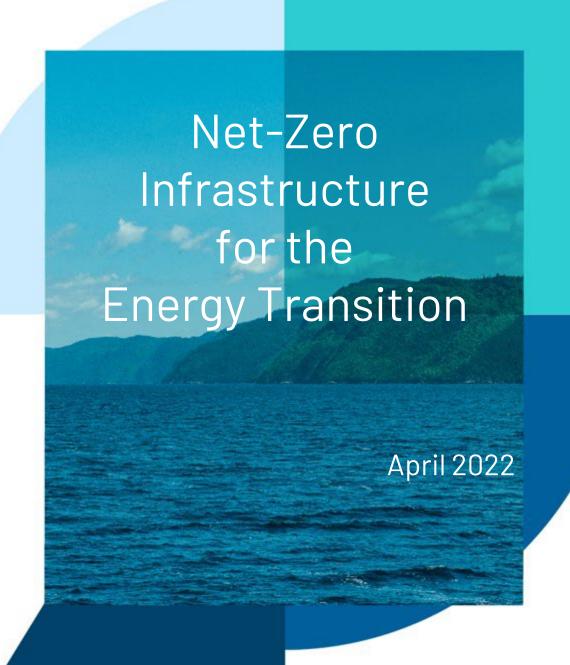
Symbio Infrastructure Limited Partnership



Symbio's three symbiotic, competitive benchmark projects are uniquely positioned to help Canada, Europe, and other nations around the world address the current and future needs of the global energy transition

Energy efficiency, fuel switching, and renewables are expected to each contribute to roughly 1/3 of the CO2e emissions reductions required by 2050 to achieve the IEA's sustainable development scenario ("SDS")

#### Gazoduq ("GDI")

- 782 km, 42-inch pipeline (CAPEX: C\$5B)
- World's first carbon-neutral large-diameter natural gas pipeline
- Transition Role: Energy efficiency fueled by renewables

#### **GNL Quebec ("GNLQ")**

- 10.5 mtpa facility (CAPEX: US\$7.2B)
- World's first large carbon-neutral LNG export facility
- Transition Role: Energy efficiency fueled by renewables and exports to enable downstream fuel switching

#### Liquid Hydrogen ("LH<sub>2</sub>") Facility

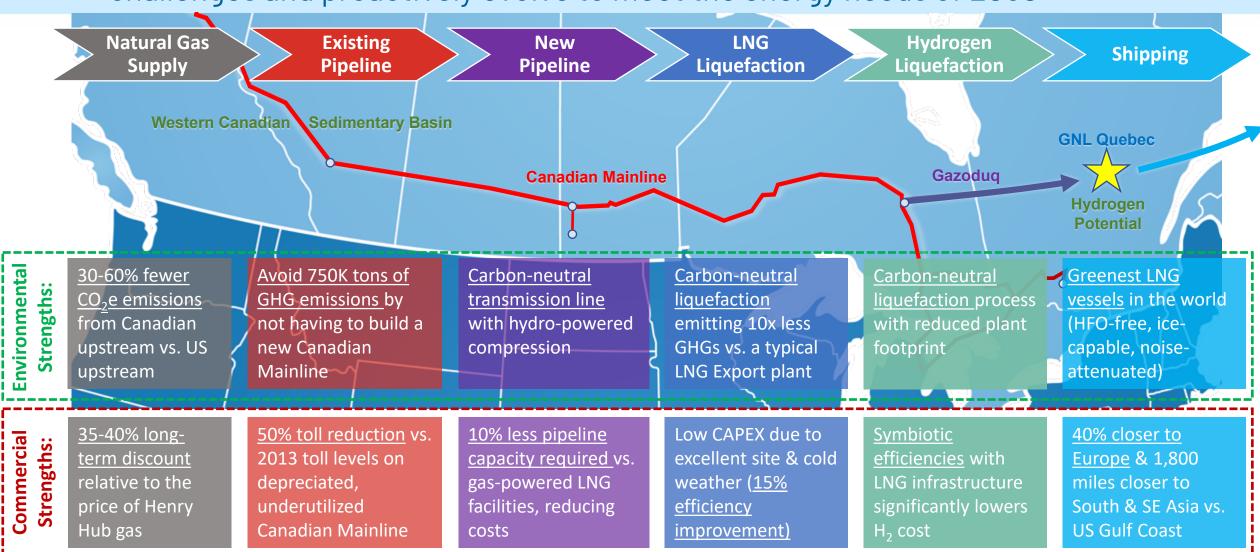
- Early development (not yet publicly announced)
- World's first major exporter of zero-carbon green liquid hydrogen
- Transition Role: Utilizing renewables to rapidly scale green LH<sub>2</sub> output to meet growing zero carbon fuel demand

