

LNG Producer-Consumer Conference 2016

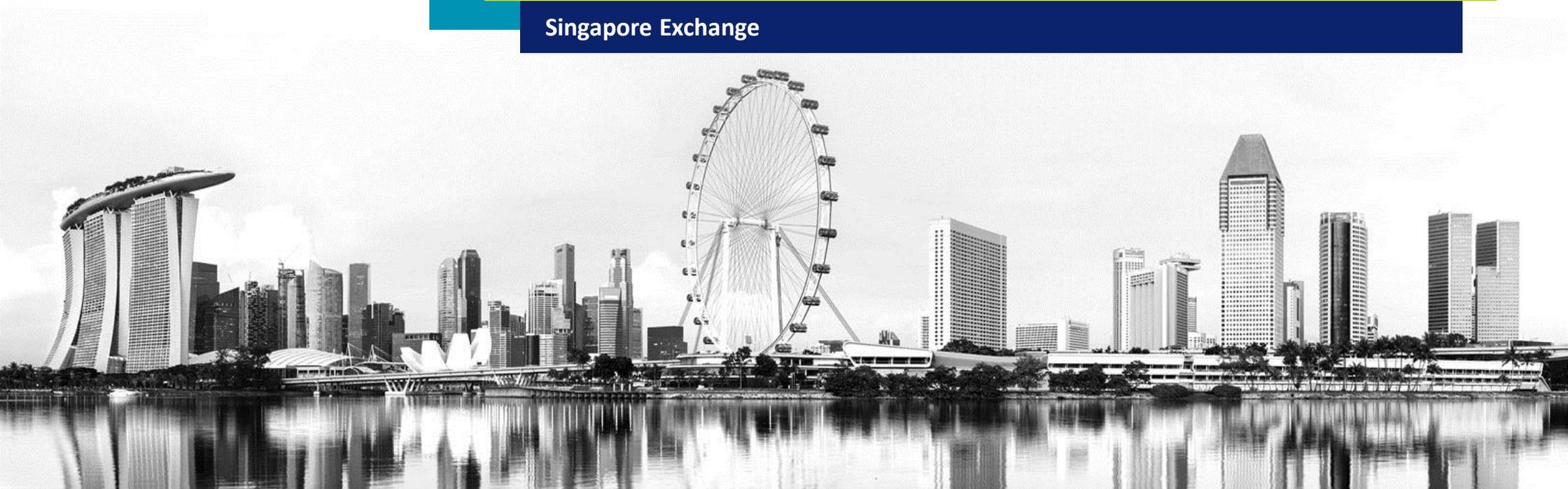
Session 6: LNG Price Assessments – towards Global LNG Market Development

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Singapore Exchange



Building On Singapore's Commodity Trading Hub

SINGAPORE COMMODITY TRADING HUB KEY ATTRIBUTES

- A participant network**
 - // 60-80% of world's top oil and gas, steel and metals, mining and agricultural commodities companies operating within a neutral jurisdiction
 - // "The extensive network allows us to capture more market intelligence and optionality" – *Asian oil marketer*
- Human capital pool**
 - // #1 in Asia for quality of life
 - // "A trading business is all about traders. To retain them you need the "soft" factors: culture, lifestyle and quality of living" – *Asian oil marketer*
 - // Culturally adaptive workforce fluent in important business languages English and Mandarin
- Financial and trading infrastructure**
 - // #2 banking sector in the world with deep regional knowledge and dedicated commodity teams
 - // "There's a concentration of service providers ... they are knowledgeable about the commodity and the local market" – *Asian softs trader*
- Legal, regulatory and tax framework**
 - // #4 globally for contract arbitration
 - // "Singapore has a competitive edge with its stability" – *Asian metals trader*
 - // #1 in Asia for anti-corruption
 - // "Singapore has a robust and transparent institutional framework" – *Major bulks producer*
- General business environment**
 - // Direct flights to 408 destinations
 - // "Being in the centre of Asia benefits communication with our counterparts in Europe and Middle East" – *Asian LPG player*
- Physical flows and infrastructure**
 - // 10 million m³ of independent oil storage - the largest amount in Asia
 - // "Physical infrastructure is important. We can break bulk in Singapore" – *Asian natural gas producer*
 - // 8 of 46 LME warehouses in Asia

