Trading fundamentals of the LNG Industry

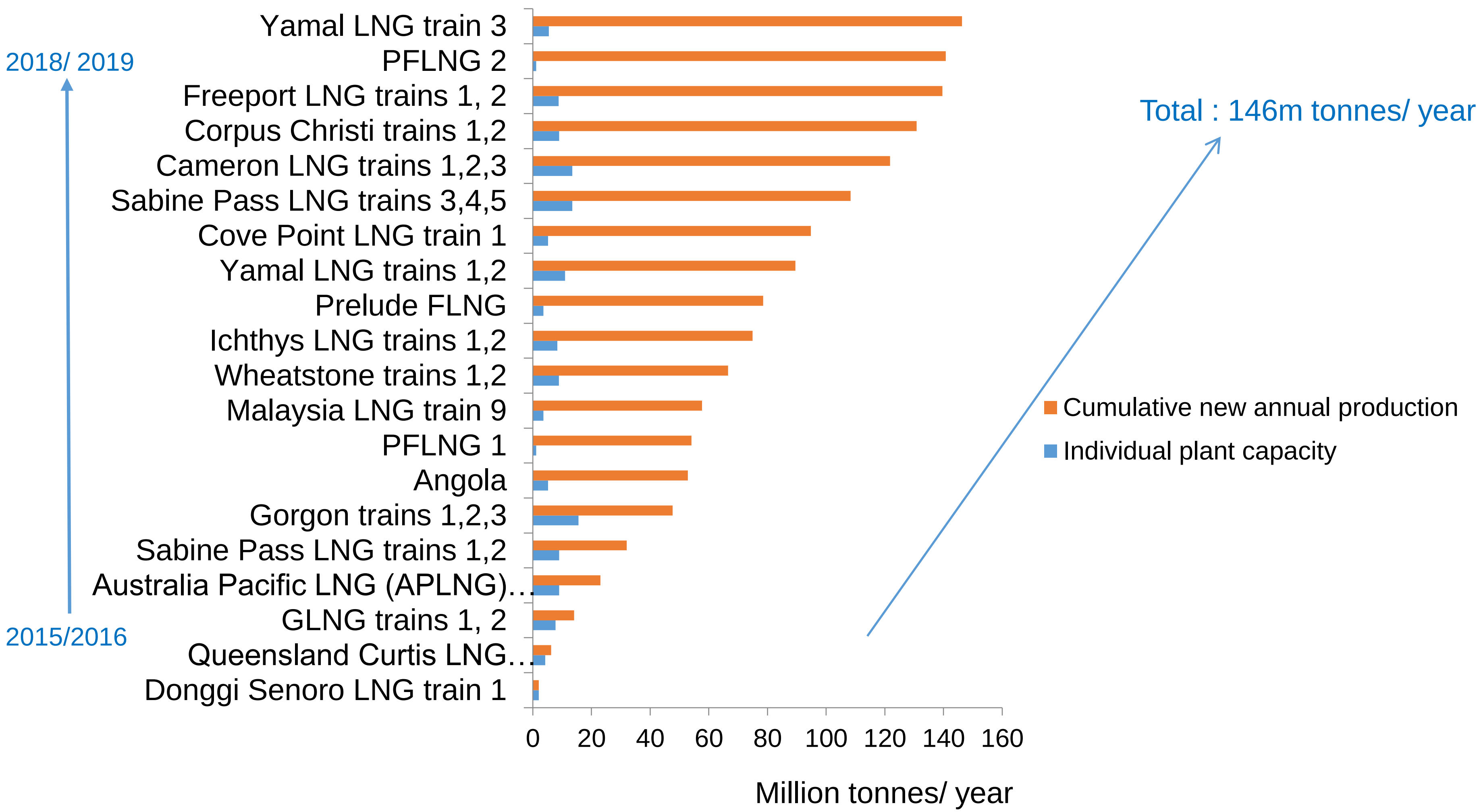
The LNG Forum – Amsterdam, October 2016

