

Appendix 1. A Statement Paper of the Working Group

Recommendations

for a Better-Functioning

Liquefied Natural Gas Market in Asia

September 2015

The Economic Research Institute for ASEAN and East Asia
The Institute of Energy Economics, Japan

Acknowledgements

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The ERIA and the IEEJ take full responsibility for the wording and contents of this report.

Introduction

As a result of the first series of the Multilateral Joint Study Group on LNG in 2014, Masakazu Toyoda, CEO and Chairman of IEEJ, presented the 'Recommendations to Realize the Sound Development of LNG Market' at the 3rd LNG Producer–Consumer Conference in November 2014. The LNG market has been undergoing dramatic changes especially since the latter half of 2014. The most significant one is the collapse of oil prices, which led to lower Asian LNG prices. New liquefaction capacities and slower-than-expected demand decreased spot LNG prices even lower. As a consequence, Asian premium of LNG shrunk substantially.

While lower price is welcome for LNG importers in Asia, there remain unresolved issues, such as the lack of Asian benchmark price for LNG, inflexibility of LNG contracts, and security of gas supply. On the other hand, lower oil and gas prices pose a question as to how upstream investment is secured to ensure future LNG supplies, taking into consideration the long lead time for gas development. In the summer of 2015, the second series of Multilateral Joint Study Group on LNG examined these issues.

This document was drafted by IEEJ with an aim to make new recommendations to stakeholders and governments to promote sound development of the LNG market in Asia, based on discussions with a group of experts. This will be presented at the 4th LNG Producer–Consumer Conference on 16 September 2015 in Tokyo.

Recommendations for a Better-Functioning Liquefied Natural Gas Market in Asia

Background: Changes and challenges in the Asian liquefied natural gas market

The Asian liquefied natural gas (LNG) prices had been considerably higher than those in Atlantic market especially between 2011 and 2014. The price gap, or Asian premium, of LNG could not be explained by transportation cost between the Atlantic and Asian markets. The huge premium was a serious problem for LNG-importing countries in Asia.

The relaxation of supply–demand balance and the collapse of oil prices led to lower LNG price and decreased the Asian premium of LNG. However, there remain four unresolved challenges:

1. Calling for flexibility in Asian liquefied natural gas

LNG transactions in Asia are usually characterised by large volume, long term, and rigid contractual terms. These characteristics have been brought about by high gas transport, liquefaction and storage cost of natural gas, as well as high investment risk associated with upstream developments and illiquid LNG market in Asia. Therefore, traditional LNG contracts for Asia feature certain terms to reduce upstream investment risks and secure operation in a quasi-vertically integrated manner.

First, products typically have been sold under long-term contracts that often span more than 20 years. This is still largely the same today especially for new LNG projects, while some existing LNG projects offer shorter contracts.

Second, LNG contracts include a so-called ‘take-or-pay’ clause where a buyer is required to pay for the cargoes even if the buyer cannot take them for whatever reasons, although 5 percent to 10 percent upward or downward quantity allowance is typically embedded in the contract.

Third, in most LNG contracts for Asia, products are shipped only to specific geographical point(s) or country under ‘destination clause’. This clause was originally intended to lower investment risk by reinforcing security of supply for buyers and of demand for sellers. With destination clause, even in the case of free-on-board (FOB) contract, a buyer is not allowed to resell a cargo to another buyer without the seller’s consent. In Europe, the destination clause was made illegal to be incompatible with Rome Treaty by the European Commission, and almost all destination clauses were removed in FOB contracts.

While some contracts have offered relatively flexible terms in recent years, inflexibility still remains

in many LNG contracts in Asia. Importers need flexibility in gas trade not only to accommodate demand fluctuation but also, in the case of Japan, to prepare for unpredictable future domestic gas demand as a result of power and gas market liberalisations. Flexibility is also important for establishing gas-on-gas (market) pricing because it is only possible through flexible trading activities and subsequent liquidity growth of the LNG market.

2. Seeking appropriate price formation

It is well known that the LNG in Asia has traditionally been priced in relation to crude oil price – typically Japan’s average crude import price or Japan customs-cleared crude. Such oil indexation is an issue not only for price formation but also for flexibility because, due to the structure of price formula, oil indexation prices cannot follow market fundamentals in a timely manner.

