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HORIZON: Australian LNG Imports: Crazy or Not?

When Australian gas and power supplier AGL Energy suggested building a floating LNG import terminal in 2016 to deal with gas shortages and spiking prices in eastern Australia, many thought the idea was crazy, given that the country was set to become the world's largest LNG producer by 2020. Since then, at least two more floating regasification and storage units (FSRUs) have been proposed in southeastern Australia. But in light of the scale of domestic resources, might this be a case of overkill?

AGL has already picked a site at Crib Point off Melbourne, the state capital of Victoria, and short-listed potential LNG suppliers and FSRU providers. A final investment decision is due in the 12 months ending June 2019, with first gas planned roughly two years later, Phaedra Deckart, AGL's general manager for energy supply and origination, tells *World Gas Intelligence*. She said AGL is seeking five-year supply deals and talking to other potential gas buyers. "Beyond 2020, the Australian east coast gas market has the potential to experience significant gas shortfalls well in excess of 1 million tons per year," she told a recent industry conference in Singapore. "Australia has abundant resources, but it does not have abundant reserves. There have been no new reserve additions in the east coast gas market for the past eight years. We are looking at 2P reserves in decline, especially in the Otway and Gippsland Basins offshore Victoria." AGL may import anywhere from 12 to 40 cargoes annually, or 720,000 tons-2.4 million tons per year (WGI Mar.14'18). The project advanced this week when AGL signed agreements for long-term use of an existing berth, and piped gas transportation to homes and businesses.

In its latest update on the Victoria gas market, the Australian Energy Market Operator (AEMO) said in March that production is slated to fall further in 2022, after projected declines out to 2021, due to depletion of offshore gas fields. By 2022, annual production from Gippsland is forecast to be 38% below this year's level and from Port Campbell 68% lower. The forecasts do not take account of projects that could be brought into production over the five years, which would change the outlook. But without additional supply, Victoria could experience a gas shortfall of 342,800 tons/yr (19 petajoules annually) in 2022, widening to the equivalent of 1.4 million tons/yr on peak demand days in winter, AEMO said.

The shortages are also blamed on three new coalbed methane-based LNG projects in eastern Australia -- Royal Dutch Shell's Queensland Curtis LNG (QCLNG), Origin Energy-ConocoPhillips' Australia Pacific LNG and Santos' Gladstone -- that require new wells to be drilled to maintain production or third-party gas bought in (WGI Sep.20'17). At the same time, Victoria and New South Wales (NSW) are among the Australian states to have banned or restricted gas exploration on environmental grounds (WGI Oct.18'17).

The national government introduced the Australian Domestic Gas Security Mechanism in July 2017, giving it powers to impose export controls on companies to ensure domestic supply always meets forecast needs. That has cut prices and ensured more gas coming into the market, Deckart said, but "we do not know if that's effectively kicking the can down the road, and that shortfall could become bigger and bigger after 2020 because we are not seeing new gas investments to meet domestic demand."

Another consortium, Australian Industrial Energy (AIE) -- made up of domestic player Squadron Resources and Japanese firms Jera and Marubeni -- recently picked Port Kembla in New South Wales as the site of a second proposed FSRU that could supply 260 million cubic feet per day and meet more than 70% of NSW's gas needs.

After signing 12 memorandums of understanding to supply gas to industrial and commercial customers, AIE is moving to the detailed engineering phase. The consortium is looking to import 1.5 million-2 million tons/yr of LNG, with first gas targeted in early 2020. A gas-fired power plant is also under study.

The third proposed project, Outer Harbour, is the brainchild of local consultancy IG Partners. It is conducting a feasibility study on an FSRU in Adelaide, the capital of South Australia, to support a new 500 megawatt power plant and sell gas into the local network. A company official said it hopes to complete the study and secure regulatory approvals by June 2019, timing commercial operations for summer 2021.

"South Australia has a unique energy profile due to its high renewable penetration at around 51%, compared to the national average of 5%, and zero coal-fired generation," Outer Harbour project leader Kym Winter-Dewhirst told WGI. "New gas-fired generation is key to delivering security of supply, grid stability and putting downward pressure on prices which are currently the highest in Australia." Discussions continue with companies including Japanese trader Mitsubishi on LNG supply, FSRU options and offtake.

Deckart said 15 gigawatts of coal plants closed in southern Australia in 2016-17, leading to a 20% increase in gas demand for power generation that had not been predicted a few years ago. AGL is planning a 252 MW gas-fired peaking power plant in NSW to partly replace its 2 GW coal-fired Liddell plant, which is due to shut by the end of 2022. Engie closed its 1.6 GW coal-fired Hazelwood plant in Victoria last year.

Producers based in Western Australia that hope to supply the domestic terminals would have to find ways of getting round Australia's shipping cabotage rules, which state that Australian producers need to deliver on Australian-flagged and -crewed vessels if they want to supply a domestic port, which means higher costs for sellers. Ways round the rules include supplying from a portfolio, swaps or reloads. An alternative to LNG imports is to expand pipelines running south from Queensland and Northern Territory. But this would take longer as pipeline operators would first need to secure long-term gas transport agreements. FSRU developers believe LNG imports will create gas-on-gas competition with domestic output and potentially lower prices. "LNG imports put a cap on the market price," Deckart said. "At the moment, Australia is paying more than the LNG netback price. Domestic gas cannot come at prices that are higher than LNG imports."

The three import terminals are competing for a limited market share, so whichever is first to get the green light will hurt the economic viability of the other two, said Saul Kavonic, principal analyst with Wood Mackenzie. "AIE's terminal location in Sydney makes the most sense in terms of price differentials since NSW is the gas-stranded state where gas prices should be at a premium," he said. "But AGL's terminal is nonetheless the front-runner as its residential and power-based demand is already locked in internally." Even if all the FSRUs go ahead, they won't operate at full capacity throughout the year, he said, warning about uncertain future demand for LNG imports and the risk of demand destruction if LNG prices are too high compared with domestic pipeline gas.

Kavonic suggested that gas producers eager to make money trading could underpin the import projects. He said Shell and Exxon Mobil may have a stronger case for taking LNG import capacity in southern Australia than gas buyers. LNG imports would provide Shell -- which on top of operating QCLNG owns 50% of Queensland CBM producer Arrow Energy -- with alternatives to pipeline infrastructure, where it lags legacy gas aggregators in terms of access. Exxon and BHP -- which will from January 2019 have to market gas from their Gippsland Basin joint venture separately -- could use LNG imports as a defensive move, Kavonic said, allowing them to retain supply flexibility for customers and protect their market share.

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Australian LNG Projects

Source: Australian Petroleum Production & Exploration Association