



Steelhead
L I N G

Project Overview

January 2019

B.C. based Canadian energy company with expertise that spans the natural gas and LNG value chain globally

Steelhead proposed projects:

1. Kwispa LNG Facility with Huu-ay-aht First Nations, and
2. natural gas pipeline

Committed to building mutually beneficial relationships with communities and developing projects in an environmentally responsible manner



KWISPAA LNG and CO-MANAGEMENT RELATIONSHIP

- Steelhead LNG and Huu-ay-aht First Nations worked for over 3 years to discuss a natural gas liquefaction and export facility located on Huu-ay-aht owned lands
 - Established principles and processes for the development of an LNG project
 - Approval of Project Agreement following endorsement through a community referendum
- Steelhead LNG and Huu-ay-aht First Nations are co-managing the Kwispaa LNG Facility and in October 2018, submitted the Project Description to initiate the British Columbia Environmental Assessment Office (EAO) process



Proposing to construct At-Shore LNG (ASLNG™) liquefaction and storage facilities at Sarita Bay with additional onshore infrastructure

GAS PROCESSING

POWER STATION

Phase 1

LNG carriers
every 3-4 days

Phase 2/3

LNG carriers
every 1-2 days

LNG carriers would pull up beside the LNG facility and load LNG into cryogenic tanks in the carrier

LIQUEFACTION & STORAGE

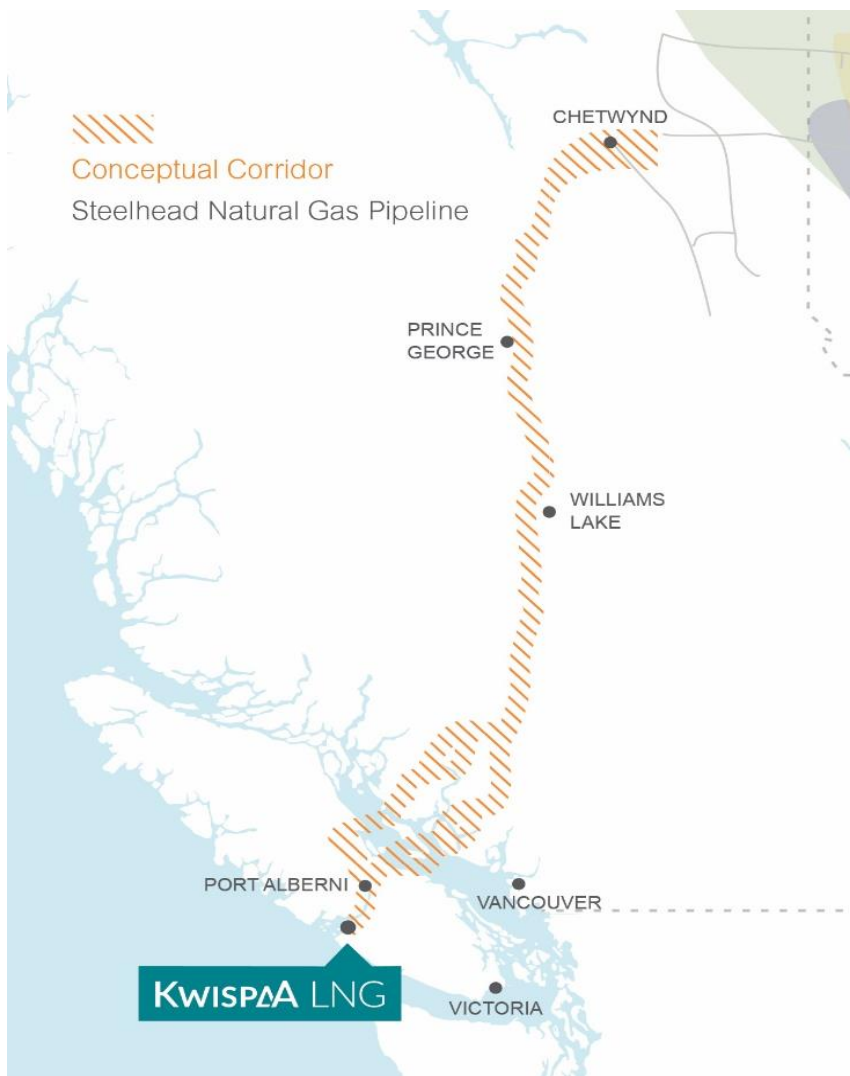
Conceptual rendering – subject to change

