# Japan's pursuit of its own LNG hub

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## Introduction

At the height of the Asian premium of LNG prices in 2013, concepts of Asia's LNG hub emerged as a way to introduce fair and reasonable LNG pricing in the region. While the progress may look slow in terms of institutional and framework aspects of the development and experts expect it will take many years to actually establish an LNG trading hub, preconditions and necessary elements for such a market are steadily coming true.

Potentially tradable and flexible LNG is certainly growing, as more new LNG projects are coming online with buyers equity participation and hence equity lifting arrangements. More LNG sales and optimization deals are concluded between portfolio players and Asian LNG buyers without destination restrictions and with different pricing conditions, potentially enabling more flexible movements of LNG cargoes.

In addition to the flexible contractual arrangements, the timely and transparent customs statistics systems in Japan and other East Asian importers are expected to make future LNG markets in the region more visible. Although significant portion of LNG may still be traded under long-term contracts in the future, the inherent flexibility and potential tradability should be deemed as part of liquidity of the region's LNG markets.

A more comprehensive coverage of bidding and offering information (with cooperation between PRAs and government agencies) with easier access by companies with less appetite for trading may lead to more reliable price formation for the spot market. The industry does not have to solely rely on the spot market prices to establish a fair and equitable LNG price index in the region. Another potential index is the JLC as Japan's weighted average delivered LNG price for a month.

An LNG hub there does not mean a pure spot trading hub, but can be a combination of more flexible term contracts and enhanced spot trading.

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**Efforts toward a more flexible LNG market**

One of the most successful efforts by the Japanese government and LNG buyers toward a flexible LNG market has been relaxation of destination clauses in the LNG term contracts. This is of course thanks to LNG sellers' great help and understanding.

The trend is expected to continue and the world will see a more flexible and globally connected LNG market in the future.

**The greatest expansion of the LNG industry in its history**

The global LNG market is finally gearing up for the anticipated major expansion and a structural shift. In 2016, around 260 million tonnes of LNG was produced, of which 45 million tonnes was exported from Australia.

Signs of consuming markets growth have been observed, responding to the production expansion, including emerging markets in Southeast Asia and the Middle East, as well as more matured markets in Northeast Asia. The four importers in the region - Japan, Korea, China and Chinese Taipei - imported 47 million tonnes of LNG in total in the first quarter of 2017, 13% or 5.4 million tonnes more than the same period of 2016. These are indications that if supply is ample and reliable, additional demand will be developed. LNG can be a major driving force to expand new natural gas demand.

Along with volumetric growth, ways of moving LNG from production to consumption are changing. The value-chain structure is no longer vertically integrated. Because of diversification of sales practices, market participants, and project development models, new ideas will be needed for future LNG project development.

One of the more recent significant changes in the LNG market has been the lower prices and consequently smaller monetary size of the market.

Among the above-mentioned four importers in the Northeast Asia region, only China increased imported LNG volumes by 33% in 2016 but paid only slightly more than the previous year. The other three importers paid significantly less in 2016 than in 2015. LNG importers around the world as a whole are estimated to have paid less than USD 100 billion in 2016, compared to USD 200 billion in 2014.

By the way custom statistics in this part of the world are always published in a timely and transparent manner. The quality of the information is greatly helping market players and analysts.

**Why an LNG hub**

The need for an LNG hub, or market flexibility in a broader sense, has been evolving along with the market evolution. Only three years ago, some people were still

talking about market tightness. Other people thought that the main causes of the Asian premium of LNG prices were the lack of Asia's own pricing system reflecting supply and demand balance, and the lack of an actively traded LNG market.

It is true that pure spot trading of LNG may not be active enough to have liquidity to create a reliable price index. But isn't the Asia Pacific region the most active LNG market as a whole? The region should take advantage of the position as the largest LNG market.

Since then the market balance has changed and the Asian premium has shrunk for some time. While LNG market players and commodity exchange places have made efforts to make LNG market more flexible, today the need for LNG market flexibility itself include various elements. Existing LNG players want to obtain favourable LNG prices. New players may be able to buy and sell LNG only if there is a flexible LNG market. Some traditional LNG buyers want to sell their LNG for different reasons.

In May 2016, the Japanese government released the LNG Market Strategy. Recognising the evolving nature of the LNG market, the strategy is expected to be revised when it is deemed necessary. There are three cores in the strategy: (1) Enhancement of tradability is focusing on removal or relaxation of restrictive practices in LNG contracts; (2) Creation of a proper price discovery mechanism means facilitation of a fair and transparent spot market leading to a price index that can be used in long-term and short-term contracts; and (3) Open and sufficient infrastructure means facilitation of third-party use of LNG terminals and pipeline networks. The last item may be tricky because of the specific nature of the Japanese and Asian LNG markets. Since Japan is entirely dependent on LNG for its natural gas supply and other Asian countries are also heavily dependent on LNG fir their natural gas supply without significant access to pipeline supply, security of supply remains the top priority and the primary user's right should remain respected.

**Progress may look slow but it is being made**

Since the significant expansion of the market is just beginning, it is still difficult to see how flexibility of the market evolves in the future. Some people say that it will take 10 to 15 years to establish an LNG trading hub, while others say it will never come.

