

COMMENTARY



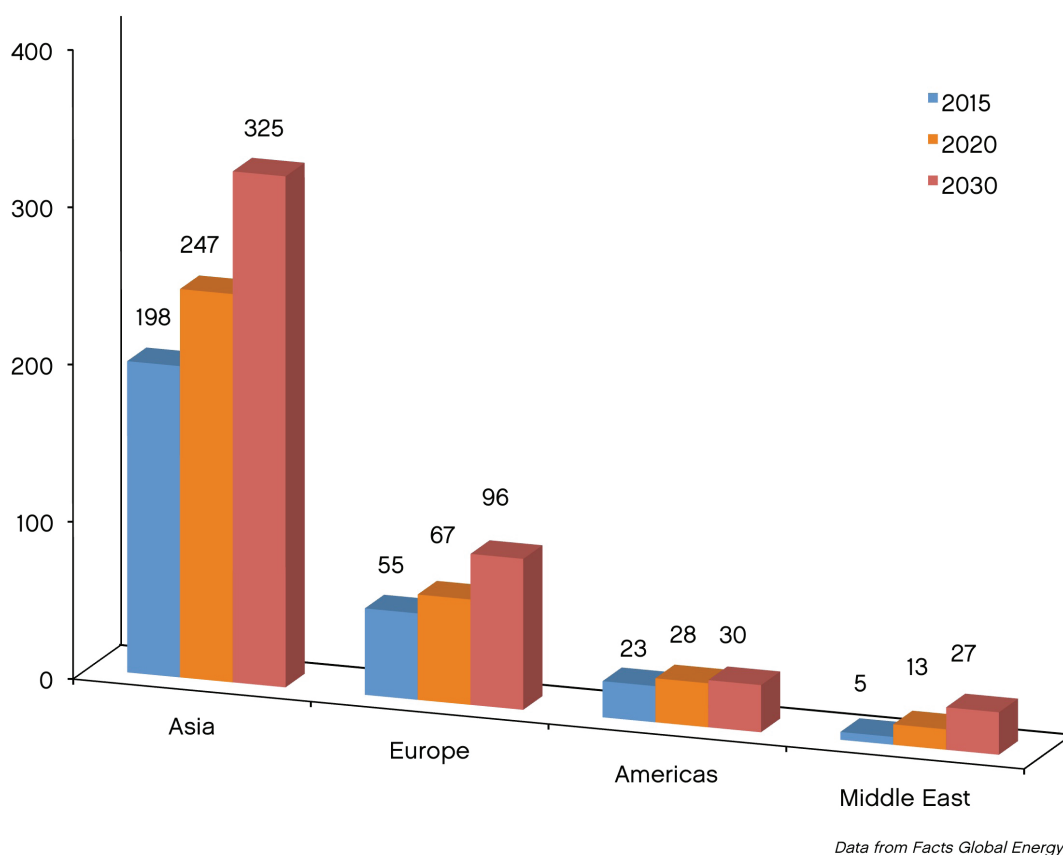
Singapore as Asia's LNG Hub: The Road Ahead

In the last few months, there has been keen debate around Singapore's vision and efforts to become Asia's hub for trade in liquefied natural gas ("LNG"). This debate follows the most recent report from the International Energy Agency ("IEA") in 2013, which pointed out that Singapore would be in pole position for establishing an Asian LNG hub in the medium term, with numerous competitive advantages over rivals Japan, China and South Korea. Other reports have been less sanguine and have suggested that, at the very least, it will take a long time—at least 10 to 15 years—before a credible volume of trading through Singapore occurs to support the formation of an Asian LNG hub serving purposes akin to the Henry Hub in the United States or the National Balancing Point in the United Kingdom. This *Commentary* explores Singapore's current prospects and identifies "wild cards" that affect Singapore's goal to be Asia's LNG hub.

Growth of Asian LNG sector

Asia is clearly the world's dominant market for LNG. It houses the world's largest importing country (Japan) and the world's largest single importer (Kogas in South Korea). The global LNG market is forecast to expand significantly over the coming decades, and the lion's share of that growth expected to be in Asia. The following chart demonstrates both the relative size of the Asian market and its anticipated growth. Key to the present debate is that Asia's LNG import volumes are projected to rise to approximately 198 million tons per annum ("MTPA") by 2015, 247 MTPA by 2020 and 325 MTPA by 2030, providing the basis for a more sophisticated market.

