

EU/METI LNG workshop #4

Francis Browne
Editorial Director
Price Group

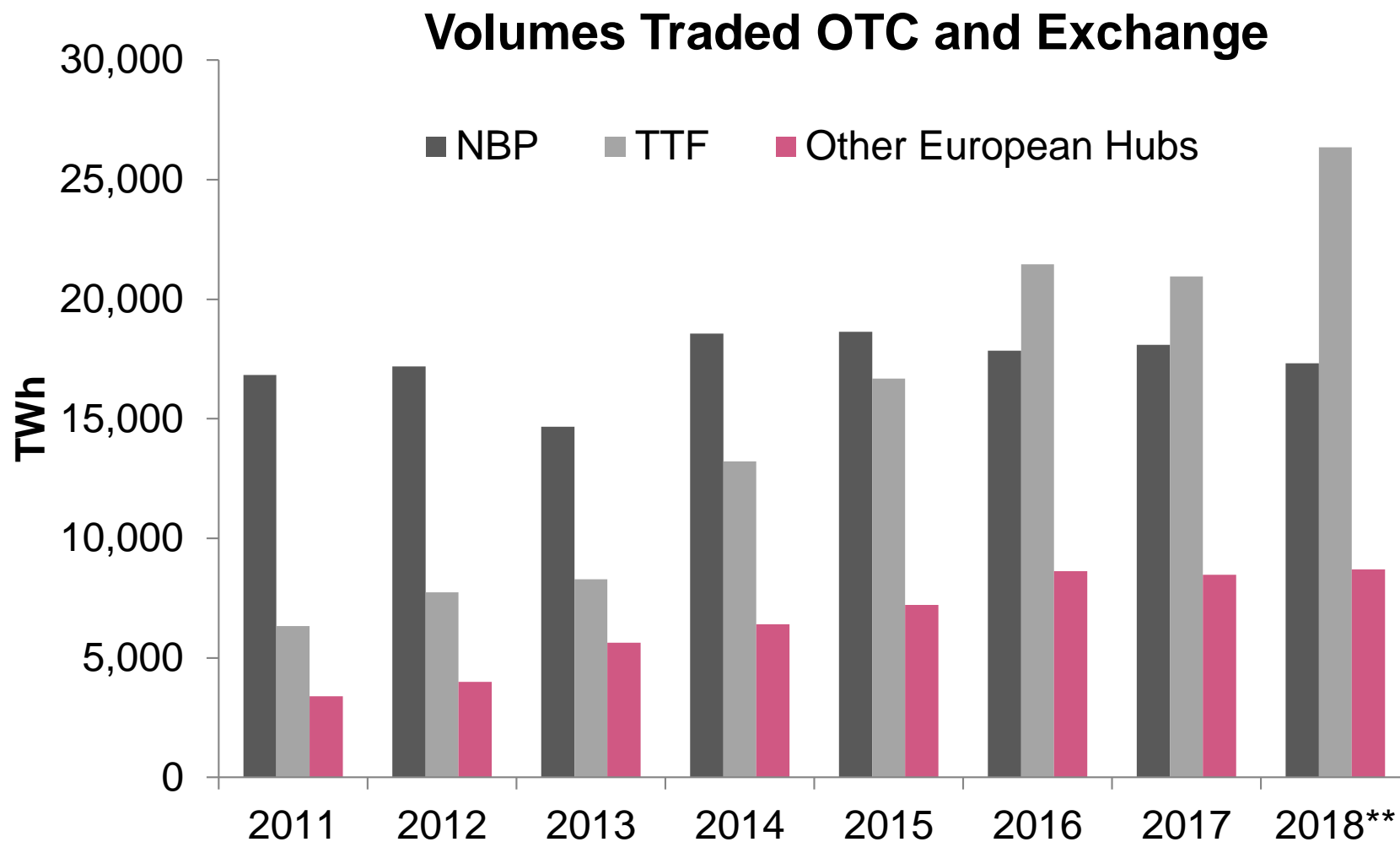
Nagoya
October 18, 2018



S&P Global
Platts



But interest on other European markets has grown rapidly over the past years...

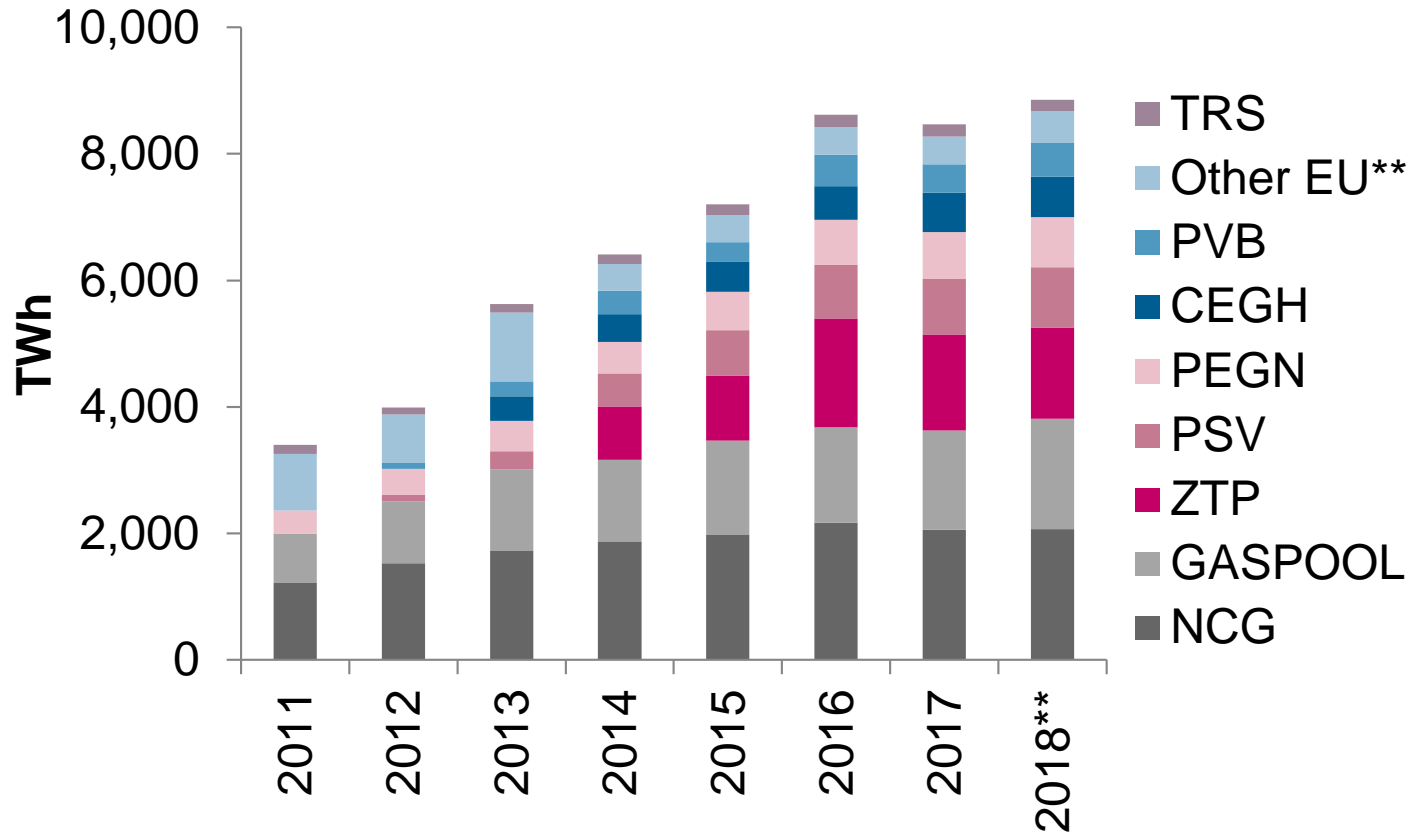


* 2018 extrapolated from 2018 YTD volumes

** Other European Hub include NCG, GPL, PEGN, TRS, ZTP, AUS VTP, PSV, PVB, OTE, SLK , POL VTP, MGP

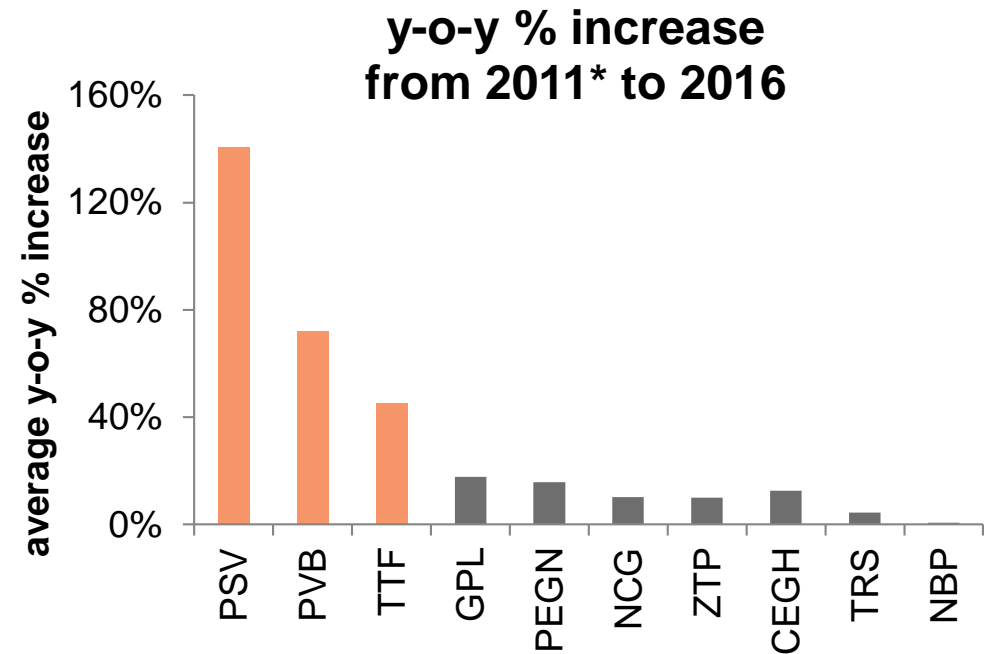
... With a large increase on all continental hubs...

