

Chapter 4

Conclusions: Pathway towards a Flexible LNG Market in ASEAN

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Chapter 4. Conclusion: Pathway towards a Flexible LNG Market in ASEAN

4.1. Policy Support Needed to Sustain Infrastructure Development

ASEAN will be a key market for gas demand in the coming decades. The substantial potential demand is a huge opportunity for energy infrastructure investments. Still, it will only be materialised under the guidance of appropriate policy to promote quality infrastructure and resilience in ASEAN for sustainability. Governments should investigate the LNG infrastructure gap and place the right policy to encourage investment that will increase the demand for gas use.

The legal framework has been identified as one of the main challenges when developing infrastructure. Unclear or restrictive regulations could hinder investment and financing opportunities. Investors do not invest unless a clear legal framework provides sufficient incentives and return insurance. The Philippines has demonstrated a positive example. The government shows immense support by offering a series of legal frameworks and clear investor guidance and approving the LNG terminal project applications within a reasonable period without delays.

Leaving investment decisions in major infrastructure to market forces has been proven difficult given LNG-related infrastructure projects are capital-intensive. Concrete actions by governments or NOCs are required to develop infrastructure, such as LNG-receiving terminals, regasification plants, storage tanks, gas networks and pipelines or virtual pipelines, all essential to establish an LNG value chain domestically after importing LNG.

In addition, cooperation between LNG producers and consumers could also accelerate infrastructure development. In Viet Nam, several US companies such as AES and Delta Offshore Energy engage in the LNG-to-power projects through financing. The cooperation helps facilitate the development of LNG terminals and gas-fired power plants in Viet Nam. The US, a major LNG producer, can also export more LNG to Viet Nam while the former seeks more markets. This is the best scenario of a win-win strategy.

4.2. Create More Gas Demand with Innovative Solutions to Further Facilitate Investment: TPA, ssLNG, ISO Tanks, LNG-to-Powership, and VPS

One key element to a flexible LNG market is sufficient trade volumes. The global LNG trade has increased for 6 consecutive years since 2014 and stands at 356.12 million tonnes in 2020. Asia-Pacific is the largest market, with 254.43 million tonnes or 71.4% of total LNG imports (GIIGNL, 2021). The trend is expected to continue in Asia and the ASEAN region if the governments could create more gas demand to establish a more competitive gas market.

Currently, power generation and industrial heating are the major uses of natural gas in ASEAN. More gas-fired power plants will be constructed to meet the growing demand for electricity as new coal-fired power projects are difficult to be approved. In some cases, the introduction of third-party access (TPA) could allow more gas imports and, thus, a more competitive gas market. For example, Malaysia and Thailand have introduced a TPA scheme, enabling LNG importers that do not have terminals to utilise existing facilities. As such, importers would be more encouraged to import more LNG. This scheme incentivises the private sector to participate in the natural gas business and invest in the natural gas infrastructure.

In addition to the TPA scheme, small-scale LNG, LNG-to-powership, and virtual pipeline systems (VPSs) provide innovative solutions to reach more users in remote areas that pipelines cannot reach. Given the geographical characteristics in the ASEAN region, many countries are archipelagos, such as the Philippines and Indonesia. As a result, natural gas networks are limited to key demand areas, and gas delivery to remote areas or small islands is challenging.

Small-scale LNG (ssLNG) offers smaller capacity and lower initial investments than traditional receiving terminals and regasification facilities. ISO tank containers provide quick access to LNG for end users in locations far from main pipelines that require smaller volumes. VPS refers to delivering LNG with trucks to off-grid users. Malaysia's state company Petronas developed a VPS solution to provide industries in Peninsular Malaysia that are not connected to the natural gas infrastructure to switch to gas as a cleaner alternative. The LNG-to-powership successfully exemplifies how floating power plants supply electricity to rural and remote areas where the villages are still unconnected to the power grid.

These innovative solutions would (i) encourage new players to join the natural gas business, (ii) promote a more flexible LNG market to gain access to competitive LNG supply for economical and stable economic development, and ultimately (iii) enhance its energy security and send signals to the financial market accordingly. Also, ASEAN has long discussed the need to establish a regional gas trading hub which will require market liberalisation and competition policies to allow a gas-on-gas competition to reveal market equilibrium prices. Creating more gas demand will also facilitate the establishment of the gas trading hub.