### **Strategically Located Canadian Energy Infrastructure** Legend Available Renewable Hydropower: Installed, competitive, redundant capacity available Canadian Mainline (Existing) Gazodug **Transportation Line** ÉNERGIE SAGUENAY (New) Hydro-Quebec gazodug Transmission Lines (Existing) Hydro-Quebec Power Generation (Existing)

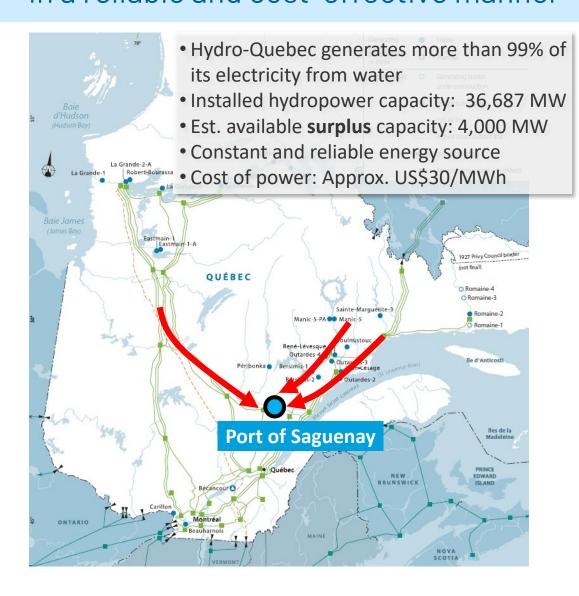
### Value Chain Overview

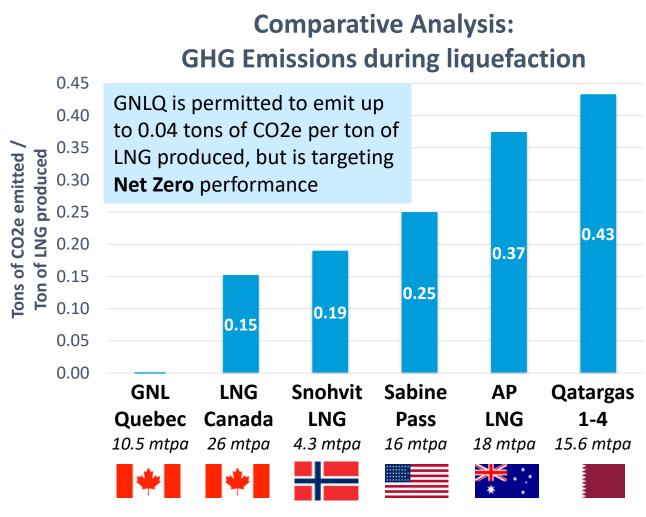
### Highly competitive with unrivaled environmental stewardship:

Net zero projects uniquely designed to address today's energy challenges and proactively evolve to meet the energy needs of 2050



# Pipeline Transport & Liquefaction: Abundant low-cost, renewable hydro-electricity minimizes local emissions and enables GNLQ and Gazoduq to achieve carbon neutrality in a reliable and cost-effective manner





### Shipping: Saguenay is 40% closer to Europe vs. US Gulf Coast, reducing both costs and environmental impacts of its vessels