OTC and Exchange Volumes Traded



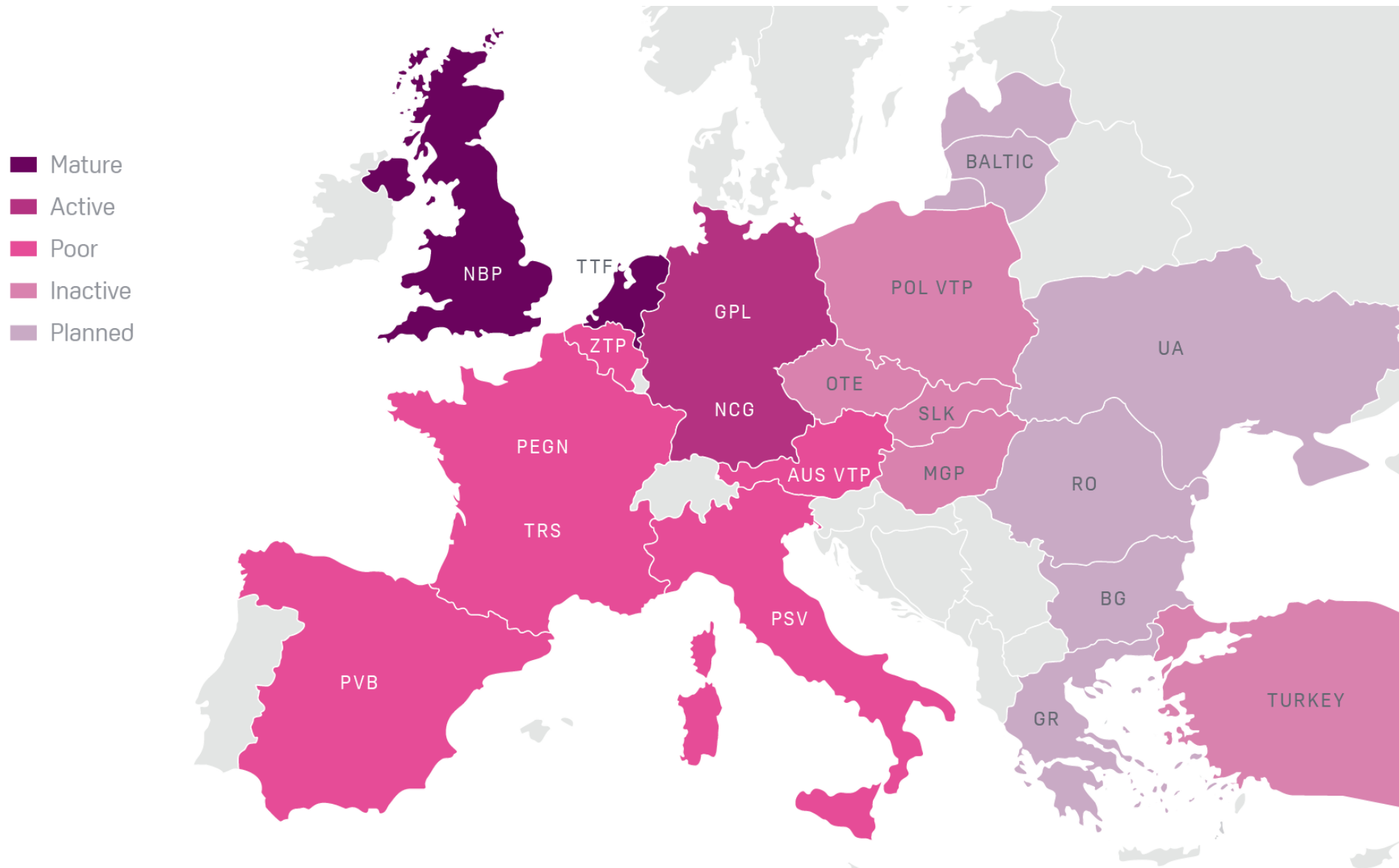
* 2018 extrapolated from 2018 YTD volumes (Jan-Aug)

** Other European Hub include SLK, OTE, HUN, POL VTP



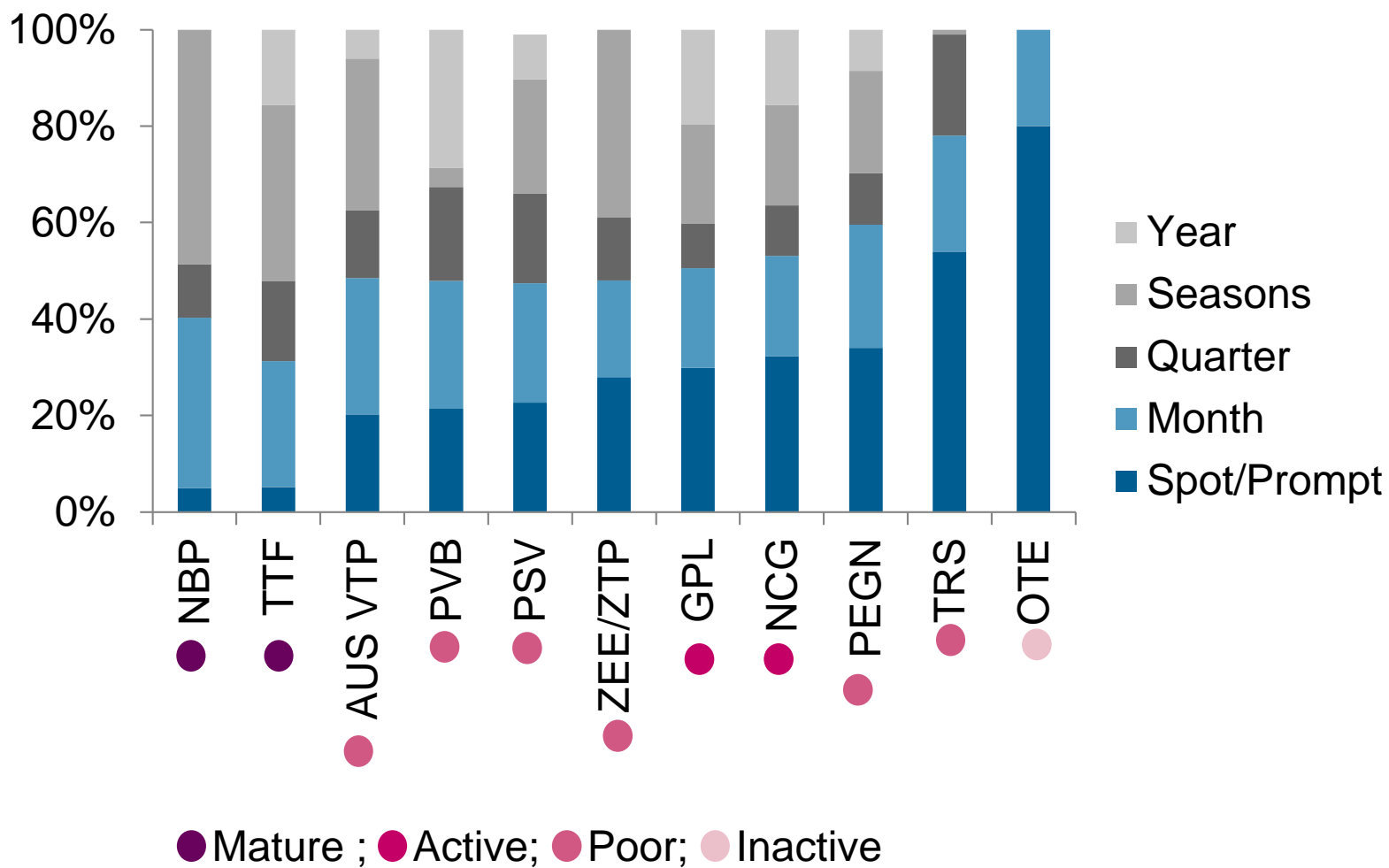
* vs 2012 for Italy and Spain, vs 2013 for CEGH, vs 2014 for ZTP

