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The LNG Industry Begins Massive Expansion - Challenges Ahead

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Introduction

The global LNG industry has 170 - 180 million tonnes per year in total of LNG production projects that have taken FIDs (investment decisions). The starts of those projects in 2025 and thereafter are expected to bring about a significant expansion phase for the LNG market. The size of the global LNG industry doubled from 1990 to 2000, then doubled again from 2000 to 2010, and once more from 2010 to the present. It is expected to continue growing faster than other conventional energy sources. This paper provides an overview of the challenges in this growth phase, based on the state of the LNG market in early 2025.

1. What is suggested by the LNG market of 2024

The global LNG market traded 405 million tonnes in 2024, a record high, but only a slight increase of 0.5% from 2023. An 8% increase in China's LNG imports (the largest importer at 77 million tonnes) and a significant increase in Southeast Asia and South Asia offset the decline in imports by 20% or about 22 million tonnes (92 million tonnes imports) in the European Union and the United Kingdom combined. Japan's LNG import was almost same as 2023. In Asia, Korea, Taiwan, Hong Kong, Thailand, Malaysia, Singapore, the Philippines, Vietnam, India, and Bangladesh reached respective record highs in LNG imports. LNG imports into the ASEAN region and South Asia, including India, increased by 16% year-on-year to 24 million tonnes and 40 million tonnes, respectively.

On the export side, the United States, which became the world's largest LNG exporter in 2023, exported 85 million tonnes on a landed basis in the import markets, reflecting continued capacity expansion, albeit at a slower rate than in the past. Australia and Qatar continued stable LNG exports, with 80 million tonnes and 79 million tonnes. Russia followed by increasing its LNG exports by 5% year-on-year to 33 million tonnes.

Spot gas prices in Europe and spot LNG prices in Asia moved in tandem with the changes in physical flows of LNG. After the average price per million Btu were in the USD 13s in 2023, spot gas prices in Europe and spot LNG prices in Asia averaged in the USD9s and in the USD10s in the first half of 2024 and in the USD12s and in the USD13s in the second half of 2024, respectively. If the price level remains relatively stable, the growth potential of the Asian LNG market can be apparent.

Southeast Asia's natural gas consumption has increased in parallel with the development of LNG export projects in the region since the 1970s. Seven ASEAN countries

have realised LNG import projects since 2011. LNG imports from outside the region have increased, in addition to intraregional LNG trades from LNG production in the region. The weight of LNG in the region's natural gas consumption is expected to increase from one-sixth of the current total to about one-third by 2050¹. The region has the potential to expand LNG utilization infrastructure in coastal and island areas.

2. Issues to watch regarding LNG production expansion in 2025 and beyond

At the beginning of the phase of LNG supply expansion in the second half of the 2020s, the attention is on whether the LNG production projects will start as planned.

In the Gulf Coast region of the United States, two projects have been advancing toward LNG exports since late 2024. Cheniere Energy's Corpus Christi Stage 3 project and Venture Global's Plaquemines LNG started LNG production in December. However, other projects have concerns over securing labour resources, increases in EPC costs, construction delays triggered by environmental opposition, and rises in financing costs. Meanwhile, the resumption of export authorization processes is expected to advance investment decisions.

LNG exports from Canada's West Coast are scheduled to begin in 2025. Together with a project on Mexico's West Coast expected in 2026, LNG from the West Coast is expected to be a game-changer for diversifying LNG sources and routes for the Pacific market. In Australia, the Barossa field, to supply gas to the existing Darwin LNG facility, and the Scarborough field, to supply gas for the expansion of the Pluto LNG facility, are being developed, with production expected to start in 2025 and 2026, respectively.

An FLNG (floating LNG production) project off the coast of Mauritania and Senegal in West Africa started production of gas at the end of 2024. Additional FLNG projects are expected to follow in the Republic of Congo, Nigeria and Mozambique. Construction activities of the Mozambique LNG 1 project are expected to resume as the local situation stabilizes. In the Middle East, Qatar, Abu Dhabi and Oman are advancing new and expansion LNG production projects. Securing materials, equipment, labour, and engineering companies, and at the same time curbing the rise in construction costs will be commonly important issues.

As demand for LNG will be stimulated by marketing activities associated with the progress of LNG production projects, the willingness to procure LNG by price-sensitive markets such as emerging markets will increase, as seen in 2024. The combination of demand stimulation in response to the expected supply capacity and occasional delays in the completion of LNG production projects will continue preventing the "oversupply" in the future. A structural "oversupply" has not been realized in the past.

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¹ IEEJ Outlook 2025