

January 2020

Floating LNG, Canada to Consider a Fast Pace LNG Project Development Strategy

By Kaleem Asghar Kaleem

Since 2014, LNG export has been ramping up with export volume for 2018 stands at 343 million tons (MT), as per ClipperData. This represents an increase of 32 MT from 2017, 12.8percent growth on year-on-year basis and cumulative growth rate of 9.2 percent. This continued growth is attributed to the expansion of projects in Australia, US, Northern Russia, with one Floating LNG (FLNG) project coming online in 2018 and three in 2019.

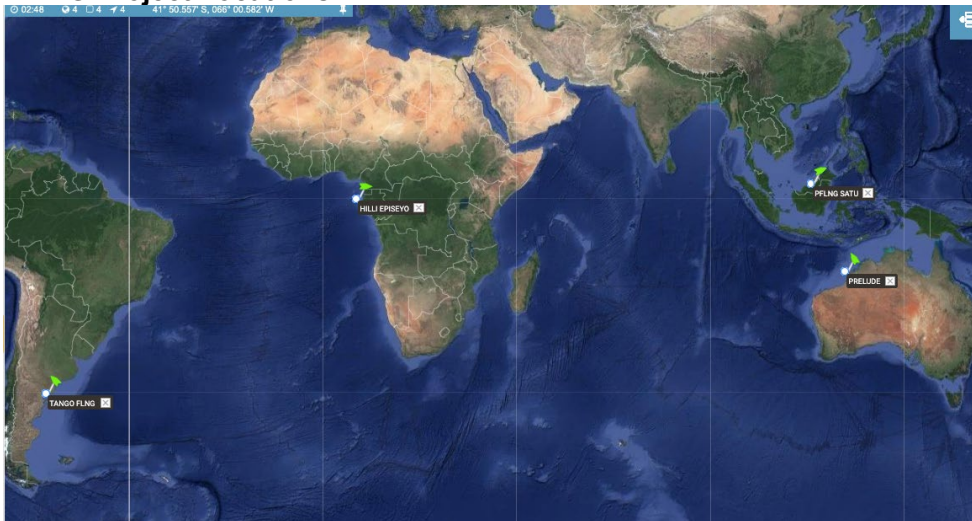
This article reviews the FLNG projects together with factors that are favourable for such development.

LNG prices have been evolving for spot cargoes with the introduction of Henry Hub & Dutch Title Transfer Facility (TTF) based pricing besides Brent-based pricing while focused efforts underway for developing the US Gulf Coast, European & West Coast India price markers.

At the time of writing, four FLNG projects that have commenced operations. These projects are Petronas FLNG, Cameroon FLNG, Prelude FLNG & Tango FLNG. Two more projects, with a combined production capacity of 4.8 MPTA, Coral FLNG and Petronas FLNG 2, are also under construction (Figure 1).

Two projects Delfin FLNG & Tortue FLNG are nearing reality with the BP taking the final investment decision (FID) for the Mauritania-Senegal FLNG project for 2.5 MTPA production capacity, with first gas expected in 2022, while Delfin is expected to reach FID in 2020.

Figure 1: FLNG Project Locations



Source: ClipperData

If we analyze the rationale for FLNG project development, the following factors have been the driving forces for the project developer to choose FLNG over conventional onshore project development.

Small/Limited Gas Supply

Petronas FLNG, Tango FLNG & Cameroon FLNG are based upon small gas fields where it would be uneconomical to develop those fields through conventional land-based infrastructure.

Remote Locations

For remote gas fields, the FLNG project potentially is the best approach because it will avoid construction of a lengthy and costly pipeline, thus minimizing overall project cost escalation.