Platts has historically been focusing on forecasting activity on short and long term for most liquid markets



.. Where most volumes traded are spot

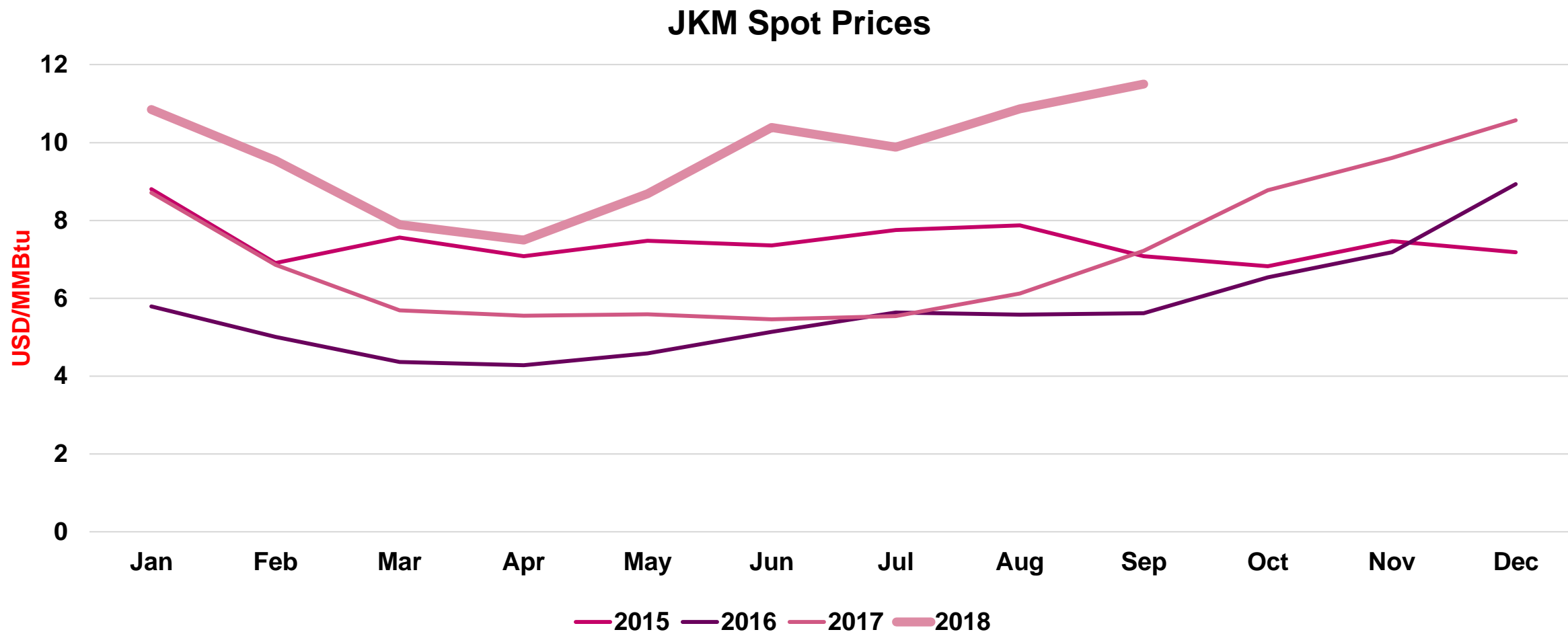
Product split for 2016 total volume traded



What role will European hubs play as global LNG supplies increase over the next two years?

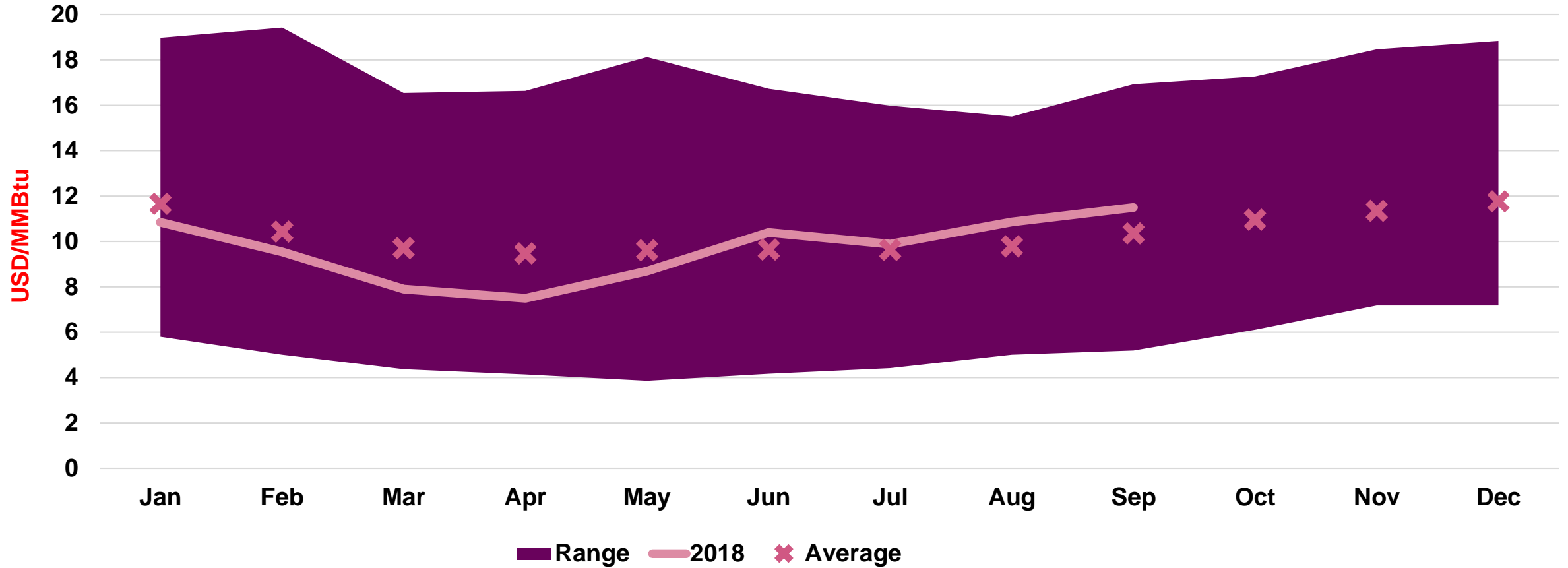
1. Act as differentials to other global hubs (HH/JKM) reacting to the global balance
2. Price independently, connecting with the global market on the back of a regional demand and supply balance
3. Become a key benchmark for spot and contract LNG looking for flexibility in a liquid hub
4. Act as a sink for an over-supplied global LNG market

JKM is breaking out to historical new highs?



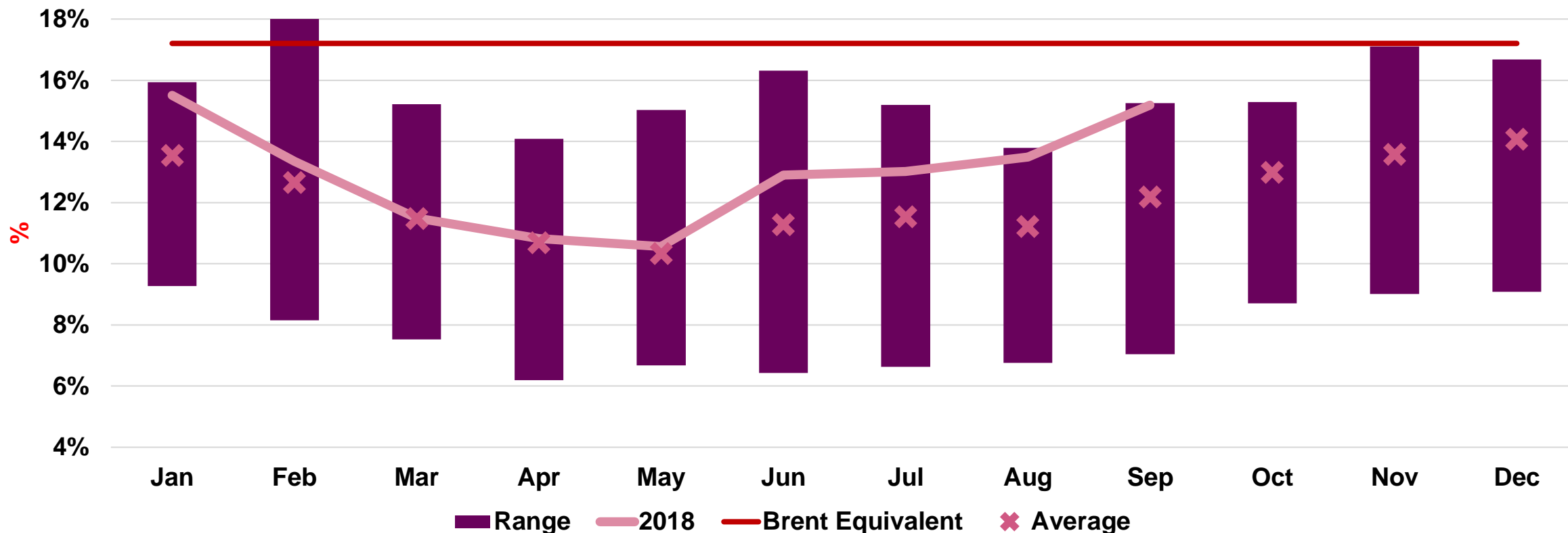
Maybe not so much from a historical perspective