Edward Cox
Editor, Global LNG, ICIS Energy

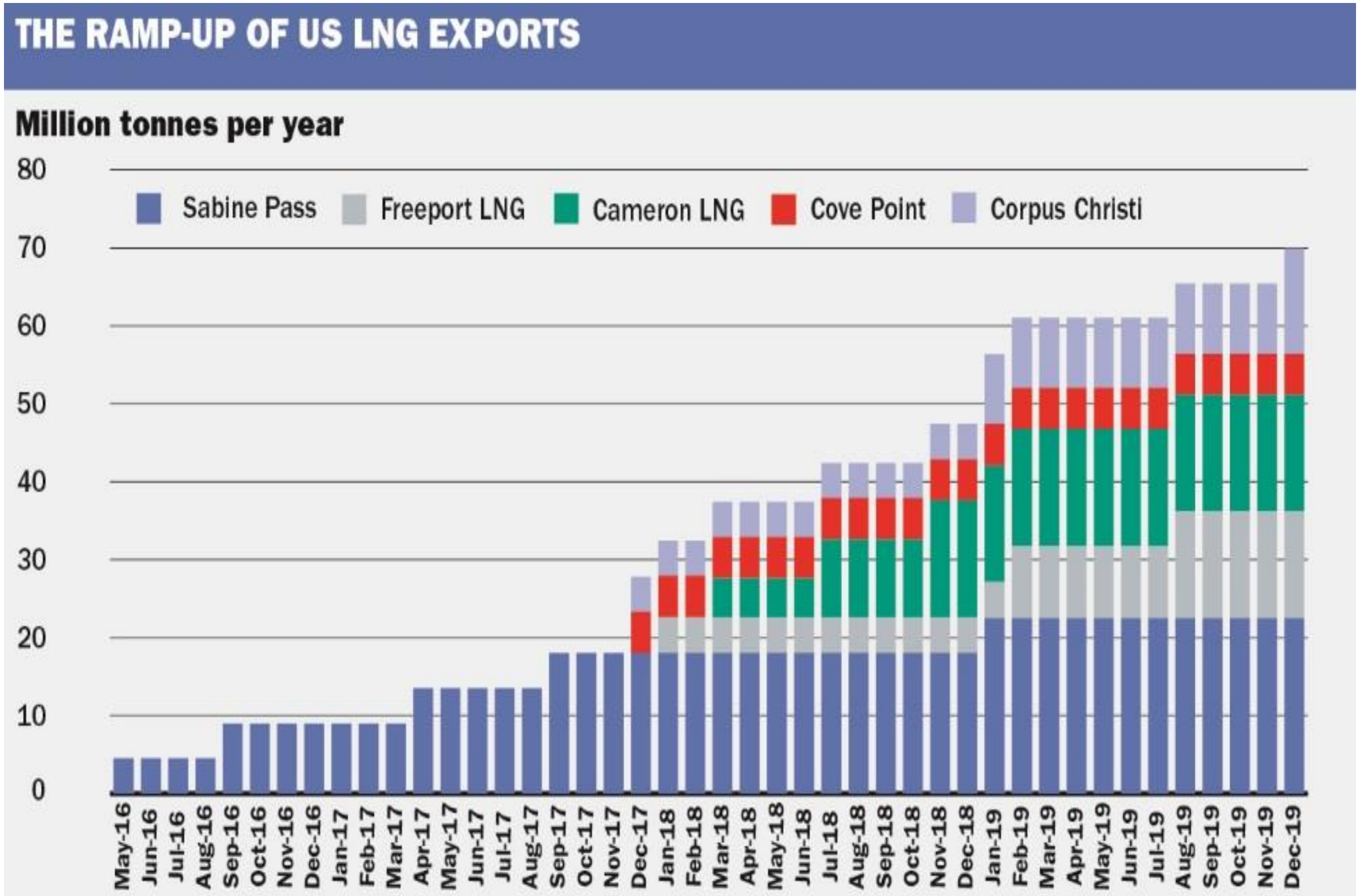
Did you hear the big numbers?