However, preconditions and necessary elements for such a market are steadily coming true.

While the share of spot and short-term transactions did not grow much in 2015 and 2016, according to the latest GIIGNL annual report, "pure" spot trades grew from 15% of the total or 37 million tonnes in 2015 to 18% or 47 million tonnes in 2016. Moreover, potentially tradable and flexible LNG is growing, thanks to more flexible LNG contracts in recent years, as more new LNG projects are coming online in the Asia Pacific region with

buyers equity participation and hence equity lifting arrangements.

More LNG sales and optimization deals are concluded between portfolio players and Japanese and other Asian LNG buyers without destination restrictions and with different pricing conditions, potentially enabling more flexible movements of LNG cargoes.

With expected increase of the flexible portion under long-term arrangements more parties are expected to have ability and desire to potentially bid or offer LNG cargoes in the spot market. In fact more players are today conducting tenders to buy or sell LNG cargoes.

Lastly but most significantly LNG export projects in the United States are expected to enhance flexibility in the global LNG trades especially from 2017 with destination flexibility and the gas-indexed LNG pricing, along with notable project participation by Japanese and other Asian companies either as offtakers, investors, or financers.

In addition to the flexible contractual arrangements, the transparent transaction (in particular, price) reporting requirements under the Department of Energy (DOE) regulation in the United States, combined with the timely and transparent customs declaration and statistics systems in Japan and other East Asian importers, are expected to make future LNG markets in the Asia Pacific region more visible. Price information is transparent at both ends. DOE releases cargo-by-cargo information, including seller and FOB buyer identities, countries of destination, exported volumes, and prices.

In the first quarter of 2017, Japan imported much anticipated LNG cargoes from the United States for the first time, for an average price of USD 12 / million Btu compared with the across-the-board average of USD 7.64 for the total LNG imports into Japan from all sources in the period.

The price level is one thing to note. Another thing to note is that, in addition to import prices, we can also obtain FOB price information for each cargo from DOE. This transparency of information will certainly help market players to make actions and decisions.

A more comprehensive coverage of bidding and offering information (with some kind of cooperation between Price Reporting Agencies (PRAs) and even government agencies) with easier access by companies with less appetite for trading may lead to more reliable price formation for the spot market.

The author also argues that the industry do not have to solely rely on the spot market prices to establish a fair and equitable LNG price index in the region. Another potential index is the JLC as Japan's weighted average delivered LNG price for a month. It has been possible to know the JLC for the month by the end of the following month, thanks to timely publication of the customs statistics.

There may be a risk at this moment that the JLC may still fluctuate with volatile

movement of crude oil prices as many of Japanese long-term LNG import contracts are indexed with the JCC as Japan's weighted average delivered crude oil price. However, in the future, by gradually shifting long-term purchasing contracts from oil-index to JLC-index, the risk may be gradually mitigated and the JLC-indexed price may move month by month with adjustment made by certain volumes of spot LNG transactions.

**Further consequences from the LNG market expansion**

In the next five years a generation shift is expected in Japan's and Asia Pacific's LNG supply sources, with additions of projects from the United States and more portfolio deals, leading to even greater flexibility.

At the same time the total procured volumes by Japanese buyers for 2020 have already surpassed 85 million tonnes, leaving little room to additionally procure spot and short-term volumes. Supply sources are expected to shift to Australia and the United States, decreasing the share of Southeast Asia.

Those flexible portions of LNG procurement may be imported to originally intended destinations under contracts, resold to different buyers under secondary contracts, or resold in the spot market. A possible LNG hub should include not only a pure spot LNG market but also incorporate the broader sense of flexibility in the whole LNG market.

Recent LNG production projects have also seen increasing minority equity participation by Japanese and other Asian companies, which is also part of efforts to obtain more flexibility in the LNG market, as those equity arrangements are often accompanied with LNG offtake arrangements.

Japan opened up its city gas residential market for competition in April 2017. This is an ambitious attempt by the government of a country which is totally dependent on imported supply sources. Although the initial number of new market participants is small and switching rates are not expected to be very high, the initiative is considered to be very important to continue affordable energy supply to customers and businesses, while streamlining energy supply systems.

**Efforts by the Japanese government and institutions**

During the last several years, the Japanese government has been active in communicating with LNG producing and consuming nations on LNG market issues. Although Japan does not have national champion LNG buying companies, the government hosts the annual LNG Producer-Consumer Conference, which has become one of the most important events in the LNG industry.

Starting from the Strategic Energy Plan in April 2014, the government has been

successful in engaging other governments to promote flexibility in LNG trades. Official documents from those governmental meetings have included statements to promote more flexible LNG markets, including phasing out of destination restrictions. The Tokyo Commodity Exchange (Tocom) has incorporated contracts to help grow the LNG market.

**Conclusion**

Along with the ongoing significant expansion of LNG capacity in the global market, Japanese players and the government continue evolving business models and market structures. Players are expected to streamline their activities and change their mindsets to cope with new market reality. Japan and Asia should be able to take advantage of their own market positions and information assets to establish their own equitable and fair LNG market. An LNG hub there does not mean a pure spot trading hub, but can be a combination of more flexible term contracts and enhanced spot trading.

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