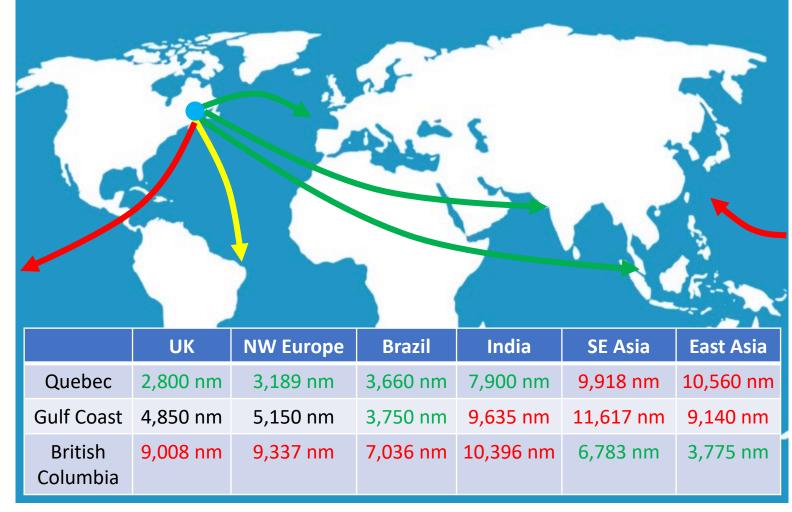


### Saguenay Fjord

• Avg. Depth: 270m

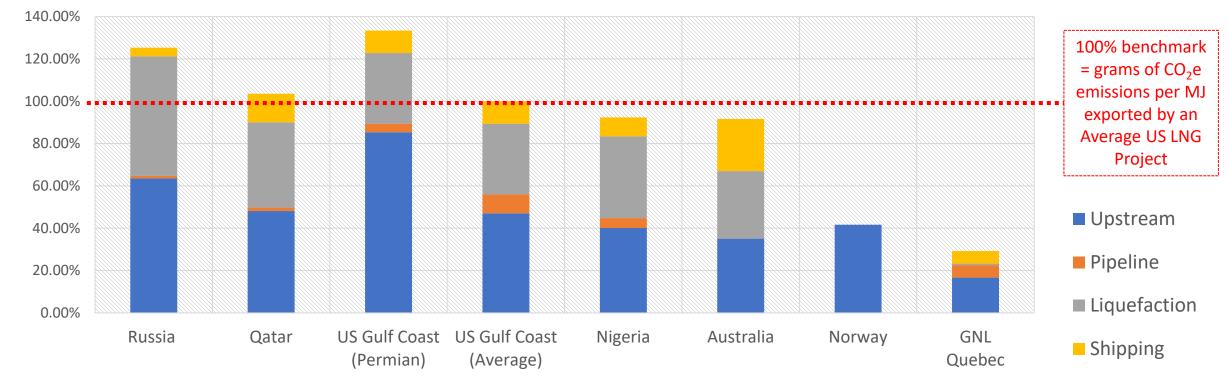
Avg. Width: 2km

 Year-round shipping activity with vessels as large as Q-Flex tankers



Projected lifecycle carbon intensity is roughly 30% of a typical US LNG project and 4-5x smaller than large incumbents around the world (even if they achieve recently-disclosed emissions reductions goals)

#### Relative Carbon Intensity of Delivered Ex-Ship ("DES") LNG supply in NW Europe (Scope 1-2)



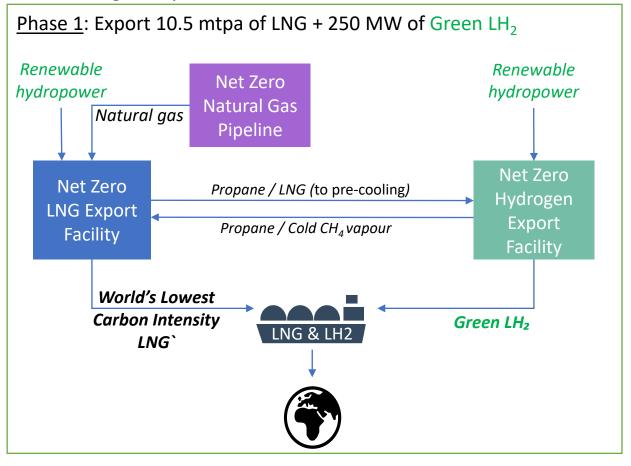
#### Reductions reflected in Carbon Intensity projections:

- 1. Russia: Reflects LNG project commitments to Limit CH4 losses to 4% per unit of production/processing/ liquefaction and reduce LNG facility's GHG emissions by 5% by 2030
- 2. Qatar: Reflects Qatar's commitments to reduce upstream GHG emissions by 15%, reduce upstream flaring by 75% and reduce LNG facility's GHG emissions by 25% by 2030
- 3. US: No broad efforts reflected in regional averages, but some specific projects have set targets
- 4. Australia: Delphi's LCA for AP LNG does not differentiate between upstream & pipeline emissions
- 5. Norway: Equinor's Snohvit LNG carbon intensity data does not separate each leg of value chain
- 6. GNL Quebec: Reflects 3rd party LCA study while incorporating Canada's 2020 upstream regulations and commitments; Also reflects GNLQ and Gazoduq commitments to Scope 1 carbon neutrality during operations and the use of LNG as marine fuel

### Additional Opportunities

# Symbiotic value chain produces an unmatched energy offering of Green LH<sub>2</sub> and the world's lowest carbon intensity LNG

As the only location in the world with access to abundant/reliable US\$30/MWh renewable power, an oversized natural gas pipeline, and an LNG export facility, Symbio can leverage these efficiencies to produce zero-carbon LH<sub>2</sub> at scale and export it from Saguenay.