- Australian production up 50% year on year
- Global LNG production up 6% year on year
- ICIS East Asia Index below half the 2015 figure
- British NBP 23% cheaper than in 2015

The new LNG production wave is here



Australia production first, then the US ramp up



Australia: 2015 – 2017

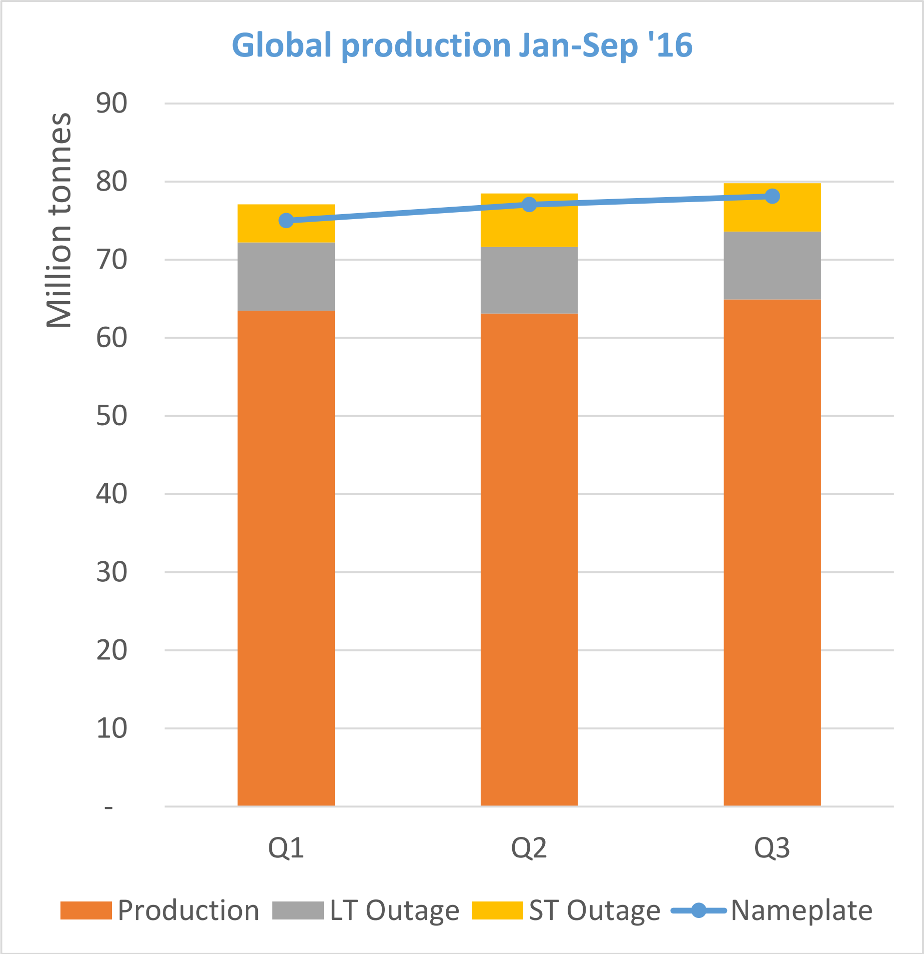
58mtpa in new supply

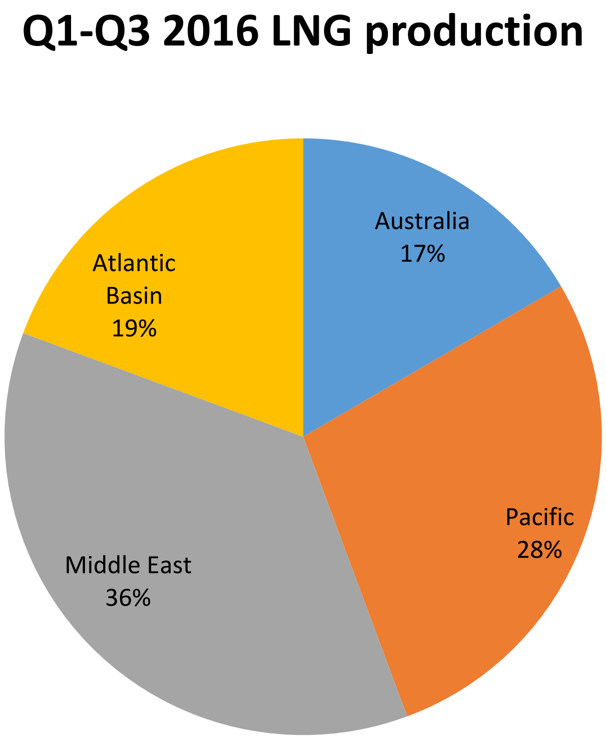
Delays affect plant start-ups in 2016

Delays to start-ups removed a further 5 million tonnes out of the market in 2016 relative to timelines at the end of 2015