NATURAL GAS TRANSMISSION

- Early stages of investigating a pipeline route from Northeast BC to planned Kwispa LNG facility
- Steelhead currently engaging with 35 First Nations, 16 municipalities and 10 regional districts within a potential corridor to seek feedback
- The pipeline is a separate project from Kwispa LNG and will be regulated separately

Conceptual route:

- Begins in Chetwynd area
- Parallels existing multi-utility corridors to near Williams Lake
- Branches off towards south coast, with options through Coast Mountains
- Subsea crossing to Vancouver Island
- Terminates at Kwispa LNG



PIPELINE SAFETY

- Pipelines are the safest way to transport natural gas across long distances and are strictly regulated
- Construction of the pipeline would only begin after an Environmental Assessment has been completed and all regulatory permits are in place
- Pipelines are monitored 24 hours per day and regularly inspected to ensure public safety



PIPELINE CONSTRUCTION

During Construction



During Operation

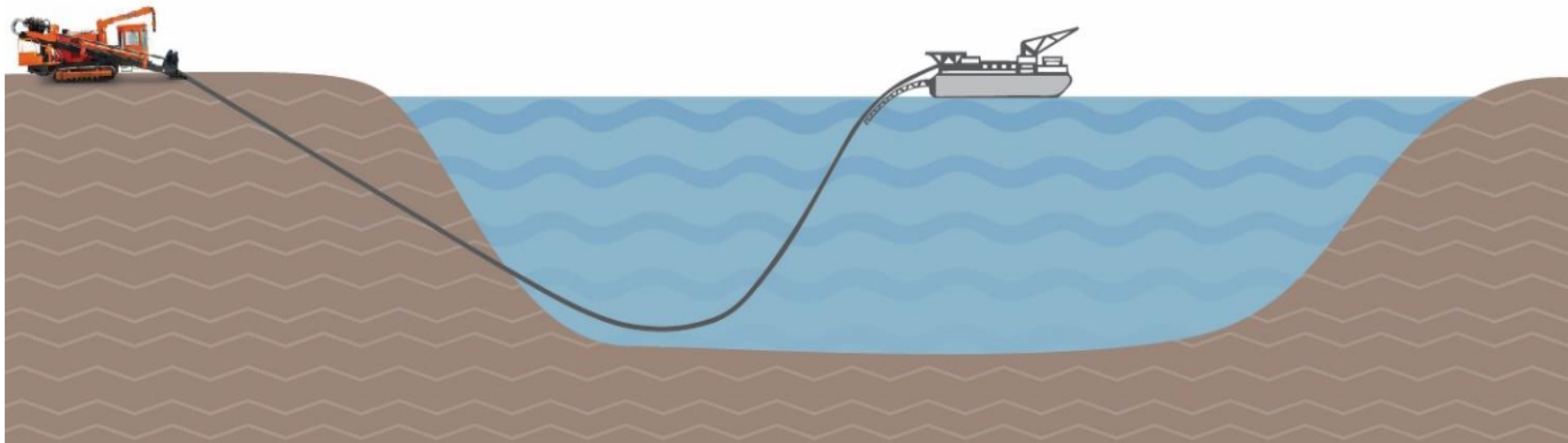


- Pipelines are buried approx. one metre (3 feet) underground
- Construction activities are carried out within the workspace, usually 50 meters
- The width of the permanent right-of-way is reduced to approx. 30 meters after construction, with brush and vegetation managed over 10 meters

OFF SHORE PIPELINE CONSTRUCTION

Horizontal Directional Drill (HDD);
Direct Pipe Installation (DPI); or
Tunnel used for landfalls