Customers enter into separate long-term Sale and Purchase Agreements for LNG and Liquid Hydrogen – as symbiotic production and integrated delivery of both products facilitates cost-efficiency

Phase 1:

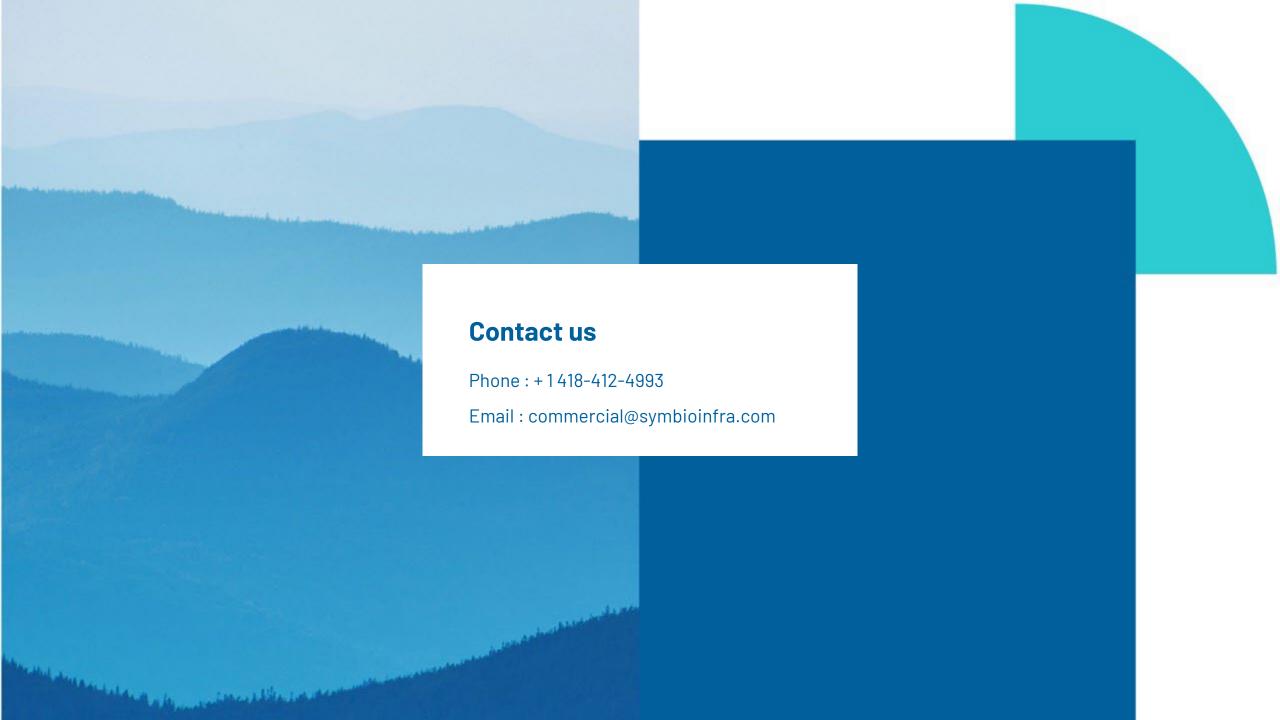
LNG volumes will be significantly larger during Phase 1

250 MW of Phase 1 LH<sub>2</sub> production

Phase 2:

Potential for smaller Phase 2 LNG expansion

Available power increases during Phase 2 to meet growing LH<sub>2</sub> demand



## Appendix

Gas Supply: Canadian producers are committed to producing the cleanest, lowest-GHG-emitting natural gas in the world and Canada has committed to a 75% reduction in upstream fugitive emissions by 2030

