

Shale-gas LNG offers price evolution, not revolution

Supplies from the US and East Africa will have less of an impact on Asian import costs than thought



DISGRUNTLED Asian liquefied natural gas (LNG) buyers, fed up with paying significantly more for the fuel than customers in other markets around the world, want better deals. Some hope emerging new suppliers will compete against established exporters to offer such deals.

But suggestions that competitively priced supplies tied to natural gas spot prices, particularly from North America, could end oil-indexed contracts and halt the expansion of traditional producers appears short sighted.

Analysts believe the argument that Asian buyers will switch away from oil-linked long-term deals has been overstated in recent years. Gavin Thompson, an Asia-based gas specialist at consultancy Wood Mackenzie, told *Petroleum Economist* that Japanese offtakers may want no more than 20% of their portfolio to be exposed to the volatile spot market.

With so many export projects looking for buyers in the latter part of this decade, negotiating lower oil-indexed terms for new supplies is a greater objective for many Asian buyers than having spot indexation, Thompson added.

In fact, it seems the belief that rising North American shale-gas production will flood Asia with cheap LNG tied to US Henry Hub spot prices is wide of the mark.

Of course, US spot prices, at just over \$4 per million British thermal units (Btu) at the end of March, seem low compared with record-busting prices for Asian LNG spot cargoes, which hit \$19.85/million Btu for March delivery.

But Asia is a long way from Erath, Louisiana, where US

gas reaches the Henry Hub. Buying that gas, liquefying it and shipping it to northern Asia would cost \$11/million Btu to \$12/million Btu based on today's inputs, according to Asia-based consultancy Tri-Zen. This is roughly equal to the pricing differential between Japanese LNG and Henry Hub: it averaged \$12/million Btu over recent months, down from a historic high of \$15.1/million Btu last July.

If Henry Hub prices climb higher (they have risen 20% since January), and Brent crude falls to \$90 a barrel, conventional oil-linked Asian term contracts with a smaller slope would be a better option for buyers, says Tony Regan, an Asia-based gas consultant at Tri-Zen.

Low prices

Even if US gas prices are still low in 2015, when the lower 48 is likely to begin exporting LNG, the supplies may not be competitively priced by the time they reach Asia. Established suppliers, such as Trinidad, Nigeria and Qatar have lower feedstock costs, giving them substantial marketing flexibility and the option to undercut any US exporter, adds Regan.

Nevertheless, increasing US gas production is providing the catalyst needed to transform conventional transactions for Asian LNG, which have typically been long-term oil-linked point-to-point deals with no destination flexibility, Atsunori Takeuchi, chief representative Asia at utility Tokyo Gas, told *Petroleum Economist*.

In Japan, the world's biggest importer of LNG, pricing has

Liquid market:
A BP vessel
heads East

become a real political sticking point. Demand has surged from 70 million tonnes in 2010 – before the Fukushima Dai'ichi nuclear crisis triggered the closure of Japan's nuclear power plants in March 2011 – to a record 87 million tonnes in 2012, or 37% of world demand. Rising import volumes, coupled with record high prices, has forced the nation's trade balance into the red.

Its total LNG bill hit 6 trillion yen (\$63 billion) in 2012, up 25% on the year. The extra energy costs contributed to Japan's record 6.9 trillion yen trade deficit last year.

Understandably, Japanese utilities are now eager to break away from their historical LNG supply contracts. The government, too, has put pressure on them to source more competitively priced LNG supplies.

Long-term view

Between 2016 and 2020, Japan will need to renew a combined long-term contractual import volume of around 19 million t/y of LNG, according to data from the Development Bank of Japan (DBJ). On top of this some forecasters estimate incremental demand of 17 million t/y by 2020.

With rising competition from new suppliers eager to sell into this lucrative market, existing suppliers are starting to respond.

Japan and South Korea, the world's second-biggest buyer, want more flexibility in procurement, including contracts without clauses restricting destination, as well as short- and medium-term deals. The two countries are also exploring ways to jointly buy LNG to cut import costs.

BP has been quick to react to Japan's new requirements. Late last year, utility Kansai Electric Power signed the country's first Henry Hub-based contract with the supermajor, agreeing to buy 500,000 t/y of LNG for 15 years starting in 2017.

The DBJ hopes LNG imports tied to US gas prices could help solve Japan's yawning trade deficit. It said in a recent report that Japan could cut its LNG import costs by at least

7% by 2020 if Japanese firms with investments in US LNG imported an amount equal to their possible LNG offtake volumes (estimated to be up to 15.2 million t/y), provided the LNG was tied to Henry Hub spot prices.

However, buyers are understandably nervous about the potential for US gas prices to climb higher.

Atsunori explains it's important to pursue diversification in terms of supply source and contract duration, not only cheap LNG. Indeed, Tokyo Gas, as well as other Asian buyers, is still eyeing new opportunities in established producers, such as Australia and Indonesia, as well as the emerging hubs in East Africa and North America.

With Japanese LNG imports costing an average of \$16.60/million Btu in 2012, up 13.4% from the year before, low North American gas prices make the arbitrage opportunity to Asia enticing. That looks competitive. But aside from the challenge of shipping it to northeast Asia, its specification – lean gas with a low heating value – is not the perfect fit for Japanese buyers that require molecules with a high heating value.

Solution

There could be a solution though. Offtakers are planning to mingle liquefied petroleum gas and LNG at the export or import terminals to make the shale-gas sources LNG richer.

If the gas remains lean, though, there will always be a limit to the amount buyers can handle, says Bob Takai, general manager at Japanese trading house Sumitomo.

Takai expects Japan will buy about 10% of the projected 50 million tonnes per year (t/y) US export quota. On the other hand, Singapore consultancy Tri-Zen is more bullish, projecting that Japan could buy 8 million to 10 million t/y, or up to a fifth, of the output expected from the US.

However, it's not just specification that will constrain US exports to Asia, but market economics.

The maiden US projects that can deliver LNG in the second-half of this decade will look competitive based on the pricing structure pioneered by Cheniere Energy's Sabine Pass scheme, which fixed Henry Hub-linked export agreements with buyers. Typically, Cheniere's customers, which include India's Gail and South Korea's Kogas, are paying 115% of the Henry Hub price plus a liquefaction fee ranging from \$2.30-3.00/million Btu.

But Henry Hub spot prices have been rising. By April this year, they had doubled over the past 12 months, to \$4/million Btu. Combined with rising delivery costs, this means not every project in North America will be able to offer competitively priced gas to Asia.

Given Asian buyers' unwillingness to be fully exposed to spot pricing, combined with their limited ability to take lean gas, shipments from the US to Asia will not reach the 172 million t/y amount of proposed capacity, says Thompson.

Aside from the US, East Africa's potentially large export volumes could prove attractive to Asian buyers. Some of the deal structures that would support those supplies look innovative, including hybrid contracts covering a mix of spot price and oil indexation. But East Africa's gas is also lean.

Certainly, Asian buyers are keen to partly adapt to new indices, including the UK's National Balancing Point and Henry Hub benchmarks, but they will generally stick to the Japan Customs-cleared Crude (JCC) indexed formula, says Atsunori, even if the proportion of oil-linked contracts slowly declines.

Takai agrees, saying that hybrid deals, as well as more diversified contracts, will be the preferred choice to help manage risk.

That will be the case, anyway, until Asia develops its own fully functioning spot market and price markers, which is not expected to evolve for at least another decade. **DE ●**

Figure 1: Spot LNG netbacks to Japan, US HH & UK NBP