Pipeline lay vessel
and/or barge used
to install crossing



- The pipeline would be placed on the ocean floor using a vessel specifically designed for marine installation
- Placing pipe in a marine environment is done safely around the world

COMMUNITY BENEFITS

Local communities will benefit from property taxes to support delivery of services and infrastructure

Steelhead is also interested in exploring potential opportunities to support community initiatives

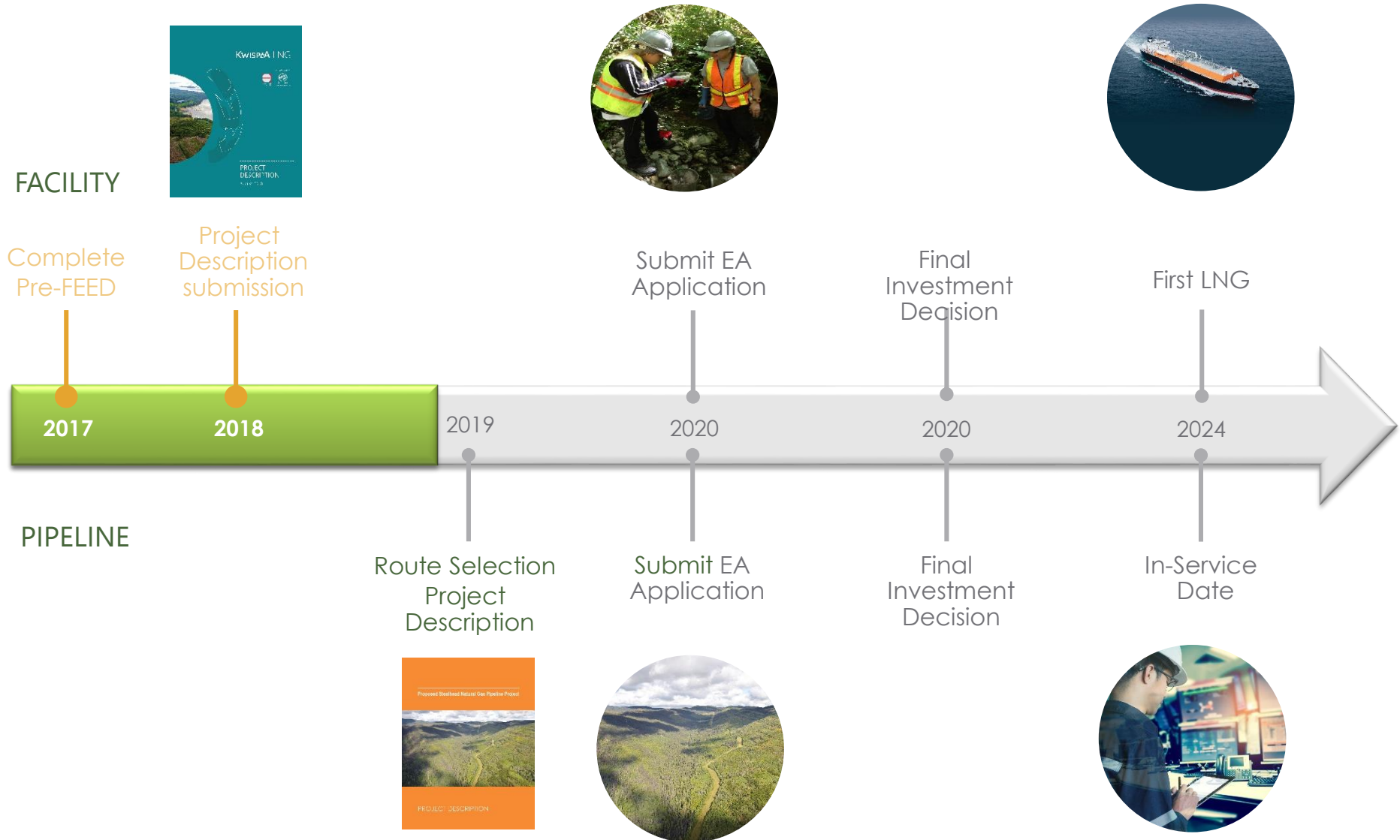
The project will also generate:

- thousands of jobs in BC during construction including equipment operators, tradespeople, safety professionals
- contracting opportunities for BC-based businesses
- skills training opportunities to help prepare the local workforce for in-demand roles



ANTICIPATED FACILITY/PIPELINE TIMELINE

Kwispa LNG



APPENDICES

Please see following slides for additional information.

