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PERP Report 2016S11: LNG Receiving Terminals

"LNG Receiving Terminals" is one in a series of reports published as part of the 2016 Process Evaluation/Research Planning (PERP) Program.

Report Objective

This report has two key goals: to review and compare the technologies and equipment that are employed to unload, store and vaporize LNG; and to identify and describe the key opportunities and threats facing regasification terminal project development going forward.

A version of this PERP report was first published by Nexant in 2006 ("LNG Regasification", 05/06S12), when global gas market conditions – and the future prospects - were exceedingly different. The leaps and bounds in LNG terminal configurations since the release of Nexant's last report, and the dramatic change in global LNG markets since 2006, were critical factors in Nexant's decision to update its 2006 report.

Technical and Commercial Concepts

LNG terminals all have the same basic function, but their specific design and configuration is shaped by a broad array of factors: existing and potential future gas market dynamics, location-specific topographical and geotechnical characteristics, land availability, budgetary constraints, and public perceptions of LNG in general all factor into a project sponsor's decision on the optimum LNG terminal size, location, and configuration for the intended downstream market. Prior to the new millennium, the configuration of an LNG receiving terminal was a fairly straightforward affair. Although the size of LNG import terminals varied greatly according to market needs, there was fairly little to distinguish them in terms of their physical configuration. But today, there are several offshore configurations available for consideration. The rise of offshore terminalling solutions must be seen in multiple contexts: as an expression of the prevailing local social/political environment; a reflection of the local energy market's dynamics; and of course, the ongoing technical innovations by the LNG industry.

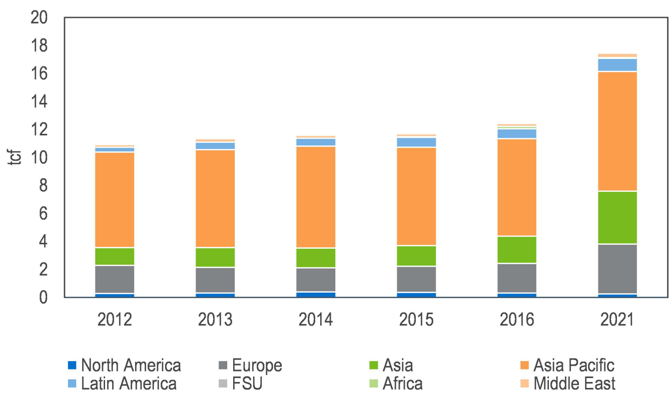
Traditionally, import terminals were generally owned and exclusively utilized by companies with monopoly powers over the downstream gas and power markets they served. This guaranteed market access was a bedrock of the LNG value chain. However, sweeping changes to regional gas markets has significantly broadened the commercial considerations that underpin the LNG industry as a whole – and for LNG import projects in particular.

Today's market is characterized by a loosening – but not the severing – of the strict commercial structures that define the LNG value chain: traditional Asia Pacific LNG importers, supermajors, national petroleum companies, shipping companies, and pure LNG import project development companies seek to develop markets – and terminals – as a way to stay competitive in an uncertain business environment. Going forward, Nexant expects this diverse pool of existing and potential developers will identify creative ways to cater to demand in a way that minimizes their exposure to risk while leveraging their existing LNG business experience and assets.

Report Overview

Purchasers of this report come away with a clear understanding of how LNG regasification terminals are configured and operate; the technological innovations pertaining to LNG terminal configurations and the composite parts of LNG import terminals; the commercial challenges facing terminal developers; the costs of production for differently-configured import facilities; and Nexant's view on global and regional LNG imports utilizing its proprietary World Gas Model.

Historic and Projected Global Regasification Throughput by Region



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