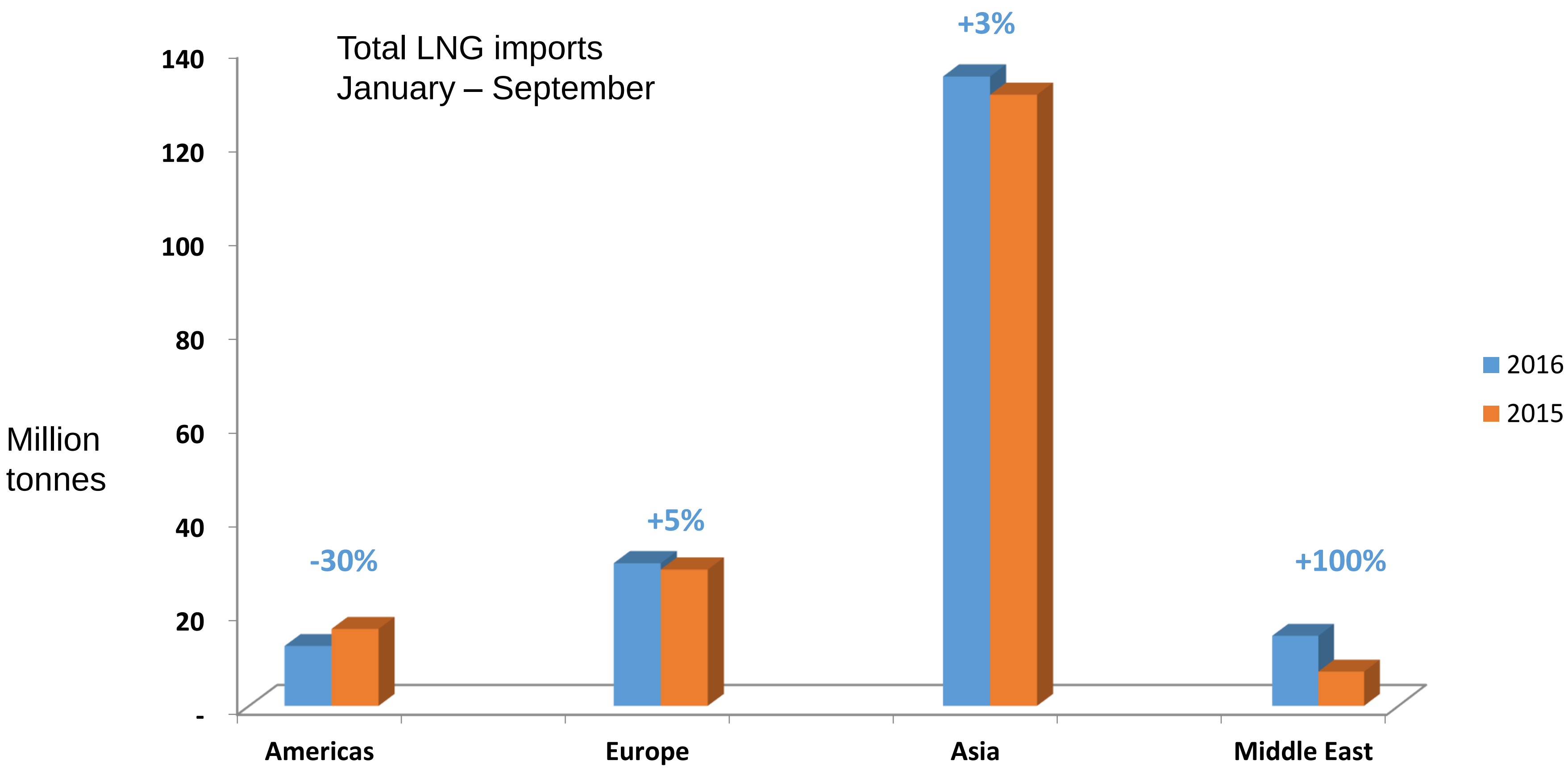
Plant	Capacity (mtpa)	Schedule at end of 2015	Actual first production	Potential m tonnes lost vs end 2015
Gorgon train 2	5.2	Q3 2016	Q4 2016	1.3
APLNG train 2	4.5	Q2 2016	October 2016	1.7
PFLNG	1.2	March 2016	Q4 2016	0.8
Malaysia LNG train 9	3.6	Q1 2016	September 2016	Up to 1.8