The oil indexation originated from Europe where the majority of imported gas was priced by formula so that natural gas can compete with alternative fuel (mainly fuel oil and gas oil) in the market of importing countries. However, gas-on-gas pricing has been increasing in Europe because wholesale markets (hubs) have become liquid enough to replace oil-indexed prices that could not follow the fundamentals of the LNG market especially in 2009 and 2010.

In a high oil price era, some importers and observers in traditional Asian LNG importing countries start to question the relevance of oil indexation as a price formation process because natural gas has already replaced oil to a significant extent and, thus, little competition between natural gas and oil especially for power generation. As far as China and India are concerned, the dominant fuels are coal for power generation and industry sectors, and biomass and electricity for household and commercial sectors. Therefore, in those countries, competition between oil and natural gas is limited in the first place. In other words, one can question whether oil indexation as natural gas pricing for Asian importers is still appropriate.

Many Asian LNG buyers are seeking alternative pricing in recent years. The US LNG prices will be based on Henry Hub price, liquefaction, and transportation costs. Some of the new contracts feature hybrid pricing of Henry Hub, national balancing point (NBP) or spot LNG price, and oil indexation. With the continued pricing diversification, it is clear that the LNG price for Asia should reflect market fundamentals in Asia with accuracy and timeliness.

3. Ensuring gas security

Gas security issue has been spotlighted in Europe especially since mid-2000s. Gas supply disruptions, in particular in a winter heating season, undermined security of supply in some

European countries. In response to this situation, the European Union intensified its gas supply security discussions and implemented some policies, which include diversifying supply sources and enhancing flexibility of gas supply on a global basis.

The discussion has become widely recognised and has been shared among many countries even outside of Europe, as demonstrated by a declaration of the Brussels G7 Summit in 2014 that supports the relaxation of destination clauses for promoting gas security. Based on a common perception, flexible, transparent, and competitive energy market, including gas or LNG market, is one of the core principles to build energy security. In addition, the European Commission has developed a new concept of 'Energy Union', which includes gas or LNG supply security as one of its pillars.

The series of discussions have enhanced awareness of LNG consumers in Asia for the importance of LNG supply security and trade flexibility. While each importing country in Asia faces different energy challenges, rising import dependency is urging importing countries to pursue flexible LNG supplies to ensure gas security.

4. Securing investments to ensure future liquefied natural gas supply

The Asian LNG demand is expected to double and reach 363 million tonnes per annum in 2040, according to IEEJ. As such, continuous investment, which will commercialise supply potentials especially in Australia, North America, Russia, and Africa, is expected to ensure security of LNG supply in Asia in the future. However, it is becoming critical to secure adequate and timely investments under the low gas price circumstance.

Long-term contracts have been playing a major role to commercialise new LNG projects. Flexible market does not necessarily exclude long-term contracts. On the contrary, it is important to recognise the utility of long-term contracts especially for new, remote, green-field, large-scale projects. However, future long-term contracts should feature gas-on-gas (market) pricing.

Recommendations

The LNG market is in transition in terms of geographical and quantitative expansion, diversification of price formations, and lower oil and gas prices. In order to balance benefits between importers and exporters and to find workable solutions for sustainable LNG market development in varied energy situations in each importing and exporting country, LNG market players and policymakers are encouraged to enhance their efforts to create more flexible, transparent, and sustainable LNG market in Asia. Although the private sector is mainly responsible for commercial deals, the public sector is encouraged to support in improving business environment to develop a better-functioning LNG market especially in terms of flexibility, price formation, and gas supply security; and in securing necessary investments.

1 Flexibility

Enhancing flexibility is the key to a better-functioning LNG market in Asia. Not only international LNG but also domestic gas markets should be more flexible.

- 1.1 Contractual flexibility should be enhanced by eliminating destination restrictions in free-on-board (FOB) contracts and relaxing them in delivered ex-ship (DES) contracts.
- 1.2 Policymakers are recommended to enhance domestic gas market liquidity through liberalising domestic gas market and prices, and developing adequate and accessible gas infrastructure capacities by promoting such measures as third-party access to gas infrastructures where applicable.

2 Price formation

The oil indexation rapidly has lost its relevance in recent years because oil is increasingly less competing than gas and is unable to track LNG market fundamentals. Gas-on-gas competition (market) pricing is fundamentally desirable so that the market fundamentals of LNG can be directly reflected on price.