HUU-AY-AHT FIRST NATIONS

- Self-governing, modern treaty Nation whose lands are located in the Barkley Sound region on the west coast of Vancouver Island at the entrance to Alberni Inlet
 - Total Population: 820
- Governance
 - Executive Council and Ha'wiih
- Huu-ay-aht First Nations is a member of the Nuu-chah-nulth Tribal Council and one of the 5 First Nations signatories to the Maa-nulth Final Agreement, the first modern-day treaty to be concluded on Vancouver Island
- **Huu-ay-aht laws and traditions require involvement of citizens, Executive Council, and Ha'wiih**
- Three sacred principles:
 - Hišuk ma c'awak (Everything is One)
 - ʔuuʔatuk (Taking Care Of...)
 - iisaak (Greater Respect)



NATURAL GAS TO LNG



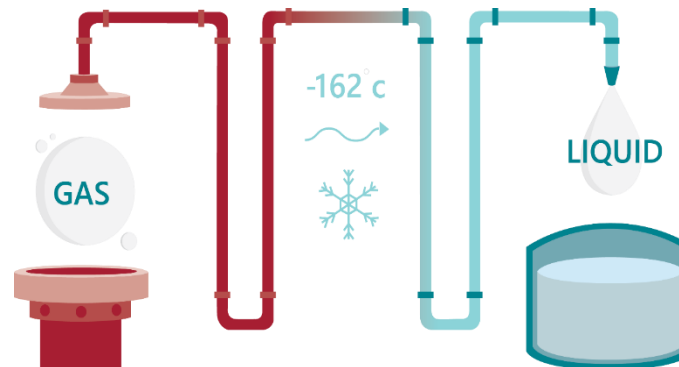
LNG is natural gas that has been chilled down to -162 degrees Celsius.

Turning natural gas into LNG shrinks it down.

The same amount of natural gas that would fill 600 ships, would fill just one ship as LNG.

Natural gas is not bitumen or oil. It is lighter than air.

It does not mix with water or soil and if contact occurred it would leave no residue.



Countries in Asia are working to reduce reliance on burning coal for energy.

Natural gas is the world's cleanest burning fossil fuel and ideal transition fuel to reduce global GHG's and air emissions.

LNG IN BRITISH COLUMBIA



Fortis operates an LNG facility about 6 kilometres northwest of Ladysmith. The Mt. Hayes LNG storage facility stores LNG to help meet the natural gas needs of Vancouver Island during peak periods of demand.