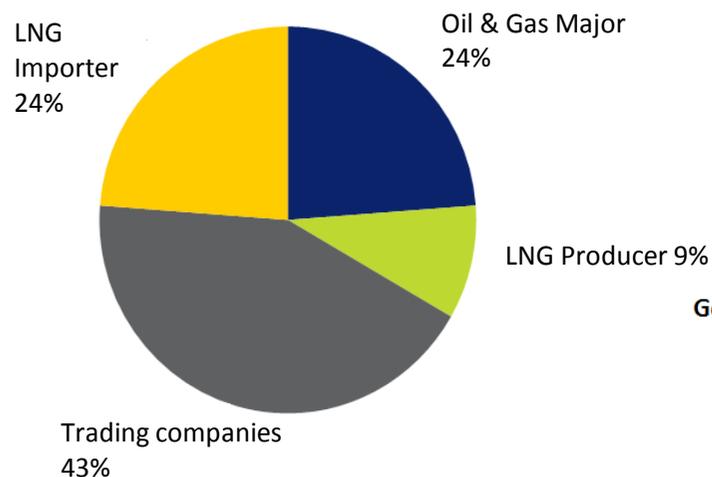
- “ Singapore is well-placed as a neutral (neither a major consumer or producer) location for:-
 - “ Physical procurement
 - “ Physical and derivatives trading
 - “ Price discovery
- “ Level of success as an Asian hub in freight, oil, metals and bulk commodities – with LNG fast emerging.
- “ SGX is home to rubber, iron ore and freight derivatives; spot and forward price discovery.

Source: IE Singapore – Commodity Trading Hubs; Singapore's Role and Proposition

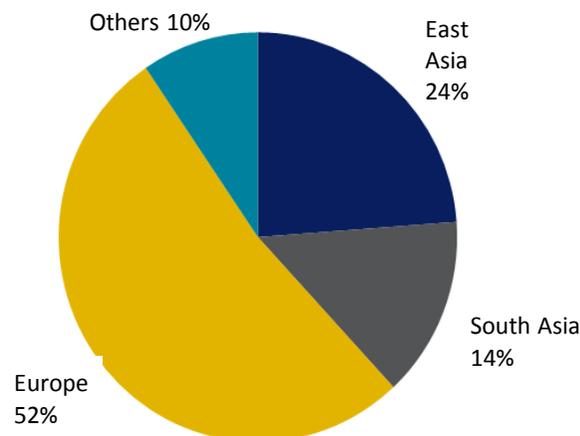
Development Of Sling

“Sling”(SGX LNG Index Group) is a series of spot indices for Asian LNG developed by SGX and its subsidiary the EMC. It is the **calculated average** of expert assessments, excluding top/ bottom 15% outliers, contributed by a **balanced portfolio** of producers, consumers and trading companies, who are active in the physical LNG market.

SLInG Participants Group Profile



Geographic Locations by Companies' Origin



- “ Singapore Sling started in **2014**.
- “ Participants = **24 companies**.
- “ Subscribers = **>100 companies**.
- “ Swaps/futures = 25,000 mmBTU traded and cleared (from Jan 2016).
- “ North Asia Sling was launched **19 Sep 2016** to serve the North Asian market.

Key Differentiation Of Sling

1. Exchange Platform – total solution

- “ Benchmark Administrator, not a PRA.
- “ Market-wide distribution on a trusted and regulated platform (EMC and SGX).
- “ Potential for continuous intra-day pricing (e.g., NEMS).
- “ Ability to hedge using swaps/futures.

2. Methodology – transparent and consistent

- “ No editorial discretion, the Panelists hold the key to the value of index.
- “ Risk of “manipulation” is minimized with each Panelist holding only one data point so no one (big) Panelist or transaction can move the price.
- “ Panelists are a consistent group of >20.
- “ Panelists respect the IOSCO hierarchy of data – transactions; bid/offers; related market prices; expert opinion.
- “ Panelists abide by Code of Conduct which is aligned with IOSCO principles for financial benchmarks.



