

## Introduction

After the conclusion of the 6th Annual LNG Producer-Consumer Conference in 2017, the US and Japanese governments extended their joint efforts to lay the groundwork for building out natural gas markets and liquefied natural gas (LNG) infrastructure into the broader Indo-Asian markets. Japanese and US officials announced a confirmation of joint efforts to expand LNG markets, as well as several new initiatives, at a joint meeting at the Embassy of Japan in Washington, DC, on 5 September 2018. These efforts build on Minister Hiroshige Seko's announcement in 2017 to provide export credit assistance and capacity building for power and LNG facilities in Asia. The Trump administration's 'Asia-EDGE' initiative was announced on 30 July 2018 by Secretary of State Mike Pompeo, entailing US\$50 million in investment to help Indo-Pacific partners import, store, and supply energy resources in an example of the cooperative programme.

In response to the challenges in building out the Indo-Pacific Asian LNG market, the US Congress is working on legislation, known as the BUILD Act (S.2463, H.R.5015).<sup>1</sup> The bill would create a US International Development Finance Corporation, a successor to the Overseas Private Investment Cooperation (OPIC), with the ability to acquire equity as a minority investor in projects. It would allow OPIC to double the amount it puts out from US\$30 billion to US\$60 billion and to conduct feasibility studies. Such an organization would provide an effective partner for Japan's Nippon Export and Investment Insurance (NEXI) and Japan Bank for International Cooperation (JBIC), both of which are active in the Indo-Pacific LNG market. The US-Japan cooperative effort covers more than LNG, and includes advanced nuclear and coal technologies, as well as global gas and energy infrastructure, and designates Southeast Asia, South Asia, and sub-Saharan Africa as important regions. As part of that effort, the two countries signed a Memorandum of Understanding (MOU) on developing energy infrastructure in other countries.

At the same meeting, the importance of the cooperative programme was outlined by Shin Hosaka, METI Deputy Commissioner of the Agency for Natural Resources and Energy, who pointed out that energy security in Asia is directly linked to energy security in Japan, the

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<sup>1</sup> The BUILD Act has passed the House of Representatives and, if passed by the US Senate, will come into law at the end of 2018. The US Department of Energy (DOE) has also committed to deepening its work with METI and to promote US LNG exports and greater LNG use in Southeast Asia and South Asia.

largest importer of LNG to date. Mr. Hosaka went on to state that development of an LNG market in Asia will mean more supply available to Japan in times of emergency and more reasonable prices due to competition. He also stressed the importance of US and Japanese cooperation because of the potential to supply stable, flexible energy to Asia. The remarks were reinforced by Frank Fannon, Assistant Secretary of the Bureau of Energy Resources, Department of State, who emphasized that the Indo-Pacific region will be a key source of global energy demand growth to 2040.

Expansion of the US natural gas resource base offers considerable potential to further develop both LNG and pipeline exports, and contributes to higher economic growth. Providing a long-term and cost-effective value chain is an ongoing challenge. Nevertheless, new markets are emerging. Traditional Asian LNG-consuming countries such as Republic of Korea (henceforth, Korea) and Taiwan, and countries in Southeast Asia (Indonesia, Malaysia, Singapore, Philippines, amongst others) and South Asia (India, Bangladesh, Pakistan), as well as China, offer new markets or expansions to existing markets for natural gas.

Natural gas is a fuel that can improve air quality, and reduce emissions of carbon dioxide and long-term climate risks. China, which has been a modest importer of LNG, has begun to accelerate its purchases. Yet investment in new LNG export facilities stalled from 2015 to 2016. The slow pace of FID for new projects reflects growing uncertainty over long-term demand and inadequate infrastructure in importing countries. The LNG market still lacks adequate transparency in price discovery, and while improvements are underway, the market has not yet fully adapted to delivering supplies in response to short-term shifts in demand. Financing constraints remain, so projects on their way to FID, both on the supply and demand side, face inadequate infrastructure and ongoing political risks.

Governmental policies will play a critical role in the development of Asian LNG markets by reducing investment risks in new LNG infrastructure in many emerging Asian countries. Financial support and export assistance measures will also play an important role in Asia, particularly for countries that present high credit risks. Technical support would also help Asian countries that have little experience in the LNG business as they embark on LNG imports. This joint research effort recognises that world LNG markets are heading toward more liquidity and transparency, but they have yet to mimic, and may never fully replicate, the open and extensive trading patterns prevalent in the global oil market.

Asian natural gas markets are undergoing an important transition, much of which is supported by prospects of growing LNG exports from the US. For the Asian LNG market to flourish, new supplies and demand centres need to grow and the full range of market participants from sellers and traders to final users such as power utilities need to have confidence that price discovery reflects fundamentals of supply and demand. In this regard, the Institute of Energy Economics, Japan (IEEJ), and the Energy Policy Research Foundation, Inc. (EPRINC) have continued their assessment of the role of destination restrictions as an impediment to arbitrage in the Asian LNG market, one of several market conditions that inhibit sustainable LNG demand in Asia. The US petroleum renaissance has been driven by technological advances that provide access to previously unrecoverable resources. These gas resources will be essential to meet long-term and rising world LNG demand, which, for the Asia-Pacific region alone, is expected to grow rapidly through 2040. This joint IEEJ–EPRINC paper presents our latest assessment of trends in the broader Asia-Pacific market, with a series of recommendations to meet the inevitable rise in LNG demand and accompanying uncertainties faced by both sellers and buyers.