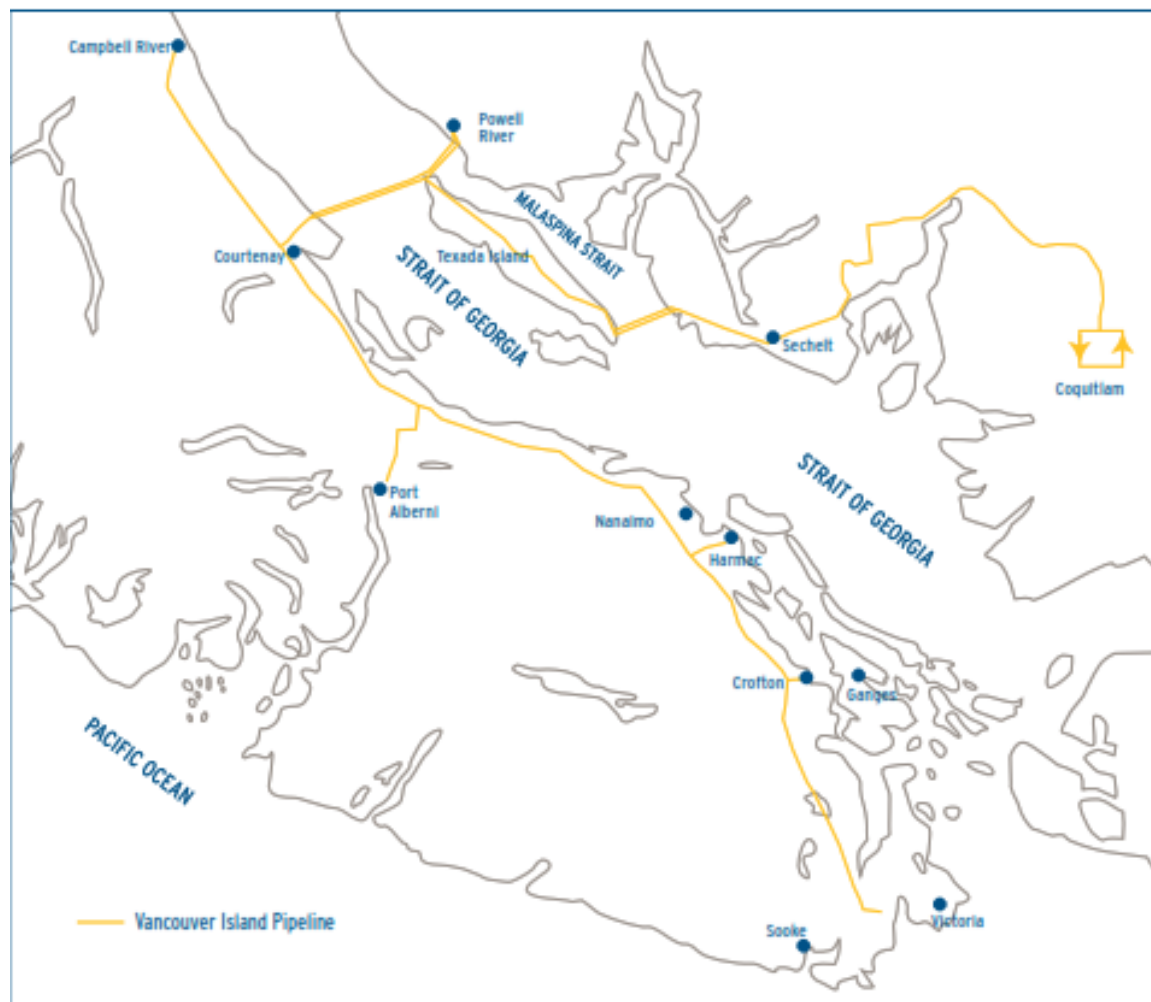


The Tilbury Island LNG facility in Delta was constructed in 1971 as a means of supplementing natural gas supply during periods of peak demand. Today, it provides LNG for transportation as well as export.