Dear Subscribers,

Please find below the Sling Index values on **07 Nov 2016**.

Singapore (US\$/mmBtu)				North Asia (US\$/mmBtu)			
Latest Index	Value	+/-	% +/-	Latest Index	Value	+/-	% +/-
Index (December)	6.854	+0.114	(+1.7%)	Index (December)	7.183	+0.166	(+2.4%)
H1 Dec	6.835	+0.122	(+1.8%)	H1 Dec	7.175	+0.182	(+2.6%)
H2 Dec	6.873	+0.105	(+1.6%)	H2 Dec	7.190	+0.150	(+2.1%)
H1 Jan	6.923	+0.059	(+0.9%)	H1 Jan	7.247	+0.154	(+2.2%)
H2 Jan	6.945	-0.105	(-1.5%)	H2 Jan	7.252	+0.015	(+0.2%)

Index Month-to-Date	Value	+/-	% +/-	Index Month-to-Date	Value	+/-	% +/-
Dec MTD (m/m)	6.522	+0.831	(+14.6%)	Dec MTD (m/m)	6.822	+0.845	(+14.14%)

Note: +/- against average of the previous month.

“Sling” is an index series for LNG developed by SGX and its subsidiary EMC.

Subscribers can view the publication (which includes access to the full price archive) online at the following URL : <https://www.emcsg.com/securearea/SlingPublication>.

For more information, please visit www.emcsg.com/Sling. For any queries and comments kindly email us at Inquire@emcsg.com.

