

Liquefied Natural Gas Development in B.C.



# LNG in BC

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## B.C.'s Competitive Advantages

- Transportation Advantage
- Ambient Temperature
- Vast Resources
- Stable Jurisdiction
- Workforce Strategy – Industry collaboration
- Strong Regulatory Regime
- First Nations engagement
- Competitive Fiscal Regime





# Transportation Advantage

## Closest Gateway to Asia



Vessel Transit Times, in Days, from Major North American Ports to Major Asian Cities

	Hong Kong	Shanghai	Yokohama	Pusan	Chennai
<b>Prince Rupert</b>	<b>11.1</b>	<b>9.9</b>	<b>7.92</b>	<b>9.5</b>	<b>17.1</b>
<b>Vancouver</b>	<b>12</b>	<b>10.6</b>	<b>8.92</b>	<b>9.7</b>	<b>18</b>
<b>Los Angeles</b>	<b>13.2</b>	<b>11.9</b>	<b>10.08</b>	<b>11</b>	<b>19.3</b>
<b>Louisiana</b>	<b>22.1</b>	<b>20.8</b>	<b>19.1</b>	<b>19.9</b>	<b>24.0</b>

\*Estimated based on vessel speed of 20 knots



Source: B.C., Canada Prospects in Mining and Natural Gas

# “ Liquefied Natural Gas Development in B.C.



## Operating Cost Advantage

- B.C. Gas has a cooler ambient temperature than most competitors.
- As ambient temperature decreases by 1 degree centigrade; energy efficiency for power consumption increases by 1.7%
- Located in northern B.C., Prince Rupert and Kitimat average temperature is 7 degrees Celsius which provides a competitive advantage over other jurisdictions:
  - Australia: 27c = approx **34%** BC energy efficiency advantage
  - Qatar: 26c\* = approx **32.3%** BC advantage
  - Mozambique: 23c\* = approx **27.2%** BC advantage
  - Louisiana: 22c\* = approx **25.5%** BC advantage

\*degrees from National Oceanic and Atmospheric Administration (NOAA)





## Vast Resources



- Currently 1,400 Tcf of shale gas resource in place
- 1/3 of B.C.'s shale gas or 400 Tcf could support LNG exports for 84 years
- Infrastructure in place to extract and process gas (roads, pipe and plants)
- Proven ability to get gas out of the ground without environmental impacts



## Stable Jurisdiction



- Direct line of sight from senior elected officials to all regulatory agencies.



- Strategies and plans in place to ensure B.C. is a competitive and reliable exporter of LNG.



- B.C. has clear government commitments to maximize the LNG development opportunity.



- B.C. is open for business, establishing a one stop Task Force focusing on the LNG sector.





# B.C. Natural Gas Workforce Strategy

- B.C. embraces the employment opportunities that the LNG industry will bring to communities
- We are ready to deliver a skilled workforce to respond to industry needs through the Natural Gas Workforce Strategy
- B.C. has an advantage over other jurisdictions with access to a large labour pool across Canada and the United States.
- We have a plan in place for specific trades training and will work with employers to sequence workforce requirement and actively recruit workers
- B.C. will be taking early and decisive action to address workforce needs





## Strong Regulatory Regime

- Modernized Oil and Gas Activities Act
- Effective single window regulator: B.C. Oil and Gas Commission
- Canada and B.C. regulatory alignment and common priority in the development of the LNG sector
- Alignment across government on environmental assessment process
- Commitment to streamlined and efficient processes with defined timelines.







## First Nations

- Strong support for LNG development from First Nations
- Many partnerships already in place
  - First Nations Limited Partnership – 15 First Nations on pipeline route supporting Chevron/Apache project
  - Haisla First Nation in Kitimat are partnering on several LNG projects including the LNG Canada project
  - Economic benefit agreements signed and others advancing
  - Industrial Benefits Agreements are being negotiated by industry with First Nations
- B.C. is committed to working with First Nations on training opportunities, jobs and economic benefits



## Competitive Fiscal Regime

- B.C. Is committed to providing certainty on tax
  - We have conducted research across jurisdictions
  - We will be the most competitive jurisdiction on tax
- Competitive Upstream Royalty Regime
- Support for Upstream Infrastructure development:
  - \$120 M in provincial royalty credits for 2013
  - Facilitates new road and pipeline projects and increases natural gas production.





## BC's Competitive Advantage Summary

- LNG is the highest priority of B.C. government
- B.C. has a competitive and secure fiscal regime
- We have a vast energy resource which will bring great benefits to global markets
- B.C. can offer lower operating costs for transportation and liquefaction
- B.C. has access to a large, skilled labour force