JKM Spot Prices Since '09

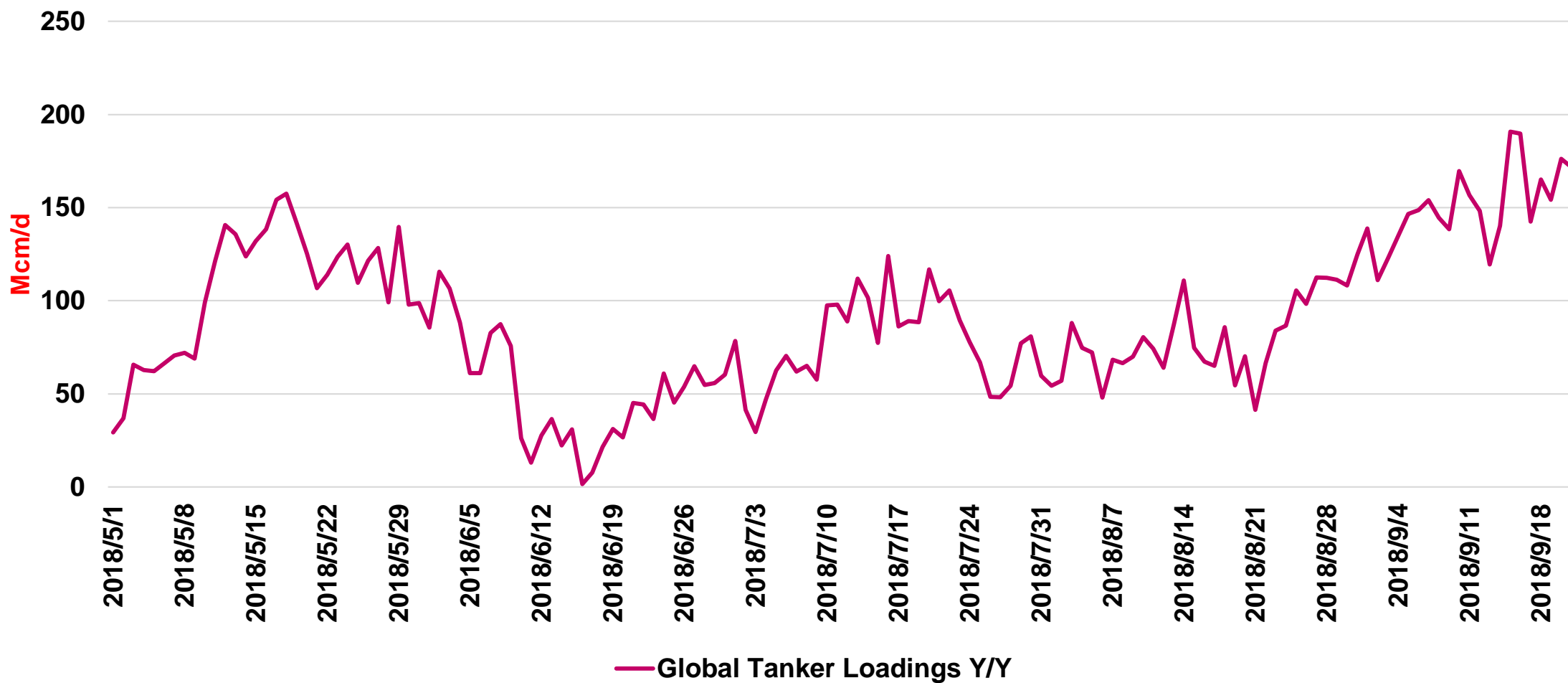


Actually, when one looks versus oil – LNG's key price setter – the market is incredibly strong