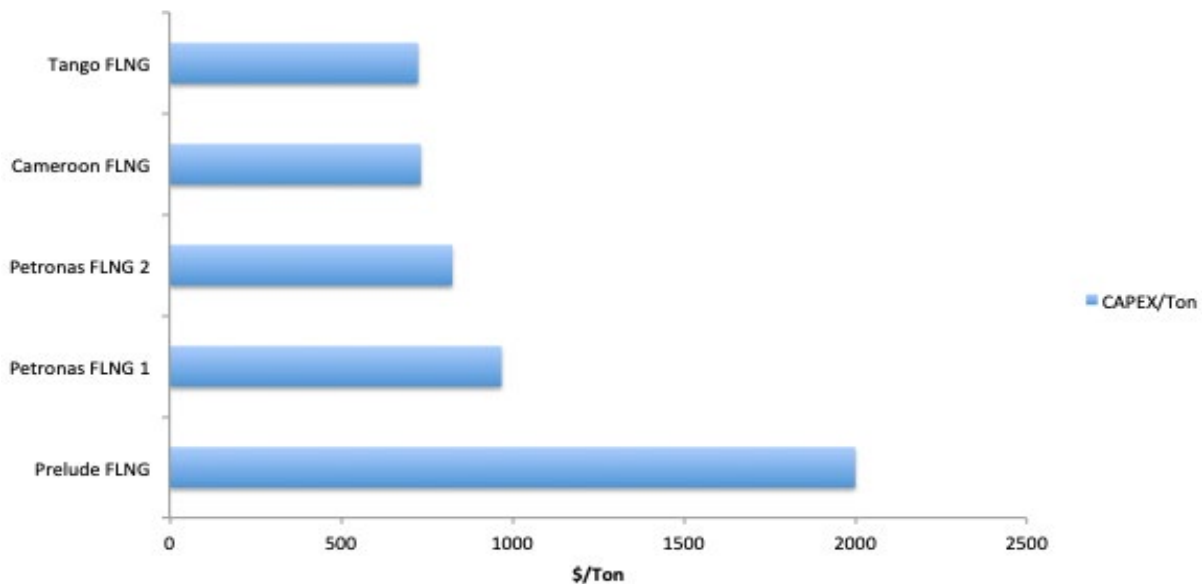
Effective Project Delivery Time

FLNG project development historically has remained on time as there is minimal onshore construction with standardized modular solutions being developed.

Cost and Project Management

Cost reduction is one of the key reasons to choose floating LNG. Standardization is important to save costs, but systems cannot be perfectly standard, which may limit the redeployment of vessels (Figure 2).

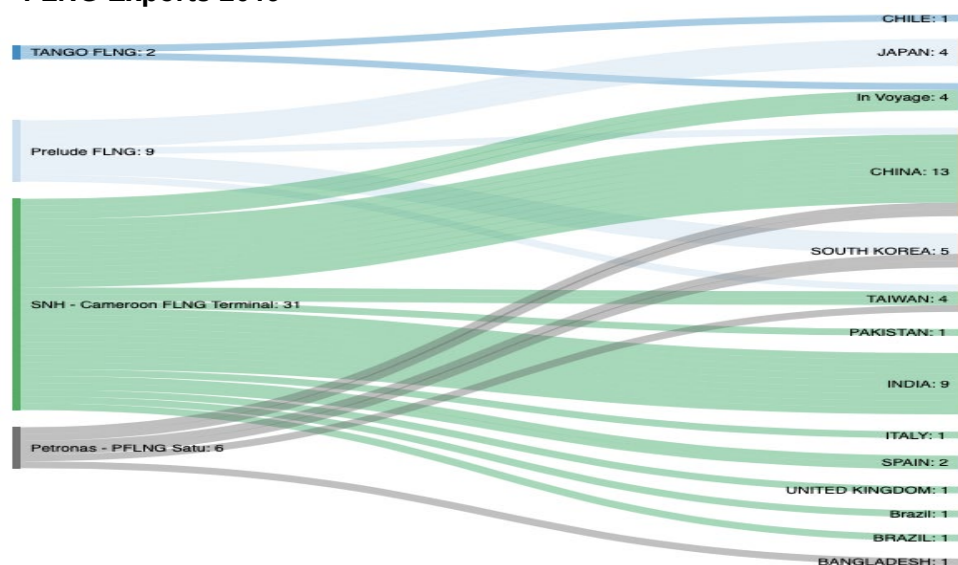
Figure 2: FLNG Project Capex (US\$/Ton of LNG)



Source: The Oxford Institute for Energy Studies

In 2019 LNG export volumes, from four FLNG projects, stood at 2.0 MT with 48 vessels leaving FLNG export terminals (Figure 3).

Figure 3: FLNG Exports 2019



Source: ClipperData

On an overall basis, FLNG projects developed with an evolution of existing LNG markets cost logistics and potential of gas supply. However, short-term oversupplied LNG market outlook has enabled buyers to renegotiate long-term LNG buying contracts with destination flexibility while prices remained under pressure since 2014. This has forced project developers to look for a niche market and more competitive projects in a shorter time frame, and in certain cases FLNG projects bring more value to a project developer especially, when a gas source is remotely located near the sea trade routes.

LNG projects on the Canadian west coast will have a geographical advantage over the US gulf coast projects in terms of reduced voyage time and no additional cost of going through the Panama Canal, while Atlantic-based projects can compete with the US and other LNG projects in European markets.

As the US LNG projects have been growing, there is a significant potential for Canada to expand its LNG project development and become a world-scale supplier of natural gas, learning from the Northern Russian project's utilization of the Arctic route via Arc 7 vessels and Ship-to-Ship (STS) facility near Norway. The LNG project proponents need to consider developing LNG projects both via conventional and FLNG approach in Canada. While project economics are well-understood for onshore LNG projects, more research is required to analyze the economic potential and validity of building and operating FLNG projects in Canada.

About the Author

Kaleem Asghar Kaleem is Director of LNG analytics at ClipperData, which offers market intelligence on supply/demand, price directions, inventory projections & waterborne flows of crude oil, petrochemical, LNG, LPG, refined products, bulk & container shipping.

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