



Guest comment: why LNG is Indonesia's best bet



Indonesia's best bet for a sustainable and secure energy outlook is natural gas – and that opens an opportunity for imported LNG, writes AG&P's Jakarta-based business development chief Julian Thomas

As a cleaner, cheaper substitute for oil and coal, LNG is expected to steadily grow in demand over the next 10-15 years. However, the uptake in emerging economies is presently slower than expected.

This is due to several reasons, not least inadequate infrastructure and lack of investment to establish a viable LNG supply chain. Experts estimate that Asia alone requires some US\$200Bn worth of infrastructure investment to deliver gas to demand centres that are often dispersed over vast areas.

An archipelago of 17,000 islands, sprawled across thousands of miles, **Indonesia has unique energy and power distribution requirements**. Natural gas accounts for just 15% of its energy consumption.

Increasing that contribution requires a sustainable, affordable distribution network to serve scattered demand centres that are reluctant to switch from their current fuel source, principally diesel, without the guarantee of stable alternate LNG fuel supplies.

The national pipeline networks outside Sumatra and Java are limited, as are the logistics services. There are no breakbulk locations beyond major hubs and no small-scale LNG receiving terminals. And so, a considerable number of potential LNG customers remain off-grid.

Indonesia has vast natural resources that could power its industries, expand energy access in rural areas and support the public and dynamic private sector. However, national oil production is falling short of demand and the gap between oil production and consumption has widened since Indonesia became a net importer of oil in 2004.

Gas prospects

However, Indonesia expects to return to higher gas-production levels as early as 2020. The predicted higher natural gas and LNG output and improving co-ordinated resource-use planning between the public and private sectors will help Indonesia to offset the impact of falling oil output on the domestic energy market.

This makes it important for Indonesia to establish an effective, well-functioning gas-supply chain that makes LNG as available as diesel and other oil-based distillates, to encourage the switch to LNG for power production and as fuel for transport and production plants.

There are two main opportunities for expanding the use of gas in Indonesia.

In the major markets, the supply of gas is too low to allow many industries to convert to natural gas. These companies continue to use middle distillate oil products or coal for energy and back-up power. Replacing refined oil products with LNG could significantly improve economic efficiency.

In smaller markets, power generation relies almost entirely on middle distillate oil products. Even at today's low prices for oil and refined products, national electric utility Perusahaan Listrik Negara (PLN) incurs high costs for its smaller generating units outside the major islands Java, Kalimantan, Sumatra and Sulawesi.

If integrated LNG supply chains develop across the archipelago, switching to natural gas in smaller markets will slash PLN's substantial outlays on natural gas. It will also increase the extent of power delivery and reliability in these markets.

Increasing the use of domestic natural gas and LNG in Indonesia's energy mix would help to stabilise the Indonesian macro economy. Switching expenditure to LNG as a fuel will shield the country from higher prices for imported oil and refined products as the world markets switch from oversupply to equilibrium.

Natural gas can act as an inter-generational transition fuel. It is a cleaner fossil fuel than oil and coal and its uses range from power generation to use as a transport fuel.

Because natural gas has lower emissions of carbon dioxide, nitrogen and sulphur oxides and other particulates than petroleum alternatives, switching to LNG will support Indonesia's transition to a cleaner energy future.

Opportunity knocks

Low gas prices are expected to continue for the foreseeable future. This presents an opportunity for Indonesia to improve the cost-effectiveness of its power-generation and the competitiveness of many local industries by switching to gas as the primary fuel source.

The window of opportunity is likely to be at least seven years, compelling public and private entities to start making the investment cases to build LNG supply-chain infrastructure across Indonesia for gas transmission, distribution and storage.

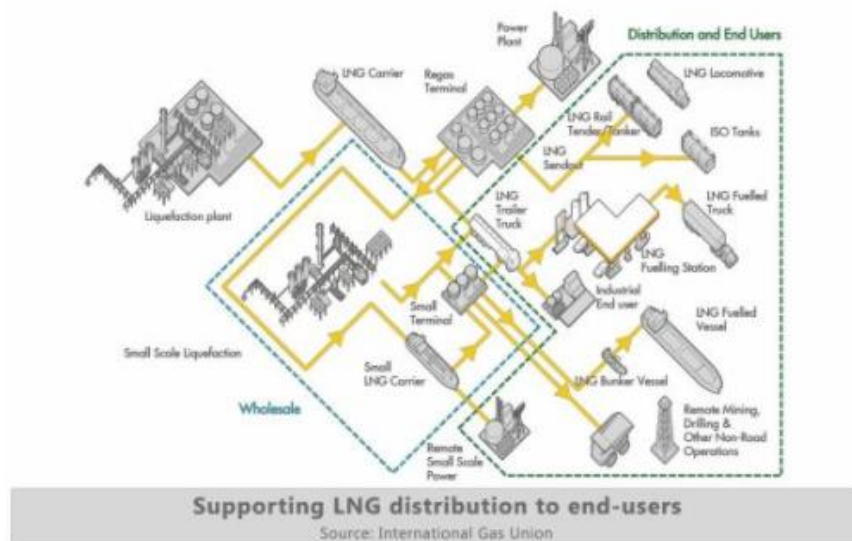
The capital expenditures are substantial and the technical challenges of engineering appropriately scaled LNG infrastructure are considerable. Accelerating the shift to LNG usage in Indonesia could see Indonesia's public and private sectors form consortia with perceptive international finance and technical partners.

AG&P has already taken the first step to establish a viable supply chain to serve local customers across the Indonesian archipelago by **entering into a joint venture with Risco Energy Group (Risco)**.

Risco is an independent, privately owned energy-investment company that focuses on oil and gas. It originates, invests in, develops, owns and operates energy assets in the Asia region.

AG&P and Risco are developing end-to-end solutions across the LNG value chain, including last-mile delivery to stranded industrial end-users, such as small power operators, petrochemical companies and the mining sector.

For many small, off-grid customers, a large, one-size-fits-all approach will not work. AG&P and Risco are developing an LNG supply chain that embraces new technologies, standardised designs and that integrates maritime and onshore LNG transport, storage, breakbulk and regasification assets, *see graphic below*.



This supply chain streamlines distribution logistics and slashes costs by eliminating bespoke engineering for each piece of infrastructure.

AG&P's objective is to provide supply chain infrastructure at a fraction of current costs – and to present a single point of contact, from sourcing to last-mile delivery, removing the complexity historically associated with adopting LNG.

We aim to stimulate the untapped off-grid LNG market in Indonesia by making LNG more accessible to stranded, power-hungry and smaller customers. This will enable these prospective customers to shift from conventional fuels to LNG as their primary fuel source.

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