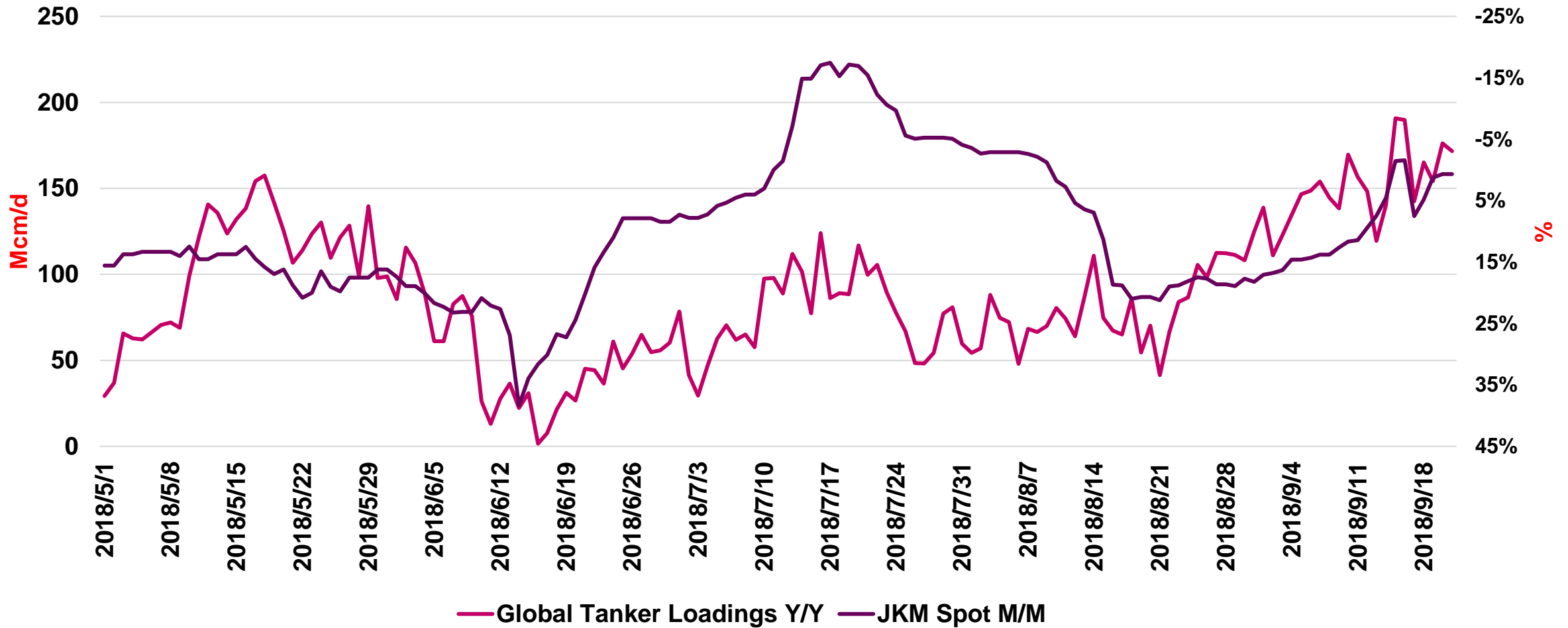
JKM slope vs. 3-month Brent



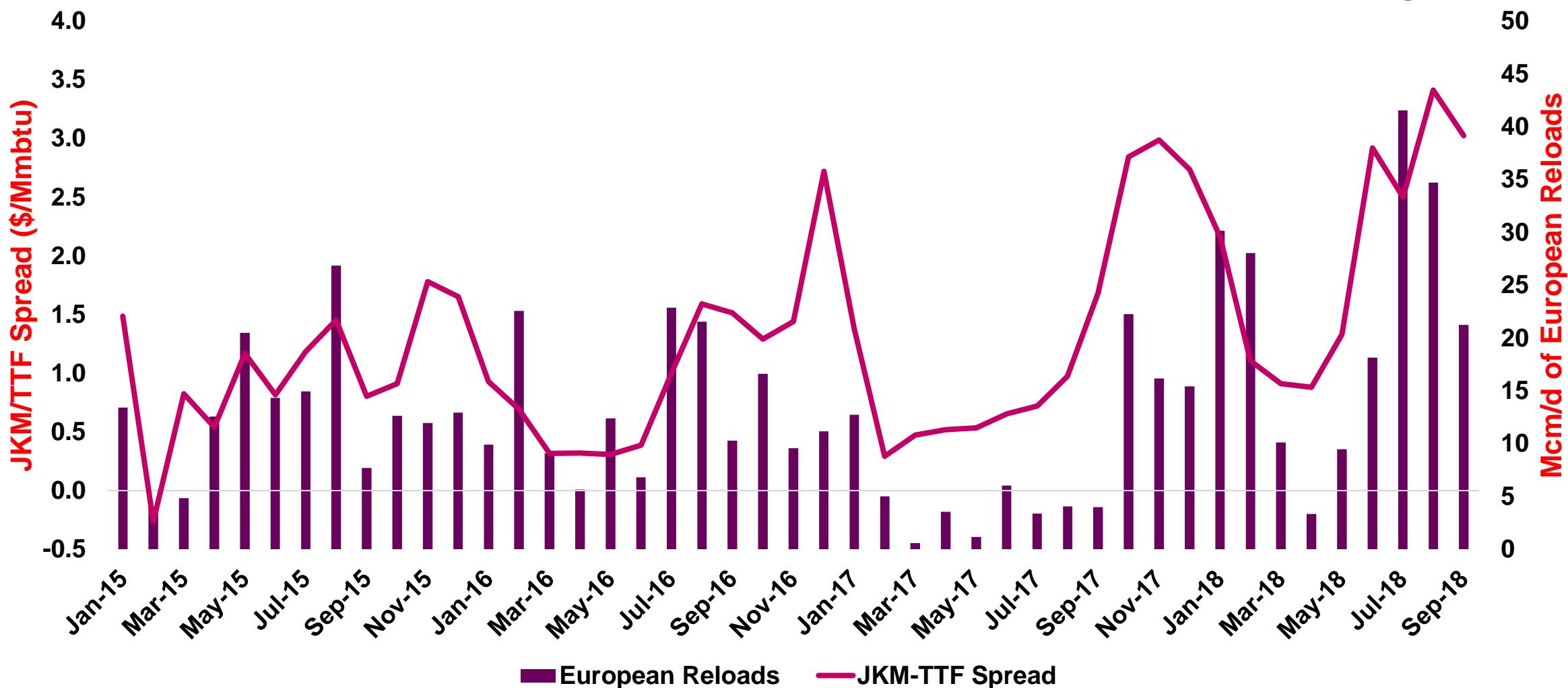
Supply weakness has been driving price strength this summer



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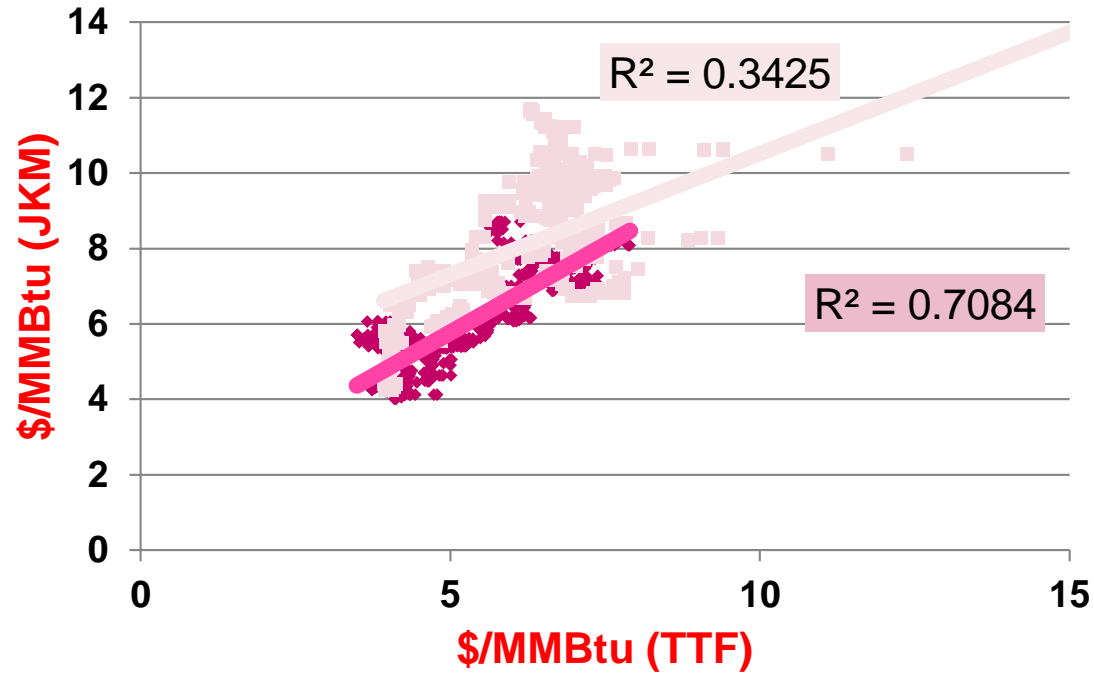


Higher Asian pricing and Asian premiums over NW Europe have led to increased reloads from Europe...but beware shipping



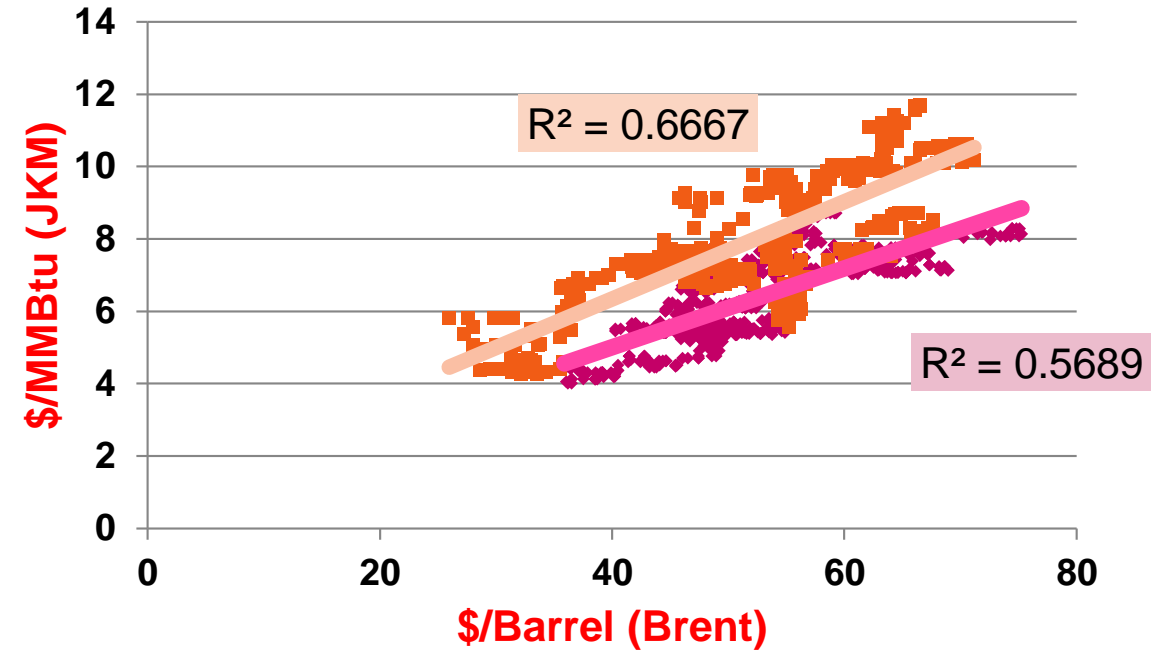
TTF and JKM relationship most relevant in summer, Brent remains main driver for LNG

TTF versus JKM



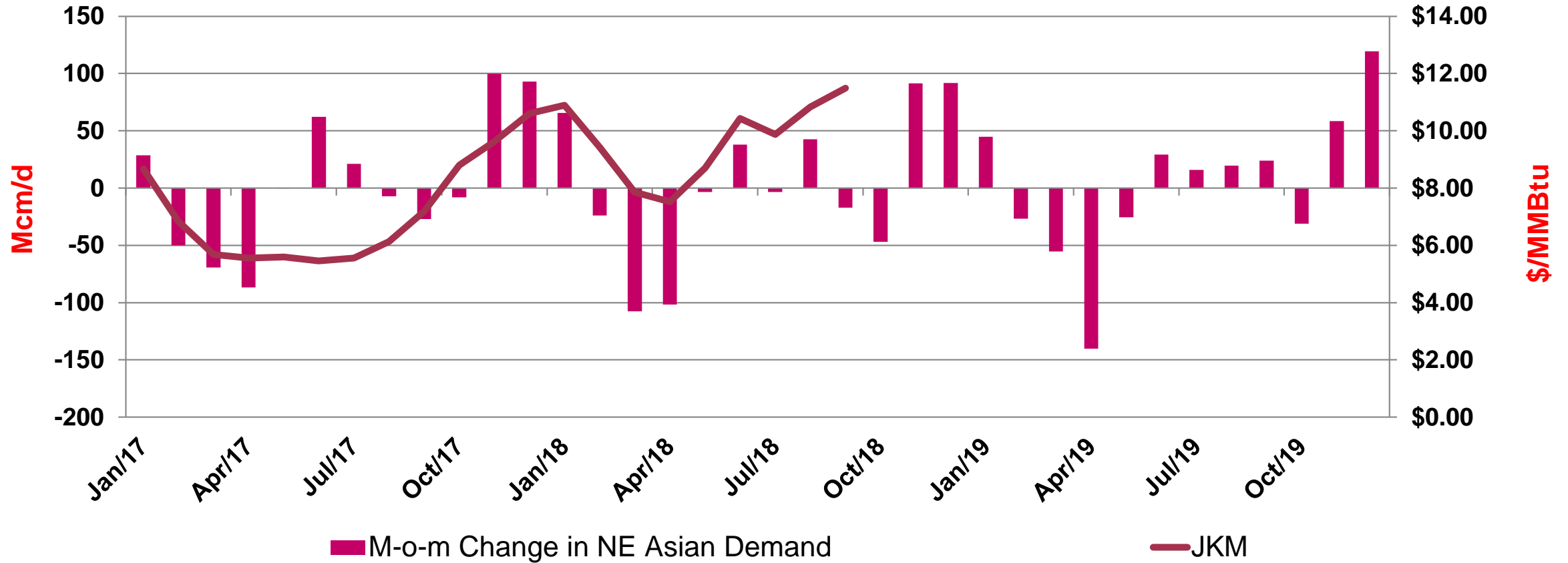
◆ Summer ■ Winter — Summer Trend — Winter Trend