Production up; Australia dominates change



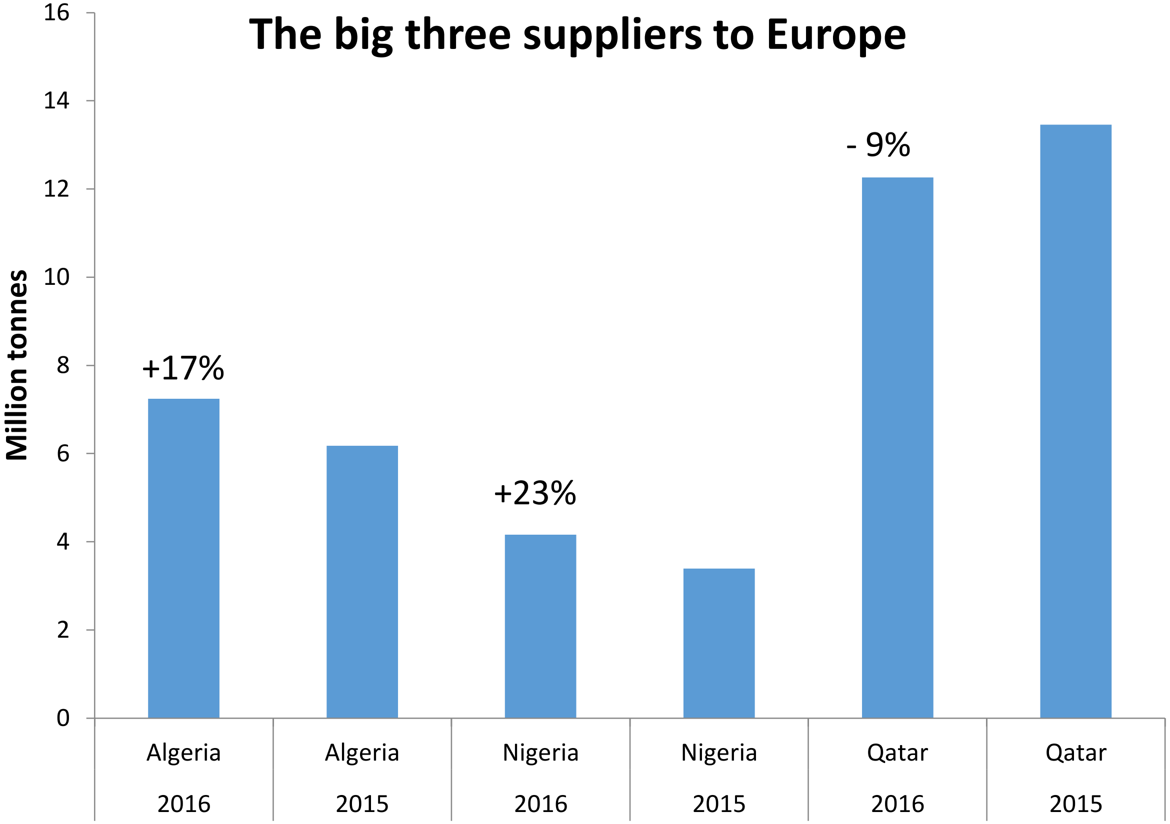


Demand: Changes in Americas, Middle East