- 2.1 The price formation at Asian gas or LNG hub(s), such as wholesale domestic gas market in Asian importing countries, as well as in spot LNG market, should be pursued. Singapore intends to establish a hub, and some other countries are exploring the possibility of this kind, including Japan. Further investigations and actions toward establishing Asian gas or LNG hub(s) are suggested.
- 2.2 It will be useful to diversify the price formation of LNG in Asia by linking with North American and European hub pricings and spot LNG pricing, while tackling the following:

(i) modifying Japan customs-cleared crude pricing to better reflect market conditions; and (ii) making continued efforts to develop Asian gas or LNG hub(s).

3 Gas supply security and the role of functioning market

Gas supply security attracts greater interest not only in Europe, where the conflict in Ukraine overshadows, but also in many Asian countries since their gas demand and import dependency soar.

- 3.1 Gas supply security should be improved by both supply and demand side measures, such as diversification of supply sources, including pipeline gas; development of emergency response scheme; improvement of energy efficiency; removal of price subsidies; and enhancement of demand flexibility.
- 3.2 Contemporary approach, such as flexible trade, for instance, between the European and Asian markets, and appropriate price signal of LNG are suggested to be pursued since these are important elements that can ensure, particularly short term, gas supply security in a global LNG market. Traditionally, long-term contract has played this role. However, when considering dramatically changing circumstances in each regional market, where steady progress takes place toward market liberalisation, it is obvious that long-term contract alone cannot fulfil the requirement of supply security.
- 3.3 Moreover, destination restrictions in contract need to be eliminated or relaxed to enhance the flexible trade of LNG.

4 Securing necessary investments

It is critical to secure adequate and timely investments to realise additional LNG supply potential to meet the growing LNG demand in Asia, particularly in a current lower gas price circumstances.

- 4.1 The governments of LNG exporters are expected to maintain transparent and consistent policy to encourage upstream developments, while respecting social and environmental considerations and restrictions. The governments of LNG importers are expected to promote adequate and accessible infrastructure developments.
- 4.2 Take-or-pay agreement has been playing an important role to commercialise new LNG projects. However, in response to substantially changing market, it is suggested to pursue expanding allowances of downward quantity tolerance (DQT) and upward quantity tolerance (UQT) as much as possible.
- 4.3 Equity participation of importers and public support are suggested to be hired when private finance is not sufficiently available due to price uncertainty in the future.

List of the Study Group Members

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Appendix 2. Result of the 4th LNG Producer–Consumer Conference

1. Programme

The participants were grateful to have an opportunity to present their statement in Session 3 of the conference.

LNG Producer–Consumer Conference 2015
(Draft program, subject to change)
~ Evolving LNG Market Towards Natural Gas Security ~
September 16th, 2015
**Simultaneous interpretation between English and Japanese will be provided for all the sessions.*

12:00-13:00 Session 3:
LNG demand outlook & actions by consumers

Leaders and professionals from consuming countries will deliver special lectures. Energy consuming countries seeking competitive energy sources expect that natural gas would be a stable and competitive solution, while they face challenges, including security of supply, growing demand, appropriate pricing, and operational flexibility. LNG buyers, government officials, and research institutes will present their views about the LNG market, the major challenges, and the concrete measures they are taking for the procurement of LNG.

Speech & Panel Discussion:

- Mr. Yuji Kakimi, President, JERA Co.
- Mr. Sheng-Chung Lin, Chairman, CPC Corporation
- Mr. Michiaki Hirose, President, Tokyo Gas Co., Ltd.
- Mr. Masakazu Toyoda, Chairman and CEO, The Institute of Energy Economics, Japan (IEEJ)
- Mr. Takayuki Sumita, Director-General for Commerce, Distribution and Industrial Safety Policy, Japan

Moderator

- Mr. Guy Caruso, Senior Adviser, Energy and National Security Program, Centre for Strategic and International Studies

Q&A:

2. Brief summary of presentation

The LNG Joint Study Group, which was set up in 2014 based on the proposal of the Institute of Energy Economics, Japan (IEEJ), continued the discussions after the 4th LNG Producer–Consumer Conference and came up with four recommendations for the sound development of the Asian liquefied natural gas (LNG) market, taking into account rapid changes in market conditions, such as a slump in oil prices.

