Investing in Canada's Energy Advantage

Building the Energy Systems of Tomorrow

LNG Producers and Consumers Conference

Japan, October 2018



Canada is a global energy leader with world-class assets and expertise

Renewables

- 9th in wind power capacity
- 10-fold growth in solar capacity since 2010
- 8th in liquid biofuels

Nuclear

- 2nd in uranium production
- Tier 1 Nuclear Nation
- Own nuclear reactor technology (CANDU)

Hydro

- 2nd largest hydro producer
- 59% of Canadian electricity

Innovation

- \$2.2B invested in energy RD&D
- 56,000 employed in clean energy









- 4th largest producer
- \$7B net exports

Crude

- 4th largest producer
- 3rd largest proved reserves

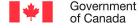
Environmental performance

- From 2000-2016, emissions per unit of energy decreased 13%
- Oil sands emissions per barrel decreased 29% in same period

Energy efficiency

- Saved Canadians \$38B in energy costs
- Avoided 95 Mt of GHG emissions

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Canada's energy advantage: low 'above ground risk"

- ✓ World class regulators
- ✓ Stable and competitive royalty regime
- √ Strong intellectual property regime
- ✓ Open and transparent government
- √ Well-developed infrastructure
- ✓ Attractive tax treatments
- √ Skilled and diverse workforce
- √ Strong environmental and regulatory performance

MARGINAL EFFECTIVE TAX RATE ON NEW BUSINESS INVESTMENT, 2018



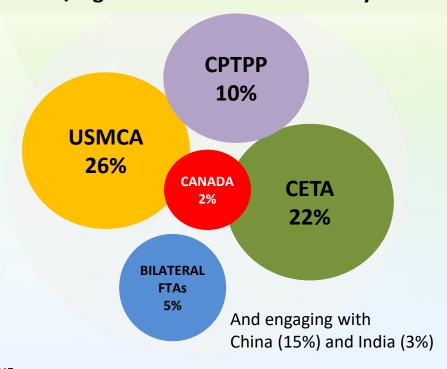


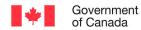


Canada is a free trading nation with growing access to global economy Over 2/3 global GDP to be covered by FTAs

✓ Negotiated free trade with massive share of global economy: combined GDP over US\$50T

- ✓ Proximity to energy demand
 - Asia from the West Coast
 - Europe from the East Coast
 - Connected to an integrated North American network
- ✓ Strong international partnerships and engagement

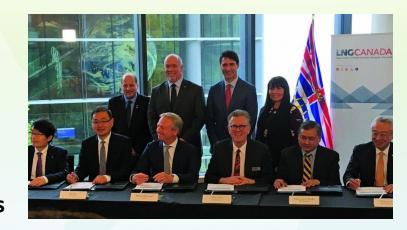






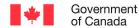
Canada is an attractive place to invest:

- ✓ Investing in clean growth
- ✓ Creating certainty through carbon pricing
- **✓** Driving performance through innovation
- ✓ Modernizing environmental and regulatory processes
- ✓ Leading on safety and security
- √ Renewing relationships with Indigenous peoples



"LNG Canada represents the largest private sector investment project in Canadian history. It is a vote of confidence in a country... to develop our energy in way that takes the environment into account, [working in] partnership with Indigenous communities."

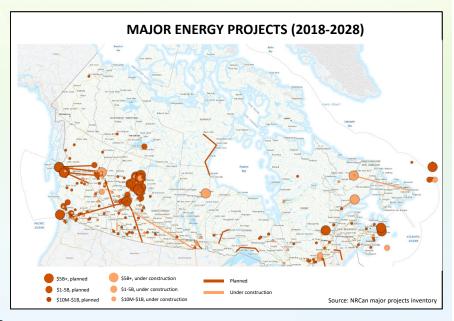
- The Rt. Hon. Justin Trudeau, Prime Minister of Canada





\$500B+ in projects over the next 10 years

- ✓ 20 LNG projects positive \$40B FID on LNG Canada
- ✓ **5 Major Pipelines** Line 3, TMX, KXL, Coastal GasLink, NGTL Expansions
- ✓ Major upstream investment 51 oil sands projects (\$137B), offshore (e.g., \$10B Bay du Nord)
- ✓ Refining and petrochemicals Inter Pipeline petrochemicals facility (\$3.5B), SinoCan Global refinery proposal (\$8.5B), 2 carbon capture and storage facilities (\$10B)
- √ Growing modern non-emitting electricity system
 - **Electricity transmission** Bipole III (\$5B), Maritime Link (\$1.5B), Watay (\$1.3B)
 - **Nuclear power** \$26B refurbishment, \$1.2B for innovation, SMR plans
 - **Hydro** Muskrat Falls (\$12B), Site C (\$9B), Keeyask (\$8.7B), La Romaine (\$6.5B)
 - O Renewables wind (\$8.8B), solar (\$1B), biomass (\$6B) planned from 2018-2028



Investments being supported by 12-year, \$180B+ federal infrastructure plan





Canadians agree with approach...