LNG Import Outlook by Regions (MTPA)



Supporting these growth projections, new LNG receiving terminals and floating storage and regasification units are being developed in Asia that, once completed, will result in 13 Asian nations with LNG import capability. There is also a proposal for a trans-ASEAN gas pipeline system, which would greatly enhance the natural gas market if realised. On the supply side, the dramatic growth in United States's shale gas production, the global development in LNG liquefaction capacity and the increasing availability of LNG vessels set the scene nicely for increased sales of LNG into Asia and, potentially, the development of an Asian LNG hub.

Key Developments in 2014

In Singapore, a number of encouraging signs can be seen that would suggest that the city-state is on the right path to realizing its ambition of being Asia's LNG hub. Since the 2013 IEA Report, the Singapore LNG Terminal, which is Asia's first multiuser, open-access terminal with re-export capability, has grown significantly in capability and capacity and continues to

grow: in January 2014, the third storage tank was completed, and a fourth storage tank and related regasification facilities are being developed so that the terminal's throughput capacity will reach nine MTPA by 2017, up from its current six MTPA. A second terminal is now also being planned, which would further add to Singapore's import capacity.

Singapore's state-owned Pavilion Energy continues to ramp up its involvement in the LNG value chain. In 2014, its subsidiary, Pavilion Gas, entered into a 20-year contract with BP for 0.4 MTPA of LNG with shipments commencing from 2019. In 2014, Pavilion also purchased 0.4 MTPA of LNG from Sempra Energy's Cameron LNG project in Louisiana, and it increased its purchase commitment under its 10-year contract with Total, with shipments commencing in 2018 from 0.5 MTPA to 0.7 MTPA of LNG. During 2014, Pavilion also entered into a joint venture with the BW Group that represents its first foray into LNG transportation, having earlier taken a 20 per cent equity stake in Tanzanian gas fields—Blocks 1, 3 and 4 in the Ruvuma and Mafia Deep Basins. The company is also

working with the Singapore Stock Exchange, IE Singapore, regional governments and commodity exchanges to develop a Singapore LNG price marker, which is intended to be independent of the oil market and better reflect regional demand–supply metrics.

Like Pavilion, a large number of trading companies and operations have taken an optimistic view of Singapore's LNG market prospects and have set up in Singapore, with Cheniere Marketing being the latest member of the group establishing a Singapore trading office in October 2014. No doubt, much credit goes to Singapore's Global Trader Programme, which sets taxes on trading profits as low as five percent for companies setting up trading desks in Singapore. However, we speculate that this is also the result of a bootstrapping element; traders benefit from being around other traders. This cohort has significantly bolstered Singapore's LNG trading capabilities and, naturally, will bring dynamism to the market, which will help drive the significant change necessary to see an LNG hub become a reality.

On a policy level, Singapore is forging ahead with its plan to appoint a second LNG licensee by the end of 2015 to complement Singapore's first LNG aggregator, BG Singapore Gas Marketing. One criterion for selecting the new licensee, released in February 2014, is its proposal to support the development of an LNG trading hub in Singapore. The Energy Market Authority of Singapore has kicked off the selection process, and it is reported that Pavilion Energy, Sembcorp and Keppel Corporation are eyeing this second opportunity.

The “Wild Cards”

Attempts to predict the future in the energy sector are always dangerous. In recent times, we have seen the peak oil debate come and go, wild swings on the expectations for a nuclear future as well as dramatic developments in unconventional resources including shale gas. There is always the potential for major physical, technological, environmental or commercial events to reshape the LNG market, and this could happen quickly. Creating an Asian LNG hub may not even be an objective under some future scenarios. For the purpose of this *Commentary*, we put those matters to one side and focus instead on the “known unknowns” facing the development of a Singapore LNG hub, many of which interrelate.