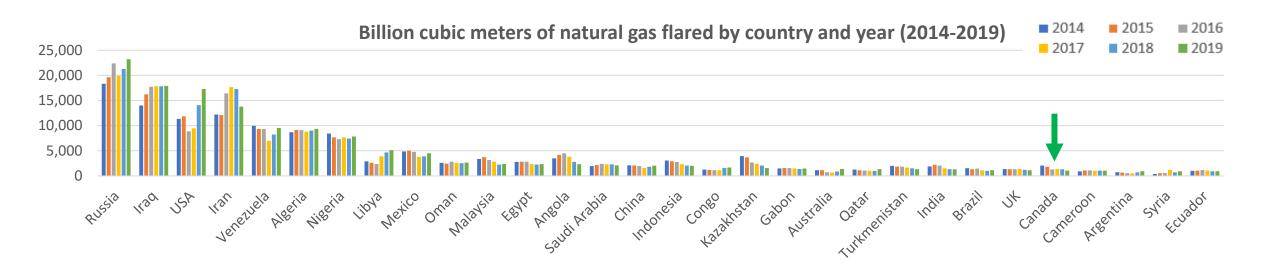
Despite being the 4<sup>th</sup> largest natural gas producing country in the world, Canada ranks just 26<sup>th</sup> in flaring (and 29<sup>th</sup> in flaring intensity):

- Canada flares 6x less than the US, 9x less than Russia, and 16x less than Australia
- Canada has reduced its flaring intensity by 42% since 2015

  Canadian gas flaring will continue to further decrease with new environmental standards having gone into effect in 2020

#### Ongoing Canadian Natural Gas Producer Initiatives

- Reduce or eliminate flaring and methane leaks
- Electrification of upstream activities
- Reduce CO2 emissions
- Reduce NOx emissions
- Reduce SOx emissions
- Reduce freshwater usage



### The most unique LNG export facility in the world

### **Hydroelectricity Advantage**



- 550MW energy block secured
- Significantly lower OPEX/CAPEX
- Hedge against natural gas price increases

#### **Cold Weather Benefits**



10-15% improvements in thermal efficiency, plant capacity, CAPEX, OPEX, and GHG reductions

### **All-Canadian Project**



- Reliable, low-risk, long-term trade partner
- Prolific low-cost natural gas resources
- Existing, mostly-depreciated pipeline infrastructure connecting West to East

### **Carbon Neutral Liquefaction**



- Compact plant footprint reduces environmental impact
- Global GHG reductions

### Low Cost, Low Risk



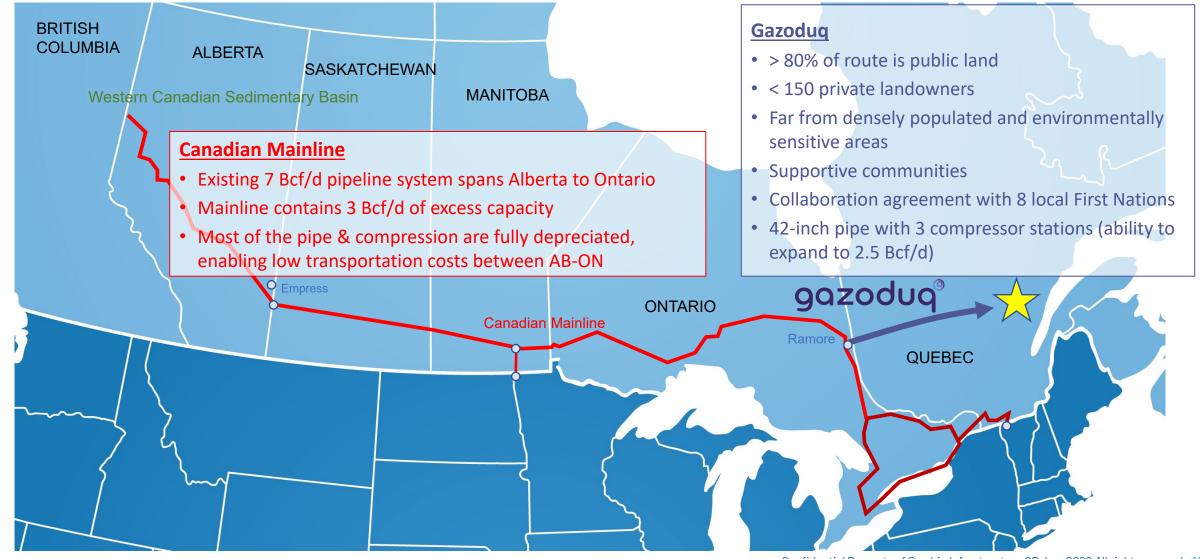
- Competitive EPC CAPEX
- Every local municipality has signed a resolution in favor of GNLQ

