

Key Findings and Policy Recommendations – Executive Summary

Key Findings

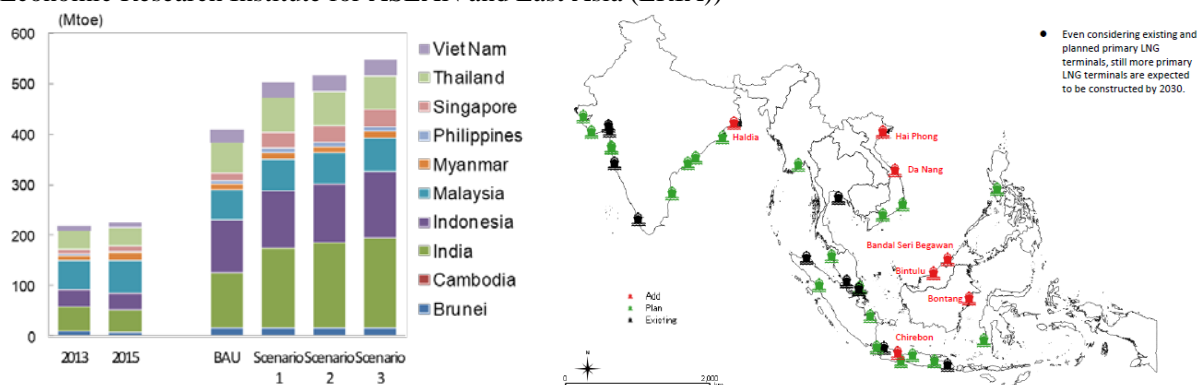
The global LNG market is undergoing a sustained and fundamental transformation. A combination of forces led by the revolution in shale gas production in the U.S., rising global LNG use, diverging natural gas and crude oil prices, and demand shifts from traditional Northeast Asian countries (Japan, Korea and Taiwan) to China, Southeast Asia and South Asia present new challenges and opportunities for producing and consuming regions. The LNG market is already experiencing rising competition from the US and Australia in a market traditionally reliant upon suppliers from Asia and Middle East. While new competitive forces bring challenges to producers, the development of a broad-based liquid and flexible LNG market can deliver substantial economic, environmental and energy security benefits throughout the region. The challenge ahead for policy makers in securing the widespread benefits of rising supplies of LNG is to transform potential LNG demand in Asia into real demand. Whether the U.S. can play an integral role in Asian LNG market is dependent not only on the pace and magnitude of LNG demand growth in Asia, but also on sustaining a cost competitive position for U.S. LNG exports. U.S. policymakers, recognizing the vast indigenous natural gas reserves and advances in extraction technologies, are pursuing a supportive strategy to ensure that production growth and LNG exports are both predictable and sustainable.

The Institute of Energy Economics Japan (IEEJ) and the Energy Policy Research Foundation, Inc. (EPRINC) undertook an assessment of future LNG demand growth in Asia and strategies to improve the competitiveness of U.S. LNG exports in the region. The two organizations reached out to nearly 100 experts, government officials and market participants through a series of workshops in Washington D.C., Tokyo, and Bangkok. We also engaged our own research teams and the project received support from Economic Research Institute for ASEAN and East Asia (ERIA), as well as the U.S. and Japanese governments. Policy recommendations are presented as part of this study for consideration by stakeholders. These findings also are expected to provide food for thought at the 6th LNG Producer Consumer Conference to be held on October 18, 2017 in Tokyo, Japan. The key findings are as follows:

- The U.S. natural gas resource base is big and getting bigger. Advances in extraction technologies show continued improvements indicating that U.S. natural gas output could rise by substantial additional volumes at costs below \$4/mcf.
- The U.S. regulatory framework for natural gas production, distribution and construction of processing facilities, including LNG export plants, has been largely efficient, but persistent and important challenges remain and these challenges pose risks to the rapid expansion of LNG export facilities.
- Natural gas market in Asia has significant potential and could grow 2.5 times between now and 2030. Meeting this demand growth will require about \$80 billion in LNG infrastructure investment in ASEAN and India combined¹ (Fig.-1).
- While historic Asian LNG demand centers, Japan, Korea, and Taiwan are likely to experience modest or declining demand growth, emerging Asian LNG importers such as China, India, and other new emerging Asian countries will see rising demand for LNG. The base case assumption of the region's LNG demand will reach 350 million metric tons in 2030.

¹ Outcomes of the 11th East Asia Summit Energy Ministers Meeting, 28 September 2017. "LNG infrastructure" includes LNG terminal, pipeline, satellite facilities and ISO container, but does not include upstream development, liquefaction facilities or gas-fired power plants. Additional \$80 to \$130 billion will be required for new-build gas-fired power plant construction.

Fig.-1 Natural gas demand potential and required LNG infrastructures in ASEAN and India (source: Economic Research Institute for ASEAN and East Asia (ERIA))



Summary of Major Policy Recommendations

The IEEJ – EPRINC assessment of the Future of LNG in Asia recommends relevant stakeholders undertake the following initiatives to support a growing market for LNG in Asia:

- *Developing more liquid and flexible LNG market:*
 - Removal of LNG destination restrictions in LNG contracts among all market participants to stimulate spot markets and price discovery
 - Hold close dialogue between producers and consumers to determine the long-run requirements and policy instruments to promote competition and LNG growth.
- *Sustaining competitive US LNG export platform:*
 - Streamline the regulatory process, including LNG export approval process and environmental reviews to foster predictable and efficient buildout of U.S. LNG export capacity
 - Provide clarification of U.S. revocation risk on LNG exports to lower trade insurance costs.
- *Cost effective and Long-Term Access to the Panama Canal:*
 - Engage the Panama Canal Authority to support long-term and cost effective movement of LNG vessels to and from Asia to North America.
- *Providing financial supports:*
 - Engaging their export credit agencies, including Japan Bank for International Cooperation (JBIC), Nippon Export and Investment Insurance (NEXI), US Export-Import Bank (Ex-Im), Overseas Private Investment Cooperation (OPIC), development agencies, and multilateral development banks, to increase supports for LNG projects to address long-term credit risks.
- *Capacity building:*
 - Provide capacity building program, which covers technical standards, safety guidelines and environmental regulations, for government and industries in emerging LNG importing countries in Asia.
- *Assisting policy developments in Asia:*
 - Help structure energy mix targets and policy planning so that Asian countries could take full advantage of natural gas