"A New Option for Russia's Gas Supply to Japan"

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Executive Summary

This study explores economic competitiveness of would-be natural gas export projects in the Russian Far East, including both LNG and pipeline options, under the condition that political considerations remain outside the scope of this report.

Given that competition over ensuring international economic competitiveness of new LNG projects is forecast to be increasingly intensified by the mushrooming number of new LNG export projects in many parts of the world, including Australia, the United States, East Africa, etc., it is not guaranteed that the proposed new LNG projects in the Russian Far East would secure economic competitiveness vis-à-vis other LNG projects, taking into account a variety of presumed additional costs for construction of a new LNG export terminal, liquefaction, LNG shipment by tankers, regasification, location of natural gas deposits, etc.

Gas export by pipeline from Sakhalin to Japan can be considered as a new option for the bilateral gas trade to secure the project's economic competitiveness (Figure 1). In fact, technical feasibility of laying a subsea pipeline with approximately 8 bcm of natural gas to the Pacific side of eastern Japan has been verified positively with availability of the latest aseismic technology and equipment. This information, however, has been insufficiently disseminated to date.

Figure 1. Proposed Subsea Pipeline Route*

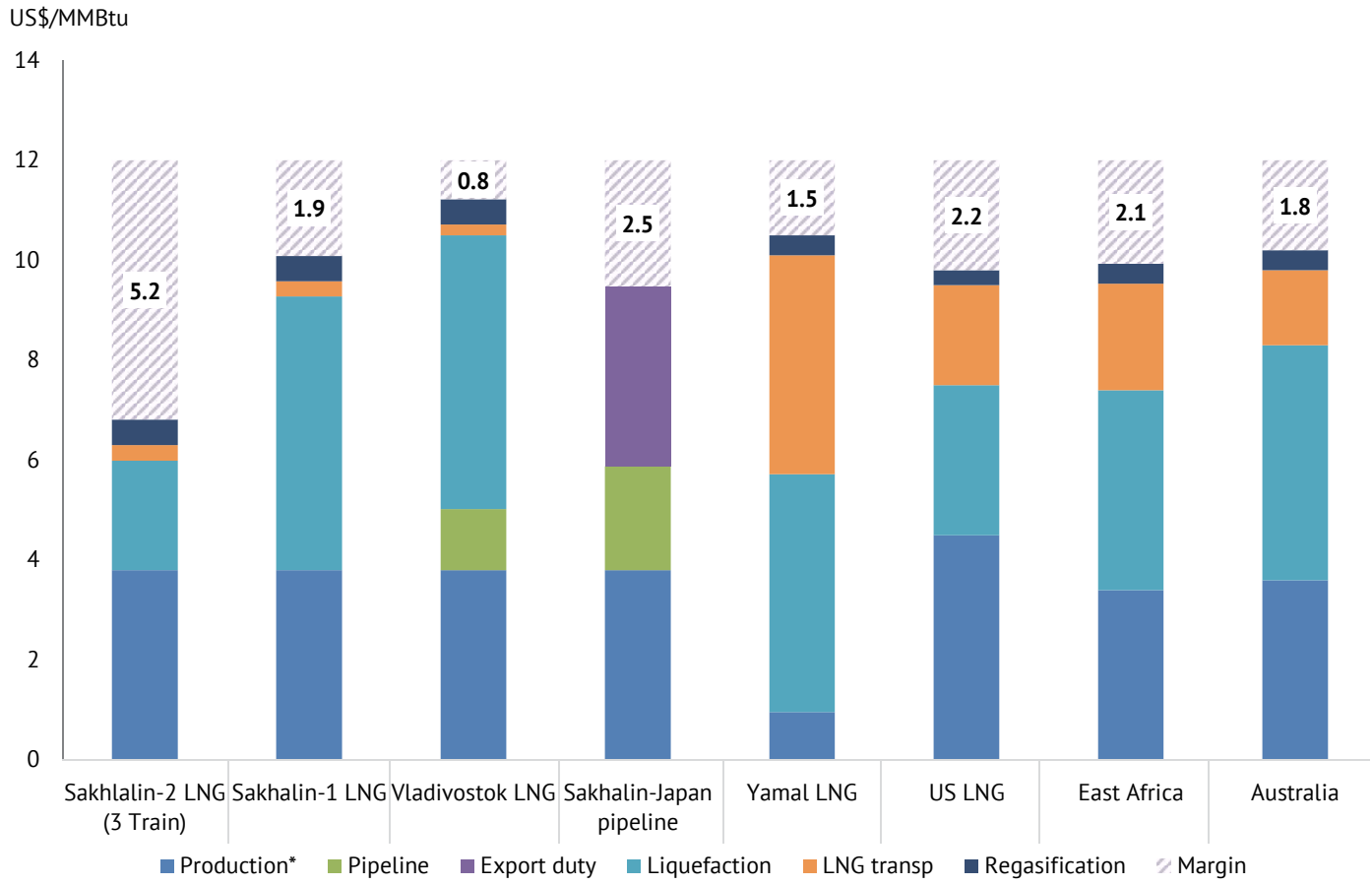
* Only the Ishikari-Tomakomai section has onshore PL.

It has become all the more important for Japan to diversify and increase access to gas supplies, which are based on internationally competitive prices, in order to reduce financial burdens on the Japanese economy against the background that 1) natural gas plays a more important role in Japan's energy mix due to the Post-Fukushima shutdown of nuclear reactors and its future uncertainties; and 2) Japan's procuring costs of LNG have remained considerably higher from an international standpoint, especially compared with North American and European gas markets.

A number of new LNG projects, including three in the Russian Far East, namely the Vladivostok LNG, the Sakhalin-1 LNG and the expansion of the Sakhalin-2, as well as non-Russian projects, have been on the table. Since reduction of the procuring cost of LNG is Japan's pressing need, finding a way to provide internationally most competitive pricing would be key to enter the Japanese LNG market at the earliest point with the conceivably more severe competition in the global LNG market coming around the corner.

With the would-be piped gas export to Japan, Russia could not only evade competition in international LNG markets, but also ensure:
1) high security of demand for a long period of time;
2) federal budget revenues through export duty (Figure 2).

Figure 2. International Comparison of LNG Projects' Costs under Planning (est.)



*Production tax included, except for the Yamal project.

Source: Compiled by ERI and IEEJ, based on various sources.

At the same time if Japan could find new supply sources, based on internationally competitive gas pricing contracts, it would likely to encourage more use of gas in Japan's energy life than the other way around. Reduction of Japan's cost of procuring natural gas would foster development of Japan's domestic gas supply chain in accordance with the post-Fukushima national plan of reinforcing resilience of energy supply system.

Table 1 shows mutual advantages and unsolved issues with regard to the proposed pipeline concept.

Table 1. Implications of Considering Japan-Russia Gas Trade by Pipeline

Advantages	
For Japan	For Russia
Diversification of gas supply origins	High security of demand with diversification of export destination by increasing Japan's share among Asian buyers
Gas purchase at internationally competitive price	Higher netback income than the proposed LNG projects
Strengthening resilience of domestic gas supply networks	Avoidance of competition in LNG markets
	Increasing federal revenue from export duty
Issues To Be Solved	
• Securing an internationally competitive gas pricing mechanism	
• Promotion of understanding about the economic and technical feasibility of the pipeline project	
• Finding solutions to conflict of interests among domestic stakeholders on both sides	