### **Strong Site & Local Capability**



- 1,600 acres of industrial land under exclusive option at existing Federal port
- Significant existing local infrastructure
- Available skilled labor from local industry

## Pipeline Transportation: Low-cost depreciated Canadian Mainline capacity combined with supportive carbon-neutral new-build route for Gazoduq



### Energie Saguenay offers buyers significant <u>diversification of risk</u> in comparison to the US Gulf Coast

Risk Dimension	Saguenay	US Gulf Coast
Political Alignment	<ul> <li>Low-GHG Canadian LNG a good fit for by climate-focused EU policies</li> </ul>	<ul> <li>European buyers seeking diverse/secure supply sources as relations between US/Europe/NATO have deteriorated in recent years</li> </ul>
Environmental Risk	<ul> <li>Low risk, with strict environmental regulations for producers and low- GHG gas production</li> </ul>	<ul> <li>Stricter fracking regulation likely now that a new political party is in power, with potential to add cost to USGC production (e.g. 800 mcf/d of flaring in Permian in Q4 2019 alone, etc.)</li> </ul>
Natural Disasters	- Low risk	<ul> <li>High risk of Hurricanes/Tropical Storms &amp; Floods impacting:</li> <li>Construction (e.g. significant delays for Cameron/Freeport)</li> <li>Operations (e.g. Sabine Pass deliveries fell 90% after Harvey)</li> </ul>
Shipping Channel Risks	- Two-way traffic, ice in winter, slower speeds when marine mammals sighted in summer	<ul> <li>One-way traffic (Calcasieu; and even Sabine for larger ships), long wait times (6-24 hrs. outside Calcasieu), wind delays (e.g. Lake Charles), fog delays (e.g. HSC, Calcasieu), draft restrictions (e.g. Sabine Pass), convoy delays, etc.</li> </ul>
Traffic Risk	<ul> <li>1 project falls far below the Saguenay River's historic traffic levels</li> </ul>	<ul> <li>8 proposed LNG projects in the Calcasieu Pass would increase and exacerbate shipping traffic by 400%</li> </ul>
Port Risk	<ul> <li>Just 2-3 vessels/week visit government-owned Port</li> </ul>	<ul> <li>Of the 10 global ports ranked as having the highest risk for catastrophic loss, 6 are located in US Gulf Coast</li> </ul>

# Energie Saguenay offers buyers significant <u>new optionality/upside</u> in comparison to the US Gulf Coast

Risk Dimension	Saguenay	US Gulf Coast
Trading/ Destination Optionality	<ul> <li>1,800+ nm shipping distance advantage (one-way) to every LNG market from Europe to Singapore;</li> <li>No other viable competition for LNG export on East Coast of N. America (as Cove Point site is constrained)</li> <li>Significant potential future upside to E. Asia via NW Passage</li> </ul>	<ul> <li>Panama Canal hopes to support 3 LNG ships per day by 2022, which would allow a combined total of 43 mtpa of LNG to be shipped (short of 70+ mtpa of post-FID US export capacity)</li> <li>Further expansion of Panama Canal appears to be challenged and cost-prohibitive, making the Suez (which is offering 50% discounts for LNG export to Asia) a good alternative for future North American projects</li> </ul>
Access to East Asia	<ul> <li>Suez Canal route creates myriad opportunities to optimize (i.e. pass 80% of global markets en route)</li> </ul>	<ul> <li>Limited trading optimization possible via Panama Canal shipping route (i.e. no material diversion markets between the PC and Japan, creating little buyer optionality)</li> </ul>
LNG Indexation	<ul> <li>Index flexibility provided by Canadian producers</li> </ul>	- Buyers are already long Henry Hub
Uniqueness of Product	<ul> <li>Low-GHG LNG from carbon neutral export source</li> </ul>	- No material ability to differentiate product
Carbon Tax	<ul> <li>Low risk due to use of hydroelectricity (which also provides buyer a hedge against natural gas price rises)</li> </ul>	- Significant risk of buyer being charged \$0.25-\$1.00 of carbon tax for US-sourced LNG between now and 2050