Finally, the electricity tariff should also reflect the LNG costs reasonably to retrieve power generation costs and investment returns. This is more challenging in Viet Nam as the electricity tariffs are low because they are regulated under the current economic structure. If the electricity tariff does not correctly reflect LNG costs, the LNG-to-power development cannot be sustainable in Viet Nam.

4.3. Producers and Consumers Should Make the Best Efforts to Reduce LNG's Carbon Footprint in the Supply Chain and at the Consuming End and Eventually to Zero

While almost the whole world is talking about carbon neutrality, it may not fit in with the decarbonisation timeline in ASEAN countries. A representative from Petronas also emphasised in the IEEJ–EFI LNG workshop held in January 2021 that 'ASEAN continues to pursue cleaner

environment policies, but the region's prospect of adopting the net-zero target is unlikely in the foreseeable future'.

Fossil fuels are still the dominant fuel in ASEAN countries and will still account for 87% of the TPES in 2050 in BAU. Gas is widely recognised as a complementary fuel with intermittent renewables along the energy transition pathway. It is not practical to pursue carbon neutrality in the region but decarbonisation technologies, such as CCUS. Producers and consumers should make the best efforts to reduce the carbon footprints of LNG in the supply chain and eventually achieve net-zero at the consuming end.

ASEAN countries should help LNG consumers and producers reduce GHG emissions by encouraging them to improve production, transportation, and power generation efficiency. Governments should also support research and development activities of industrial players to promote the carbon-neutral use of LNG, such as carbon-neutral hydrogen or ammonia eventually. Finally, governments should make carbon footprint information visible and transparent to contribute to a sustainable society.

Furthermore, emissions monitoring, reporting, and verification (MRV) are the fundamentals of ensuring true carbon neutrality. Producers and consumers should work together to develop a methodology to monitor, report, and verify to enhance confidence in carbon-neutrality claims. Some LNG buyers mentioned that they have been cooperating with LNG suppliers to jointly develop an MRV methodology to view the emissions associated with their natural gas procurement from the well head to the discharge port. The aim is to create an internationally recognised and accepted methodology that can be applied industry-wide and promote sustainability within the LNG industry. This underlines the need to ensure MRV systems are in place before any offsetting strategy can be discussed. Although applying carbon offsetting to a single cargo is one thing, applying it on a multi-year LNG sale and purchase agreement with contractual flexibility could be more complicated and possibly more costly.

4.4. Pursue an LNG Pricing Mechanism that Provides Comfortable Price Levels for Both Consumers and Producers

Despite supply security, price is the most concerning issue when purchasing LNG. LNG prices are still vulnerable to several factors, including oil prices, weather changes, storage volumes, canal shipping flexibility, etc. Furthermore, the extreme gaps between spot and term-contract prices, extremely low or high levels of spot LNG prices, and extreme volatility are not sustainable.

Producers and consumers should work together to establish comfortable and affordable price levels for LNG consumers worldwide while profitable enough for producers. Emerging markets like Viet Nam, where LNG is an expensive fuel, could also enjoy LNG consumption.

Producers should reduce the supply cost as much as possible, and consumers should appreciate the value of LNG from environmental contribution. In addition, governments of LNG-consuming and -producing countries should support pricing mechanisms that provide

transparent and timely information of the LNG markets in collaboration with key market players.

4.5. Continue to Encourage the Discussion of Relaxation of Destination Clauses and Improve Transparency of Trade and Price Statistics

According to IEEJ's destination clause survey conducted in December 2020, all respondents from industries, governments, research organisations, and law firms from LNG-importing countries agree that removing destination clauses is positive for a more flexible LNG market. Therefore, all the parties should continue to encourage the competition authority of LNG-importing countries to include relaxation of destination clauses into their discussion agenda.

Even though the market mechanism is the major driving force of the natural gas sector, the government still has to step in with its resources in these issues to initiate the discussion momentum. Once the momentum is initiated, it is easier for the stakeholders to continue other moves on government support.

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