2014-2020



Pipelines & Refineries



Pipelines: Western Canada Takeaway Capacity vs. Supply Forecast, 2015



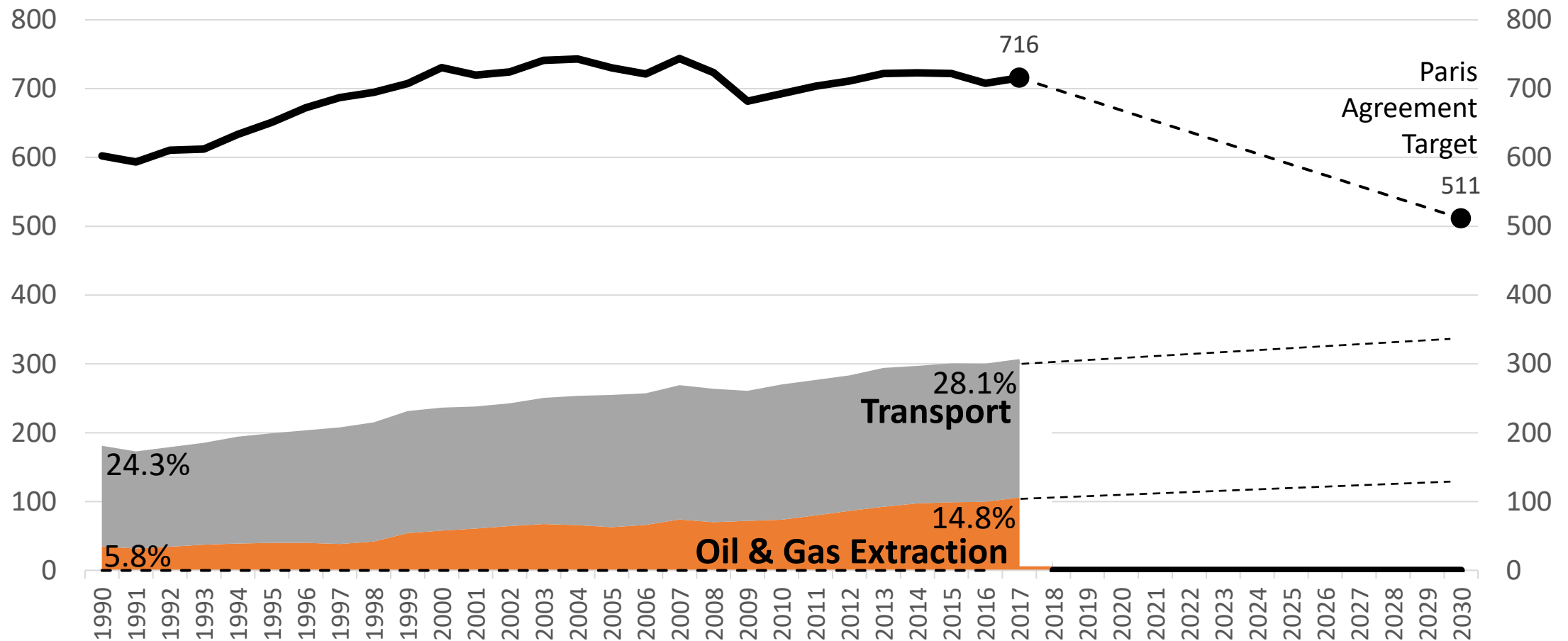
Regulatory Crisis:

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.

Emissions Crisis: Canadian GHG 1990-2017, million tonnes CO₂-eq.