Brent versus JKM

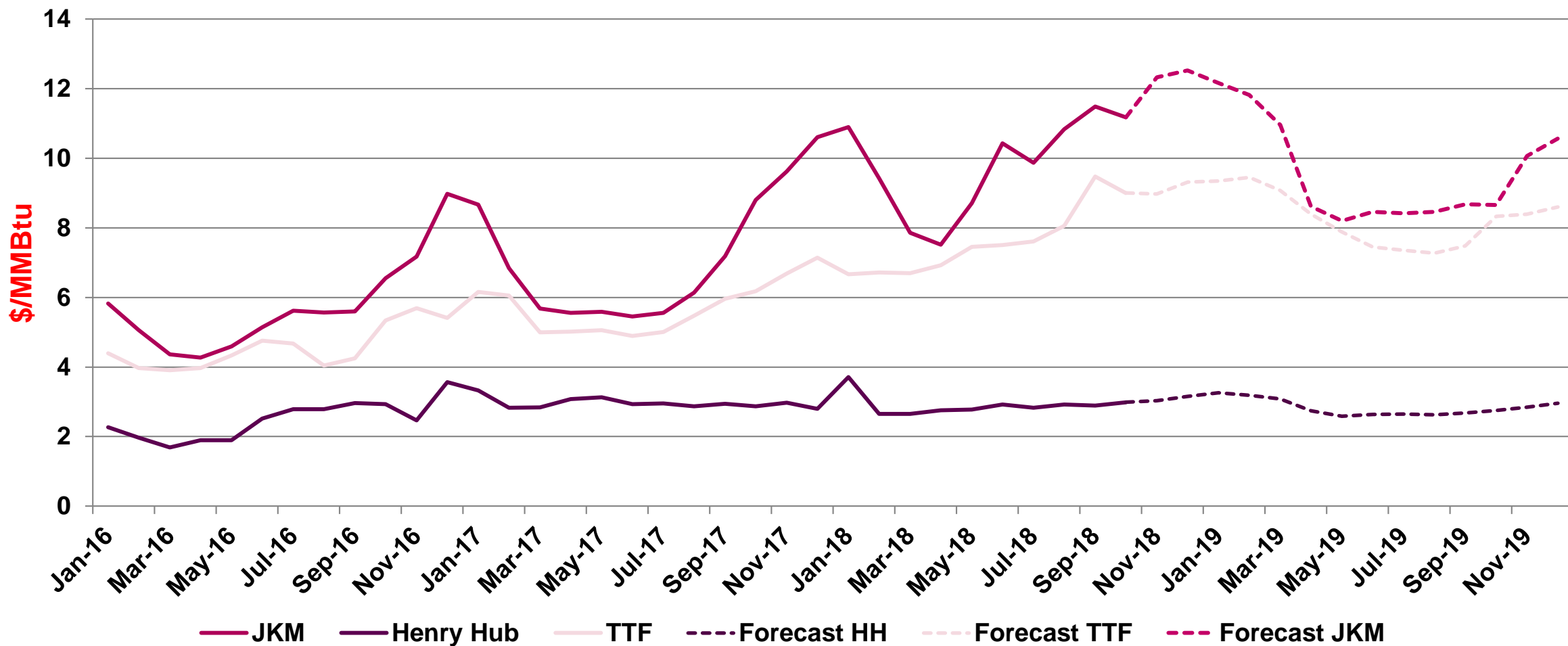


◆ Summer ■ Winter — Summer Trend — Winter Trend

JKM expected to stay strong through this winter as Northeast Asian demand picks up seasonally