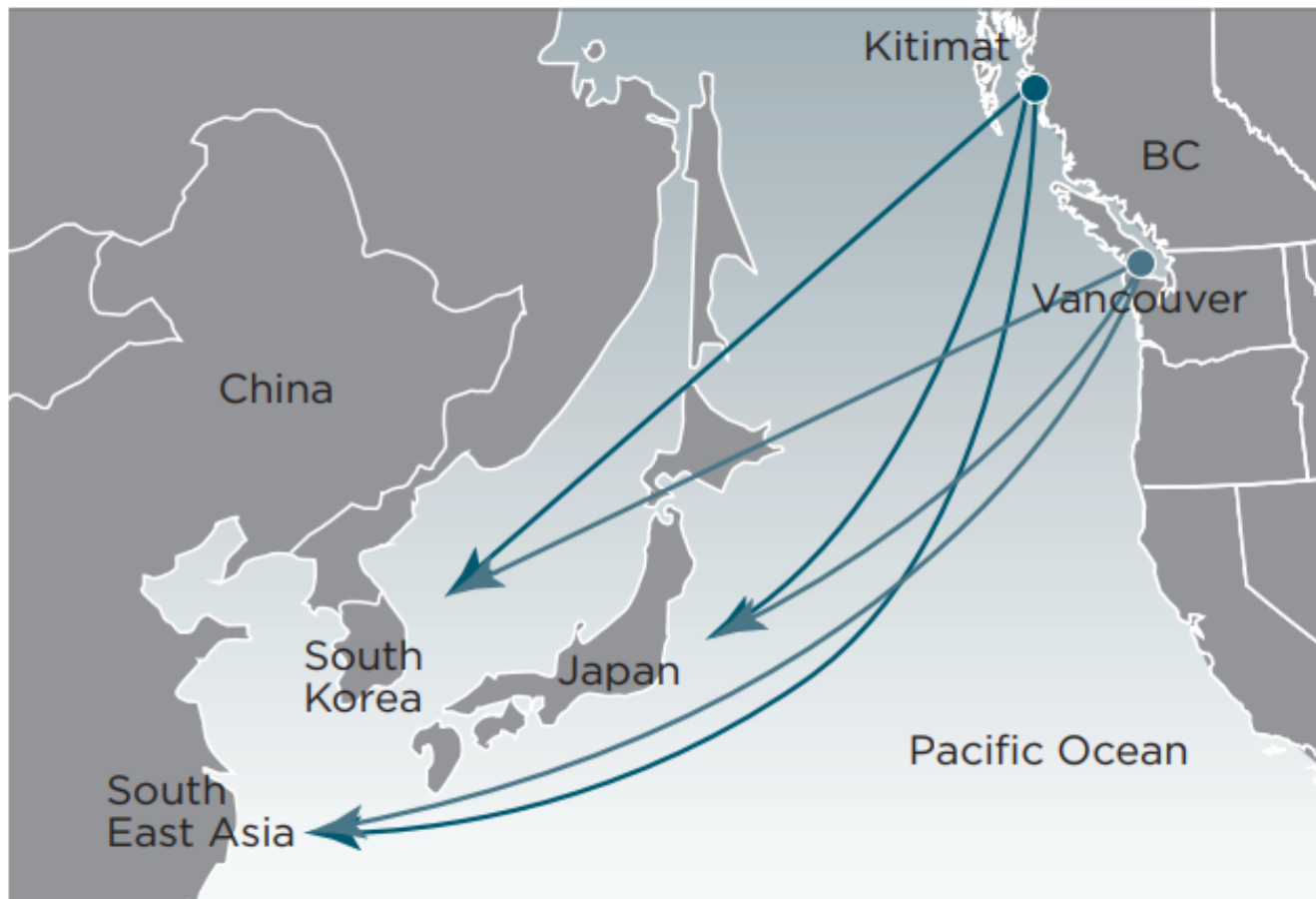
BC Ferries has converted two of its largest vessels to run on LNG in 2017. The Salish intermediate-class vessels are also operating on LNG.

EXISTING VANCOUVER ISLAND GAS TRANSMISSION

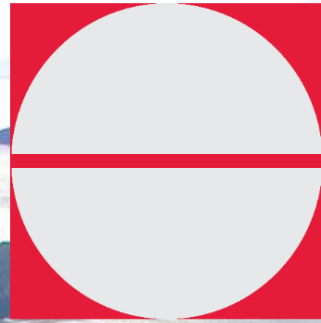


Built in the early 1990s, the Fortis BC pipeline starts north of Coquitlam, runs underneath the Squamish Estuary, through the Sunshine Coast, then across Texada Island to Powell River and Vancouver Island.

EMERGING MARKETS



- Natural gas will be liquified at the Kwispa LNG facility to minus 162 degrees Celsius
- The volume of natural gas in its liquid state is 600 times smaller for shipping
- Canada is the fourth largest producer (5% of world production)
- 51% of Canadian production is exported
- All current Canadian exports go to the United States



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Thank you
