

EMERGING LNG HUBS Singapore as a case study Leslie Palti-Guzman <u>leslie.palti-guzman@rapidangroup.com</u>

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Main Takeaways:

Why Now?

- LNG Glut
- Rationale for oil linkage is gone: LNG and crude are no longer substitutes, oil price volatility, and diverging prices

What Advantages?

- Competitive and transparent gas pricing
- Energy security
- · End the investment paralysis
- Singapore LNG Hub is underway, but it lacks users for now
 - Singapore's progress in creating a hub with both paper and physical trade
- Singapore SLInG's biggest challenge will be to win wide acceptance and utilization



Asian LNG Hubs: Multiple Forces At Play

Asian buyer's short-term considerations clash with long-term interests

- Market dynamics over the past two years make the emergence of LNG hubs in Asia less urgent; but shortterm gains for buyers will not last unless Asia's pricing structure is changed (see table)
- Multiple stakeholders doubling down on hub efforts:

<u>1. Asian governments:</u> There is an historic window of opportunity to take advantage of the current buyer's market to consolidate hub initiatives before the possible return of the Asian premium

<u>2. Market players</u>: There is an increased need for spot LNG transactions as buyers become more eager to buy short-term and sellers increasingly look to offload surplus

<u>3. Lenders:</u> Current investment shortfalls point to a need for innovative ways to finance large LNG projects. Partially indexing new projects to a recognized Asian benchmark could facilitate ongoing pricing negotiations and accelerate investment decisions

Current and Future Considerations for Asian LNG Hubs			
	Market dynamics 2014-2016	Long-term strategy	
Asian gas premium VERSUS price formation	Now that the Asian premium is gone, price formation matters less. The return of competitive oil-indexed prices in Asia reduced buyers' appetite for diversifying exposure away from oil prices, as illustrated by recent contract renegotiations that scored concessions from suppliers on price discounts and flexible terms but kept unchanged price formation with pegging to oil (i.e. Rasgas/Petronet contract)	Asian buyers are well-aware that an increase in oil prices and tightening of the LNG market next decade could mean an abrupt end to the current low pricing environment (see our oil prices projection), which advocates for a preemptive change to current price formation	
Pricing exposure diversification VERSUS Asia's own benchmark	Henry-Hub pricing will accelerate Asian pricing diversification in the next 2-4 years	The use of Henry Hub is meant as a transitional step before a trusted Asian hub is established. The eagerness of some Asian consumers to increase pricing exposure with alternatives indices (such as Henry Hub or NBP) cannot be substituted for a true Asian LNG price that reflects supply and demand fundamentals proper to Asia. Although some Henry-Hub advocates would like to make it a universal benchmark, Asian buyers will be anxious about integrating a price point set by fundamentals specific to another jurisdiction with its own local supply risks (i.e. hurricanes)	
LNG market liquidity VERSUS transparency	The Asia-Pacific spot LNG market is undergoing a growth spurt in terms of volumes, participants and flexibility, even without the existence of mature physical hubs	Greater liquidity does not mean more transparency (see our June 30, 2015 note "Boosting Gas Hubs in Asia Remains a Political Priority and a Market Necessity"). Liquidity alone cannot bring a level playing field and pricing disovery	

Source: The Rapidan Group



Asian LNG Hub Initiatives Emerging in Singapore and Japan

The Asian hub model will differ from existing hubs in the US and Europe

In contrast with existing models, Asian hubs will:

- Solely rely on LNG transactions
- Thrive on the free flow of LNG in the region, not gas pipeline grid integration

Asian LNG Trading Hubs Profile:

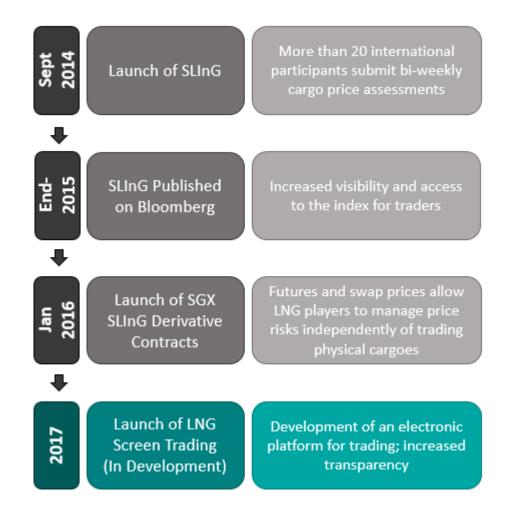
Goal	Wide acceptance and use of new hub pricing indices that reflect global/regional supply and demand fundamentals for LNG transactions	
Economic Theory	Hub prices should give an indication of the long-run marginal cost of LNG and long-term equilibrium price	
Locations	Singapore and Japan (the two most advanced Asian LNG hub initiatives)	
Key Stakeholders	Governments, LNG industry (producers, consumers, traders), financial institutions and clearing houses	
Timeframe	Success or failure will be apparent within the next 2-6 years	
Anticipated Results	Decline of oil-indexation; price discovery will gain momentum; sustained affordable LNG prices; lenders will start financing projects using new Asian hub benchmarks	



Singapore's Aggressive Timeline Shows Government's Seriousness

But it lacks users for now

- Over the past three years, the government of Singapore has been a critical force behind the emergence of its hub
- Singapore is a clear front-runner in the race for an Asian LNG hub, mostly because it already has many of the ingredients needed to succeed
- Singapore has an established trading ecosystem and promising LNG liquidity potential
- Its main challenge will be to gain acceptance and recognition by all the stakeholders





Singapore's Ultimate Success Will Depend on its Liquidity Singapore tries to overcome its lack of depth by stimulating new physical usages

- Fostering more liquidity in the region is the main goal for success
- Volumes sold on a 'prompt' basis are slowly but steadily growing and will be encouraged by the ramp-up of US LNG and the abundance of supply in the medium-term
- SGX is betting on the quick rise in demand from non-traditional small-scale buyers such as LNG bunkering and 'gas to power' in regional South Asian coastal areas
- Development of an LNG bunker market in Singapore will happen, and while delivery sizes will be comparatively small, deliveries will be abundant and likely feature good price transparency







Concluding Remarks

- LNG hubs are necessary to structurally change the system of gas pricing in Asia and get more rational, competitive and transparent LNG pricing
- Singapore is currently the most advanced Asian LNG hub and its SLInG pricing benchmark is poised for success thanks the glutted LNG market which ensures that sellers will agree to almost any new reasonable pricing marker in order to move cargoes
- Spot cargoes may well start to be indexed to SLInG in the next two years (especially from un-contracted Australian and US projects and the potential re-sale of long positions from overcommitted buyers)
- Market forces alone will not be enough for Asian hubs to succeed; domestic market reforms and international contract changes will be critical in accelerating the transition
- If trusted, these new pricing indexes could transform the contracting and financing of LNG projects at a time of investment paralysis
- A fair Asian LNG price could also stimulate new demand from smaller buyers, new entrants and non-traditional gas users at a time when demand is uncertain and suppliers are proactively trying to open new markets
- Finally, more affordable and accessible LNG makes the environmental argument of favoring cleaner gas over coal or fuel oil in the power sector more compelling
- With one or several trusted LNG price benchmarks, the region will clearly benefit as it will promote more LNG trade flows, business, coal-to-gas switching and energy security





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