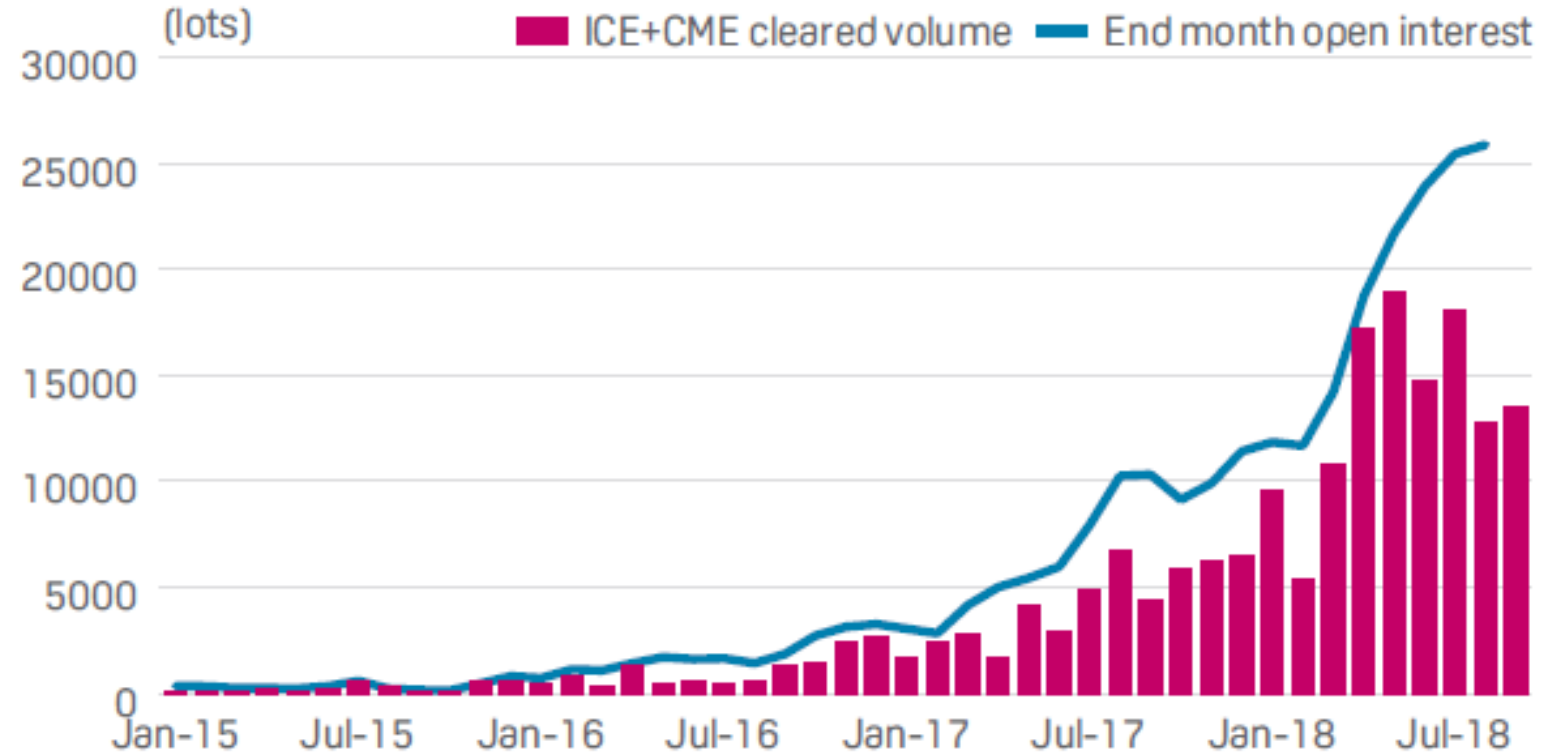


While we forecast JKM to eclipse 12\$ this winter we are not bullish



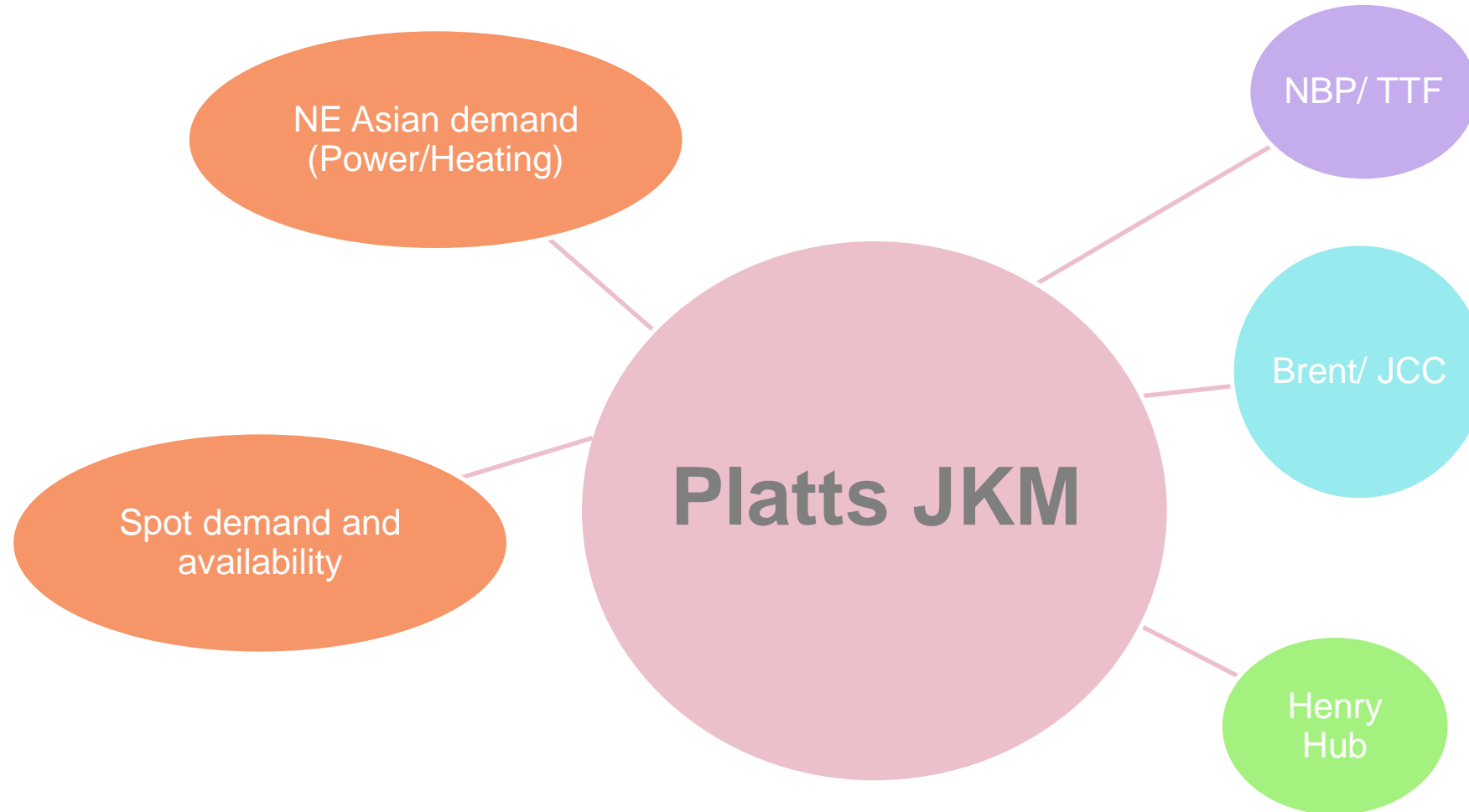
Paper/derivative market for JKM continues to grow

CLEARED JKM SWAPS



Source: Platts data, ICE data, CME data

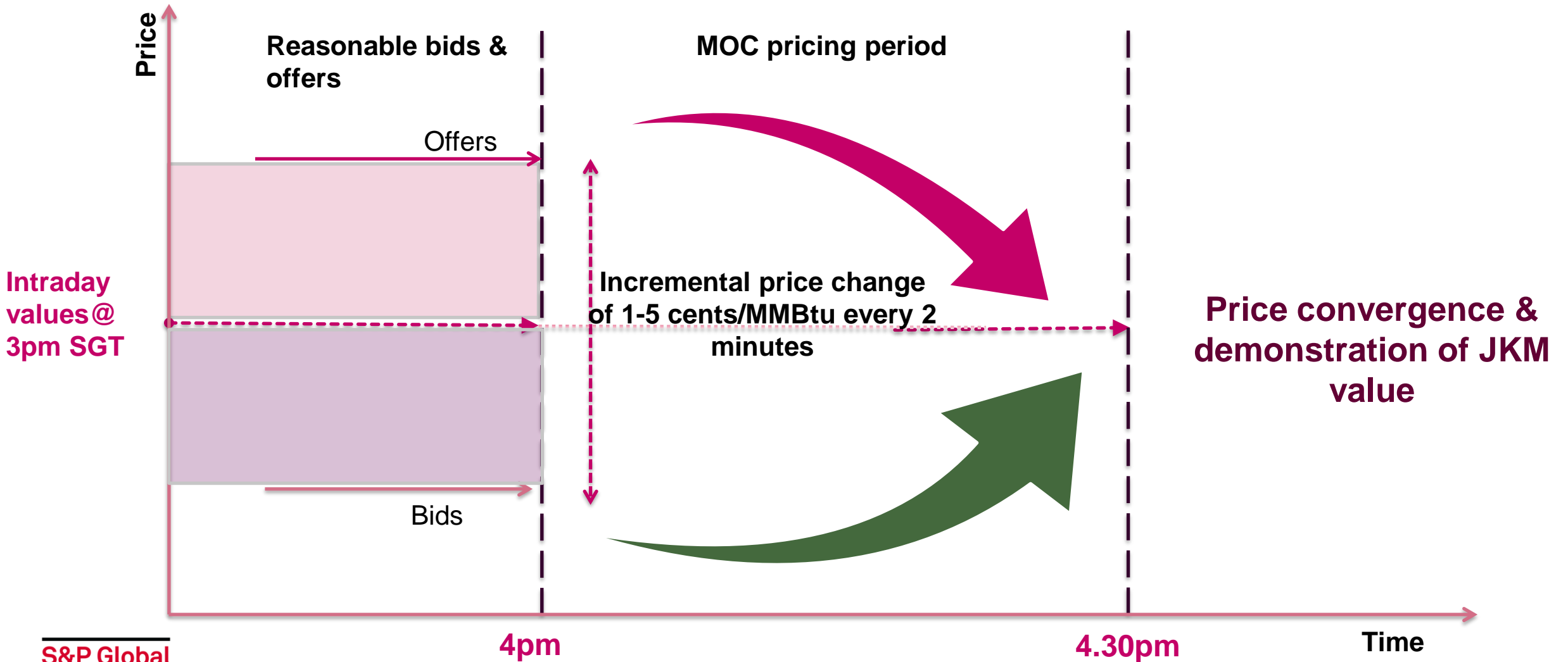
Interaction with other energy hubs, JKM reflects sea borne LNG delivered North East Asia



Approved companies in MOC counter-party review process so far



Bids, offers & trades for physical cargoes and swaps converge and demonstrate JKM value



Growth of LNG MOC information (June 13 to October 10, 2018)



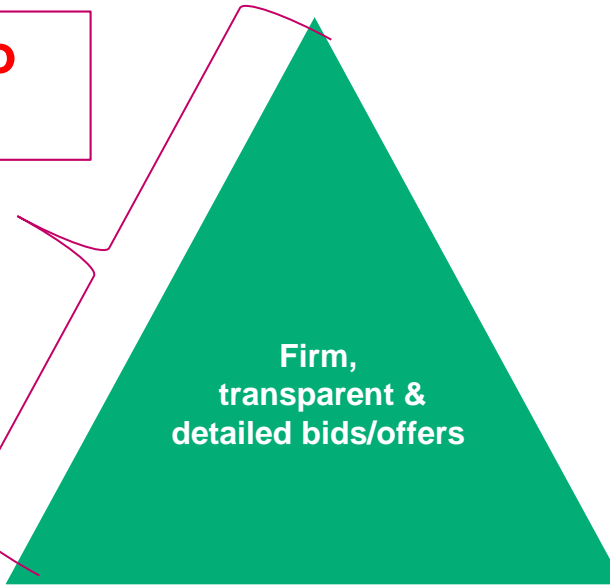
97 bids, offers and trades so far

Source: Platts

Hierarchy of assessment data quality

Firm MOC @ 4.00pm to 4.30pm

- Published live through Platts' systems
- These take precedence over other non-window information as value at a given time can be determined.

