

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

BRIEFING NOTE FOR INFORMATION

PREPARED FOR: Deputy Minister, Fazil Mihlar, Ministry of Energy, Mines and Low Carbon Innovation

ISSUE: LNG Bunkering

BACKGROUND:

Marine transportation is a difficult to decarbonize sector of energy demand. The use of liquefied natural gas (LNG) as a marine fuel (LNG bunkering) to power and decarbonize the world's ocean-going vessels is expanding. Displacing conventional oil-based marine fuels with LNG improves local air quality, lowers greenhouse gas (GHG) emissions intensity of marine shipping, and can reduce oil spill risks. GHG emissions from maritime transport are estimated to account for 3% of the total human induced GHG emissions. LNG bunker fuel from British Columbia (BC), where GHG intensity and methane emissions are reduced during production, are a part of the pathway to reducing maritime related GHG emissions.

BC Ferries and Seaspan Ferries have both adopted LNG as a marine bunkering fuel. BC Ferries has displaced nearly a quarter of total diesel fuel consumption by operating six LNG dual-fuelled ferries, with GHG emissions reductions equivalent to taking nearly 2,000 cars off the road annually. Seaspan Ferries operates four LNG operated ferries and is the first Canadian marine company to pilot the use of renewable natural gas in its LNG powered fleet.

According to Wood Mackenzie's latest outlook global LNG bunkering demand is estimated to grow to nearly 10 million tonnes by 2025, expand to 20 million tonnes by 2030, 50 million tonnes by 2040 and 65 million tonnes by 2050. The majority of expected LNG bunkering demand will be in Europe and Asia. As of January 2021, LNG-fuelled ships made up 8% of all vessels on order, and the fleet of LNG-propelled vessels is projected to expand by nearly 160% between 2020 and 2040 according to the International Energy Agency.

LNG bunker fuel is produced at FortisBC's Tilbury LNG facility, which currently has a 46,000 cubic meter storage tank and liquefaction capacity of 0.25 million tonnes per annum (mtpa). FortisBC is looking to expand their facility (Phase 1B) to meet the rising demand for LNG as a marine fuel. WesPac Midstream proposes to construct and operate a marine jetty for loading LNG onto vessels from the Tilbury LNG facility, the Tilbury Marine Jetty (TMJ) project. TMJ is a reviewable project and has an environmental assessment application under review by the Environmental Assessment Office (EAO).

DISCUSSION:

Projects such as LNG marine bunkering have the potential to bring economic benefits, increase competitiveness at the Port of Vancouver, improve economic strength of the broader marine and natural gas sectors as well as significantly improve air quality in the Lower Mainland,

Fraser River basin and coastal communities. Studies commissioned by FortisBC and the Port of Vancouver concluded that a switch in fuel type from current marine fuels to LNG will provide significant environmental and social benefits in BC. Because the Tilbury facility uses electric compression, the produced LNG will be among the lowest carbon intensity LNG available.

Climate

On January 1, 2020, the International Maritime Organization (IMO) introduced a global 0.5% Sulphur cap and targets to reduce greenhouse gas (GHG) emissions 40% by 2030 and 70% by 2050 when compared to 2008 levels. The adoption of LNG bunkering has accelerated, as it is an attractive option to meet the IMO 2020 regulations, benefiting from lower sulphur, nitrogen and carbon emissions and lower particulate pollution than oil-based fuels.

The International Energy Agency (IEA) notes the future of LNG bunkering demand is constrained by the IMO's long-term GHG reduction targets. LNG bunker fuel from BC is an attractive and sustainable option, as it is amongst the lowest carbon intensity and is produced with GHG and methane emissions reduction strategies. The LNG bunkering market continues to evolve, and with the Port of Vancouver being an attractive and sustainable port, TMJ will potentially induce more bunker vessel calls. A draft Bunker Vessel Scenario Assessment Report has been shared with the EAO, which includes assessments on potential effects and mitigation strategies. The EAO will conduct a Public Comment Period before referral of the TMJ project to Ministers.

Economic Value

s.17; s.21

FortisBC is also committed to a workforce development strategy for Tilbury LNG expansion, one that focuses on the future by increasing participation and skills of women, Indigenous workers, and recent immigrants above current industry levels.

s.17; s.21

First Nations

FortisBC and TMJ are engaged with over 35 Indigenous nations on both Tilbury Phase 2 LNG Expansion and the TMJ environmental assessments. The consultation and engagement process has been dynamic and most relationships between nations and the projects are positive. TMJ has either reached or is negotiating agreements with many of the nations. Where relationships are

less positive, FortisBC and TMJ have sought additional opportunities to engage with nations to ensure understanding of concerns and jointly develop mitigation strategies.

SUMMARY:

LNG marine bunkering displaces conventional bunker fuel oil with clean natural gas produced in BC and enhances economic activity at the Port of Vancouver.

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