1. Recommendation for improving the flexibility of LNG transactions

The Asian LNG market should be more flexible to function more effectively, which also applies to each East Asia Summit (EAS) country's domestic gas market, as well as to the global LNG market.

- Relaxation or abolishment of destination restrictions in LNG trade agreements
- Effort to liberalise domestic gas markets

2. Recommendation for optimising the pricing system

As the conventional oil-linked pricing system is rapidly losing its rationality, a more appropriate system should be developed to reflect LNG market conditions in Asia.

- Effort to create (liquefied) natural gas hubs in Asia
- Effort to diversify LNG pricing in Asia

3. Recommendation for improving the security of natural gas supply

Improving the security of supply is a key challenge for Asian countries that are increasingly dependent on imports.

- Measures for both supply and demand sides, such as diversification of supply sources, emergency response, and energy-saving measures
- Pursuing supply security through increased flexibility of transactions and price signals in addition to conventional long-term contracts

4. Recommendation for securing the required investments

Investments should be made in a timely manner to meet the growing demand for

natural gas.

- Creation of a transparent, predictable climate for investment in LNG exporting countries
- More flexible take-or-pay conditions (expansion of the scope of DQT/UQT)
- Capital participation by LNG importers and use of public assistance

3. Presentation material



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What need to be done in the changing LNG market?

– Recommendations for a better functioning LNG market in Asia –

LNG Producer-Consumer Conference 2015

16th September, 2015
Tokyo, Japan

Masakazu Toyoda
Chairman & CEO
The Institute of Energy Economics, Japan

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We are a group of research experts

Launched in 2014

Delivered message to
2014 LNG P-C conference

2nd series of discussions

Deliver message to
2015 LNG P-C conference



- The study is supported and funded by ERIA (Economic Research Institute for ASEAN and East Asia)



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Key questions

- Has Asia Premium been eliminated?

No. It looks like premium reduced, but still exist considerably.

- Is oil-indexation still relevant ?

No. A relevance has been rapidly disappearing, and we need to pursue appropriate price formation.

- Can traditional security measure (e.g. long-term contract, Take or Pay) alone fulfill a requirement of security in importing countries?

No. Importing countries need to seek more flexible measures by reflecting their changing regional and domestic market.

- Does recent low oil/gas price bring difficulty for upstream investment?

Yes. We need to take actions to commercialize possible new supplies.

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Our recommendations

<p style="text-align: center; background-color: #e6f2ff; border-radius: 5px; margin-bottom: 10px;">Flexibility</p> <ul style="list-style-type: none"> • Destination restrictions need to be; <ul style="list-style-type: none"> ✓ Eliminated in FOB contract ✓ Relaxed in DES contract • Policy makers are recommended to; <ul style="list-style-type: none"> ✓ Enhance domestic market liberalization ✓ Promote TPA to infrastructures 	<p style="text-align: center; background-color: #e6f2e6; border-radius: 5px; margin-bottom: 10px;">Price formation</p> <ul style="list-style-type: none"> • Price formation at Asian gas/LNG hub(s) shall be pursued. • Useful to diversify price formation of LNG in Asia by linking with; <ul style="list-style-type: none"> ✓ N. America & European hub price ✓ Spot LNG price
<p style="text-align: center; background-color: #ffe6cc; border-radius: 5px; margin-bottom: 10px;">Gas supply security</p> <ul style="list-style-type: none"> • Improve by both supply & demand side measures. • Contemporary way (e.g. flexible trade and appropriate price signal) need to be combined with traditional way (e.g. long term contract) 	<p style="text-align: center; background-color: #ffe6e6; border-radius: 5px; margin-bottom: 10px;">Securing necessary investment</p> <ul style="list-style-type: none"> • Transparent and consistent policy for upstream investment. • More flexible take or pay arrangement (e.g. bigger allowance) • Equity participation of importer and public support

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4. Extraction from the Official Summary Statement

- **The Institute of Energy Economics, Japan (IEEJ)**

Enhanced flexibility of LNG transactions is essential to realise a functioning LNG market in Asia. The market should also introduce pricing mechanisms that timely reflects prevailing market conditions. Supply security measures should include those of flexible contract terms and conditions and price signals, not necessarily limited to purely balancing measures. In order to secure timely investment in upstream development, it is necessary to promote better investment environment, more flexible take-or-pay applications, equity participation by companies from importing countries, and institutional supports by governments from importing countries.