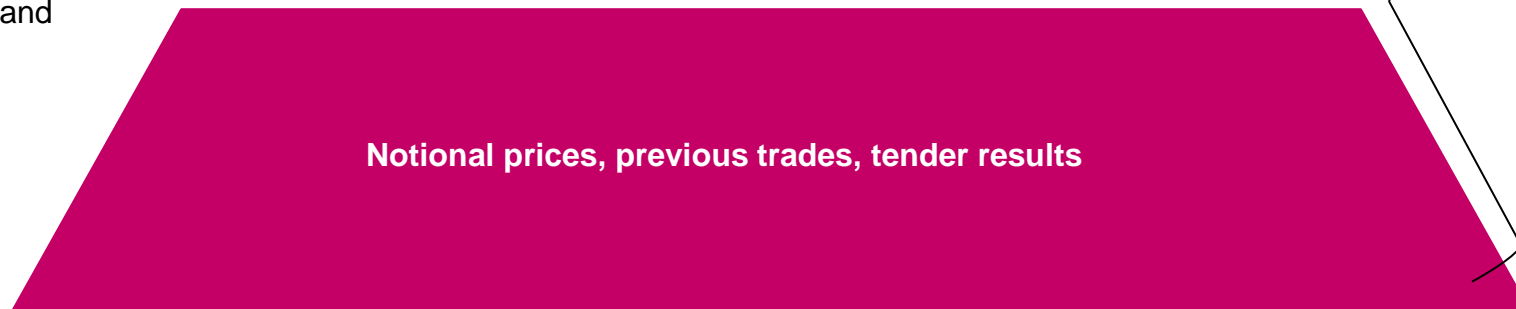


- Communicated via IM, phone or email, Platts seeks to verify this information with market participants throughout the day
- This information can be used alongside other influencing factors, such as oil and gas prices, to determine the assessment.

- Notional prices only give an indicative value
- Can be disregarded in the case of differing influencing factors such as oil and gas price movements or other supply and demand fundamentals

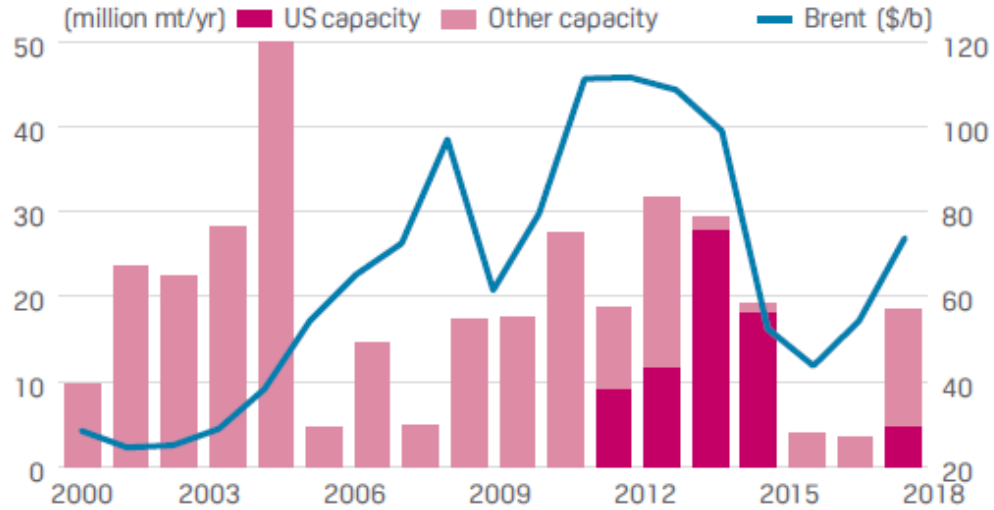


Intra-day values @ 3pm



Rise of the non utility buyer

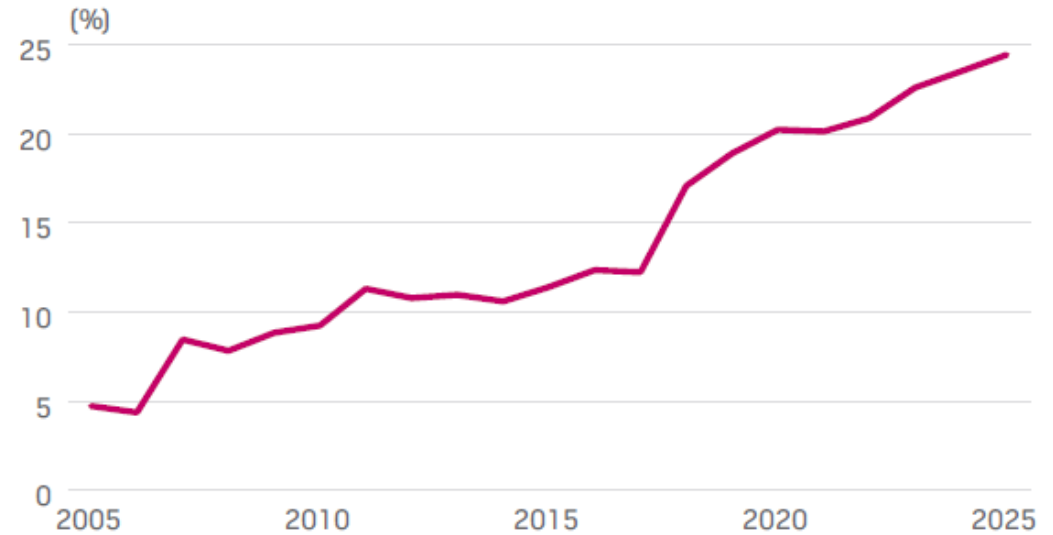
LIQUEFACTION CAPACITY TAKEN FID BY YEAR



Note: 2018 data above only considers January-October 2018.

Source: S&P Global Platts Analytics

CONTRACTED LNG HELD BY PORTFOLIO PLAYERS



Source: S&P Global Platts Analytics

LTC terms and project financing is changing

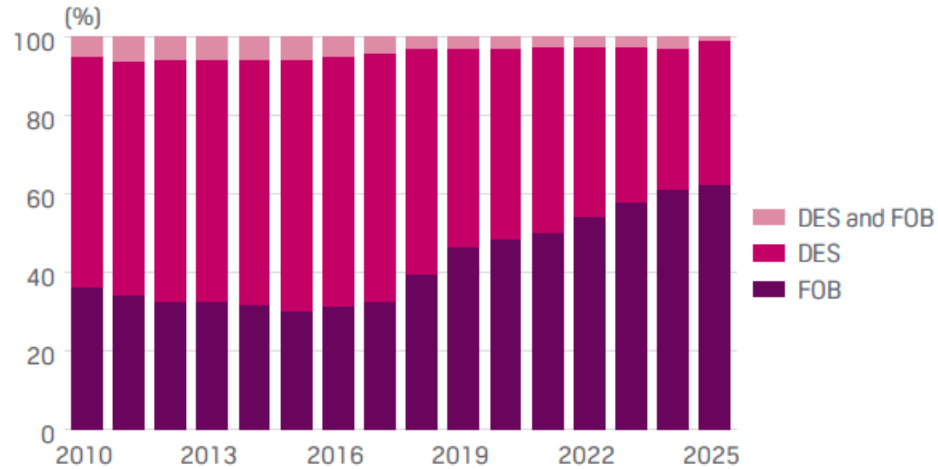
LIQUEFACTION PROJECTS FIDS SINCE JANUARY 2015

Project name	Country	Project capacity under 5 (million mt/year)	Expansion project?	Predominant Buyer type	Predominant contract type
Coral FLNG	Mozambique	Yes	No	Portfolio player	FOB
Tangguh train 3	Indonesia	Yes	Yes	End users	DES
Corpus Christi train 3	U.S	Yes	Yes	Portfolio players and end users	FOB
LNG Canada	Canada	No	No	Portfolio players and end user	Equity marketing

Note: Portfolio players includes traders.

Source: S&P Global Platts Analytics

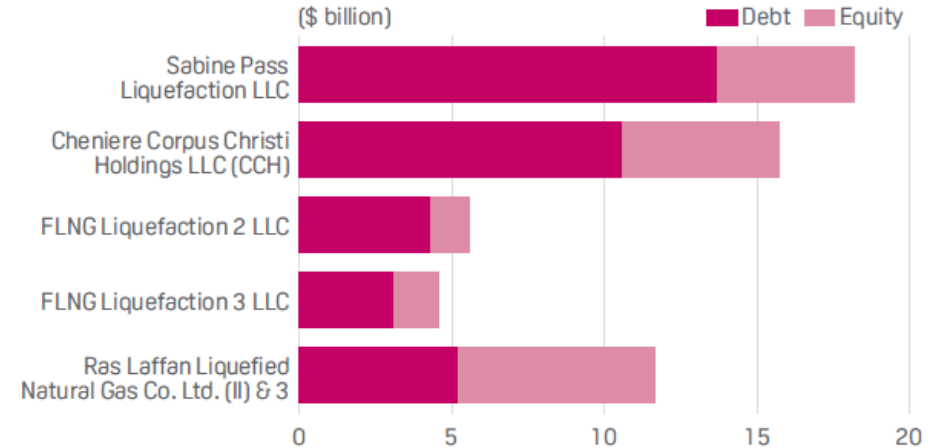
LNG CONTRACT SIGNINGS BY FOB/DES



Note: Only includes known FOB/DES LNG contract signings.

Source: S&P Global Platts Analytics

DEBT/EQUITY CAPITALIZATION BY LIQUEFACTION PROJECT



Source: S&P Global Ratings

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Q&A

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francis.bronwe@spglobal.com
platts_lng_moc@spglobal.com