Other Crisis: *Rail Blockades Feb.-March 2020*

LNG Canada & Coastal GasLink



Other Crisis: Hydropower

Site C – British Columbia

1,100 MW

5.1 TWh/yr

Completed in 2025

>\$9 billion

BC Hydro (2020)

Muskrat Falls – Newfoundland and Labrador

824 MW

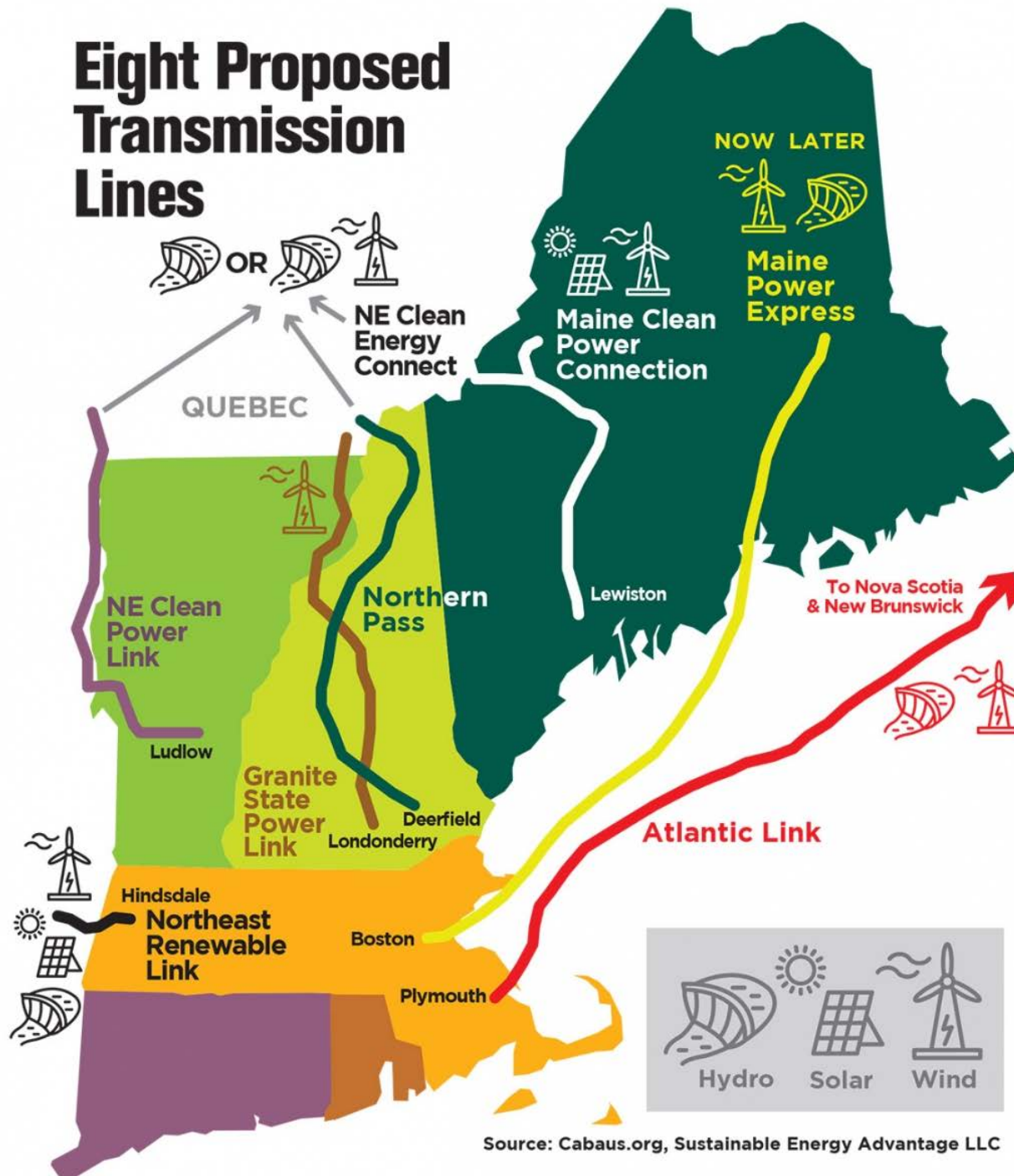
4.9 TWh

Completed in 2020

>\$11 billion

Nalcor Energy (2020)

Eight Proposed Transmission Lines



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 Newfoundland & 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

iaee.org
energie.hec.ca

Chair in Energy Sector
Management
HEC MONTRÉAL

BORALEX

ENBRIDGE

ENERCON

Énergie
Brookfield

energir

**Hydro
Québec**

Valero

WSP