✓ Generation Energy dialogue engaged over 380,000 people –
provides a vote of confidence on energy and climate action

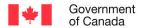
...and we are leading internationally.

- ✓ Canada discussions on the future of energy
 - OHost of G7, including Energy Ministerial in 2018
 - OHost of Clean Energy Ministerial/Mission Innovation in 2019
- ✓ G20 highlights importance of effective transition, to promote sustainability, resilience, and energy security

Canada committed to working with Japan as it assumes 2019 G20 Presidency

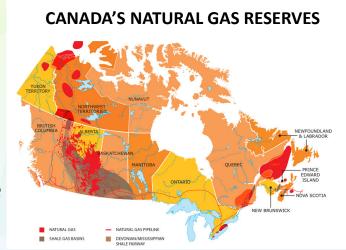






Canada's LNG advantage: abundant, low-cost natural gas supply

- ✓ World class gas reserves: over 70 trillion cubic feet of natural gas reserves 16 bcf produced daily
- ✓ Cost-competitive supply: low cost gas enabling valueadd opportunities such as petrochemicals
- ✓ Strong supporting infrastructure: access to west coast
 by rail, road, well developed transmission infrastructure
- ✓ Access to clean, cheap power: upstream production increasingly using renewable hydro electricity





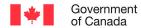


Canada's LNG advantage: taxes, proximity, and partnerships

- √ Low provincial and federal taxes
- ✓ Accelerated capital cost allowance on LNG facilities at 30%
- √ Long-term, 40-year export licenses

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- ✓ East and West coast export opportunities
- ✓ Fewer shipping days to Asia (10 days, half of time from US Gulf)
- ✓ Plans for cleanest LNG facilities in the world 50% lower emissions than global average
- ✓ Majority of Indigenous groups support LNG across value-chains







Annex 1: Canadian Energy Projects - Video

https://youtu.be/f6tCa9zj3IU







Annex 2: Proposed LNG projects in Canada

- LNG Canada (Kitimat, BC): \$25-40B in investment; 13 MTPA; 3.47 bcf per day under construction
- Woodfibre LNG (Squamish, BC): \$1.6B in investment; 2.1 MTPA; 0.3 bcf per day
- Goldboro LNG (Guysborough County, NS): Up to \$8B in investment; 10 MTPA; 1.4 bcf per day
- Bearhead LNG (Point Tupper, NS): \$8B in investment; 8-12 MTPA; up to 1.6 bcf per day
- Kitimat LNG (Kitimat, BC): \$15-20B in investment, 10 MTPA and 1.3 bcf per day
- Energie Saguenay (La Baie, QC): \$7B in investment; 11 MTPA; 1.6 bcf per day
- Kwispaa LNG (Sarita Bay, BC): \$30B in investment; 24 MTPA; 3.1 bcf per day
- WCC LNG (Prince Rupert, BC): \$15-25B in investment; 30 MTPA; 3.8 bcf per day
- Cedar LNG (Barge-Kitimat area, BC): 6.4 MTPA; 0.8 bcf per day
- Orca LNG (Prince Rupert area, BC): 24 MTPA; 3.2 bcf per day
- New Times Energy (Prince Rupert area, BC): 12 MTPA; up to 1.6 bcf per day
- Watson Island LNG (Prince Rupert area, BC): 1 MTPA; 0.14 bcf per day
- Stewart LNG (Stewart, BC): up to 30 MTPA; 3.8 bcf per day
- Kitsault Energy (Kitsault, BC): 20 MTPA; 2.7 bcf per day
- WesPac LNG (Tilbury Island, BC): 3 MTPA; 0.5 bcf per day
- Discovery LNG (Campbell River, BC): 20 MTPA; up to 2.6 bcf per day
- A C LNG (Middle Melford, NS): 15.5 MTPA; 2.1 bcf per day
- Stolt LNGaz (Becancour, QC): 2 MTPA; 0.28 bcf per day
- Nisga'a LNG (Portland Inlet, BC): capacity undetermined