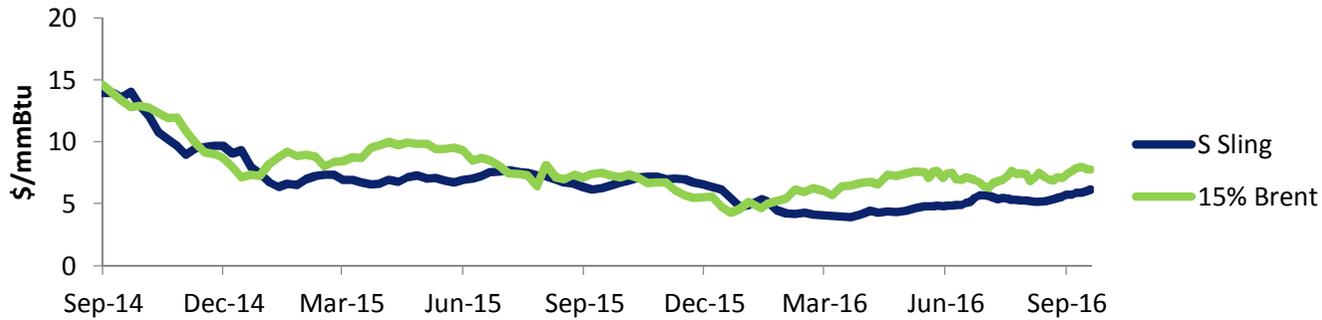
Kind regards,
The Sling Team

SGX LNG Index Group

Singapore & North Asia Sling

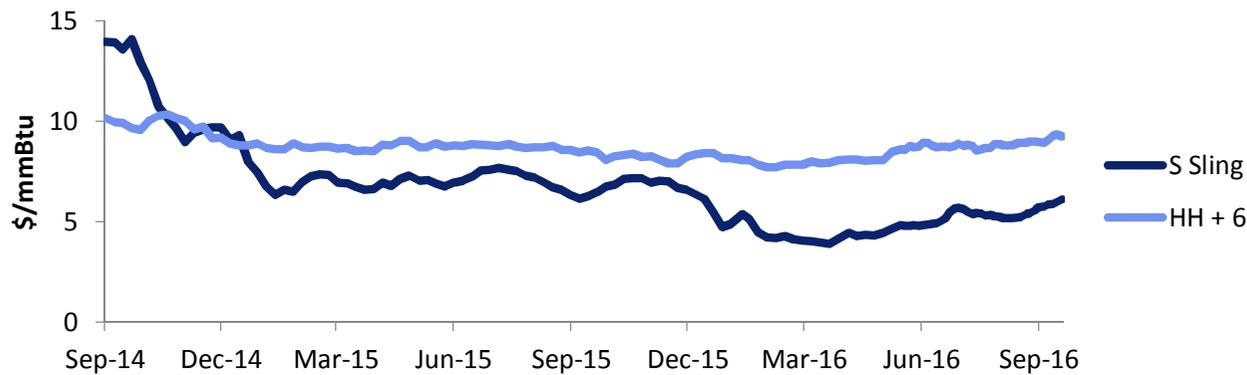
Index Name	Singapore Sling	North Asia Sling
Description	<p>The Singapore Sling is a spot index based on Participants' assessment of a fair mid-price for LNG cargoes as defined below.</p> <ul style="list-style-type: none"> “ On the water in the vicinity of Singapore which could go into any port “ Of cargo size between 135,000 m³ - 175,000 m³ “ Includes both lean and rich cargoes 	<p>The North Asia Sling is a spot index based on Participants' assessment of a fair mid-price for LNG cargoes as defined below.</p> <ul style="list-style-type: none"> “ Delivered ex-ship (“DES”) to all ports in Japan, Korea, Taiwan and China “ Of cargo size between 135,000 m³ - 175,000 m³ “ Includes both lean and rich cargoes
Assessment Periods	3rd, 4th, 5th and 6th half-calendar months from the day of determination	
Index Value Calculation	<ul style="list-style-type: none"> • The index is calculated for the first full calendar month of assessments as the arithmetic mean of its half month prices. • The half month price is formed from the arithmetic mean of the set of assessments received for the half-calendar month period of the particular year, less the top and bottom 15% (rounded to the nearest whole) trimmed as outliers. 	
Determination Frequency	The determination of the index is twice weekly on every Monday and Thursday.	
Dissemination Time	By 8:00 PM Singapore time (GMT+8) on the relevant Singapore business day.	
Derivatives	Derivatives available	Derivatives soon to be available

Singapore Sling vs Oil & Piped Gas Markers



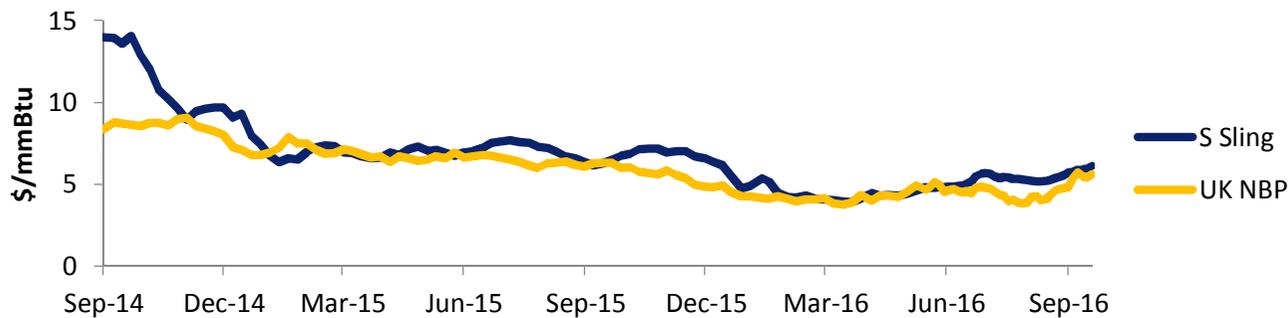
“ Sling vs Oil

Oil and gas fundamentals and hence prices, have diverged



“ Sling vs Henry Hub

HH is a US pipeline gas benchmark, HH plus liquefaction plus freight to Asia is more expensive than the spot LNG price



“ Sling vs NBP

NBP is a European pipeline gas benchmark, which is subject to supply factors including volume from Russia and U.S.

Thank you

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