Trading Volume

Fundamental to the development of an LNG trading hub in Singapore would be a sufficiently large volume of physical LNG trades to create a liquid market with transparent pricing. In the case of Singapore, it will not be just domestic demand but pan-Asian demand for LNG that will drive its LNG hub ambition. In addition to growth in raw volume of LNG traded, things to monitor in this regard include the following:

- A significant proportion of LNG is sold under long-term contracts and is therefore not available for short-term trades, which would be the basis of the LNG hub. The extent to which producers are willing to develop capacity that is not fully contracted will have a major impact on liquidity.
- Not all LNG sales contracts are the same, and, in the case of LNG, the extent to which there is flexibility to alter the destination of cargoes differs from contract to contract. An increase in destination flexibility and related contract terms would also aid liquidity.
- Developments in small-scale LNG applications, including the use of LNG as a transport fuel, could also be important. Not only would development of this segment of the market add to overall LNG volume traded, but it could also result in an increase in the number of transactions per unit of energy. Indeed, one of the key limitations of trying to develop an LNG market, when compared to a pipeline gas market such as the Henry Hub or the National Balancing Point, is the need for transactions to be of such a large size (the tanker must be filled), which reduces the number of trades for a given amount of volume. Small-scale LNG could help bridge this gap.

Regulatory Development

The IEA Report states that it is critical for the development of an Asian LNG hub for governments in the region to show willingness to adopt a “hands-off approach” that facilitates competition, even starting further downstream in the electricity sector. The Singapore government adopts a liberalized free-market approach toward both the power and natural gas markets. It has uncoupled commercial and transportation activities in the gas sector, and the Singapore Gas Network Code enables open and nondiscriminatory third-party access to the gas pipeline network. Adding to this positive

story is that one of the regulatory impediments that was identified in the IEA Report—a moratorium on piped-gas supplies into Singapore from Malaysia and Indonesia—seems as if it will be lifted shortly. However, regulatory challenges remain. In its recent announcement for the second licensee role, the government has capped initial spot volumes at 10 percent of long-term import volumes. Perhaps more importantly, as the Singapore hub would cover the wider Asia region, regulatory developments in other countries will also be important, and, in many respects, energy markets across the region face significant regulatory challenges.

Physical, Virtual, Regional?

Singapore has set its sights on developing both a physical and financial LNG trading hub. This sits with conventional wisdom that a financial hub would ordinarily be preceded by the establishment of a physical hub. However, Singapore is a very small market and is likely to remain so even if pipeline gas interconnectivity and re-export opportunities develop as hoped. It will be interesting to see whether these aims diverge, as it is not necessarily the case that both the physical and the financial hubs have to be in same location—the National Balancing Point in the United Kingdom illustrates this well, being a virtual arrangement held together through regulation rather than a physical trading point.

A related prospect is Singapore collaborating with its neighbours to form a regional hub rather than a purely Singaporean one. Again, this is not without precedent in the energy world, with the Amsterdam, Rotterdam, Antwerp oil market perhaps being a parallel. Conceivably, Singapore could share access to infrastructure and information with its neighbours to achieve a physical hub with greater depth. At the moment, however, this does not seem to be in serious contemplation by the relevant governments.

Rival Initiatives

The 2013 IEA report looked in considerable detail at the prospect of China, Japan or South Korea also developing an LNG hub. Whilst there is no imperative that there be only

one hub in the region, given the challenges discussed in this *Commentary* and elsewhere, it would seem that for there to be any hub in the medium term, one initiative will need to emerge and gather support rather than having the market further fragment.

Since the penning of the IEA report, notably, China continues to significantly boost its LNG-related infrastructure generally, and, very soon, the Tokyo Commodity Exchange will list natural gas futures contracts. Malaysia, too, should not be forgotten in this debate. Malaysia is a mature gas and LNG producer that also has ambitions to be the LNG hub for Asia. Its recent announcement of the development of the Pengerang Integrated Petroleum Complex, which will add another LNG terminal for the country, certainly adds weight to its claims.

Singapore's Road Ahead

The realization of an Asian LNG hub would be an important development for the region. It would provide a price-setting mechanism for Asian LNG trade reflective of regional fundamentals. In turn, this would enhance the operation of the gas market and, ultimately, the availability and delivery of energy in the region.

Clearly, there is a strong will within Singapore to develop such a hub, and early positive steps have been taken in this regard. To risk sounding trite, Singapore is a remarkable nation and has proven many times that it can achieve ambitious aims. The aim of becoming the LNG hub for Asia, in circumstances where its physical capacity to trade appears to have natural limits, certainly fits in the “ambitious” category, and many commentators are rightfully cautious about predicting success for this initiative. We feel the key elements that led to the 2013 endorsement by the IEA remain in place, and developments since have generally been positive. We will continue to watch this complex matter unfold.

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