Source: ICIS LNG Edge

Qatar to Europe: LNG volumes are down

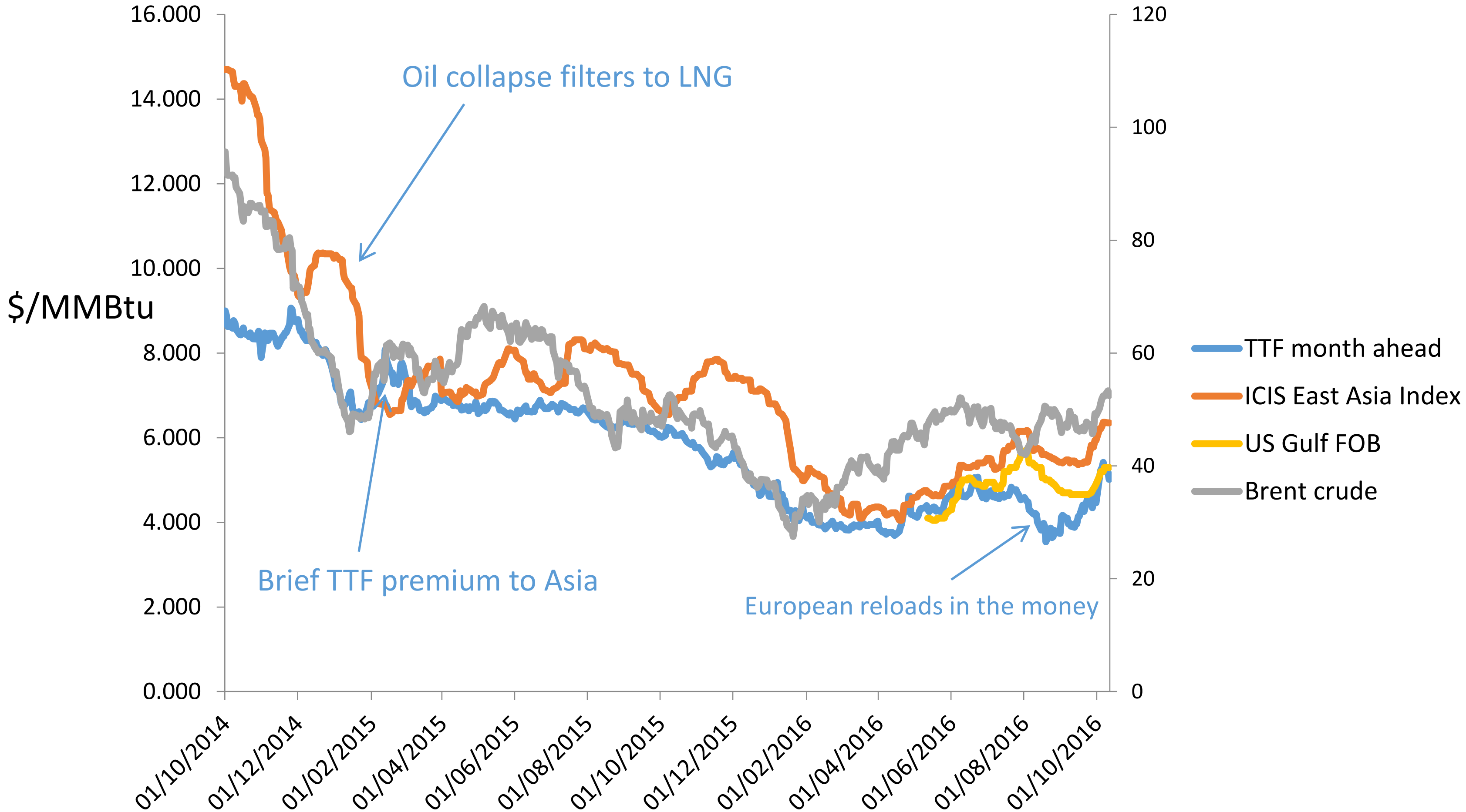


Europe imports: 24.8m tonnes vs 24m tonnes

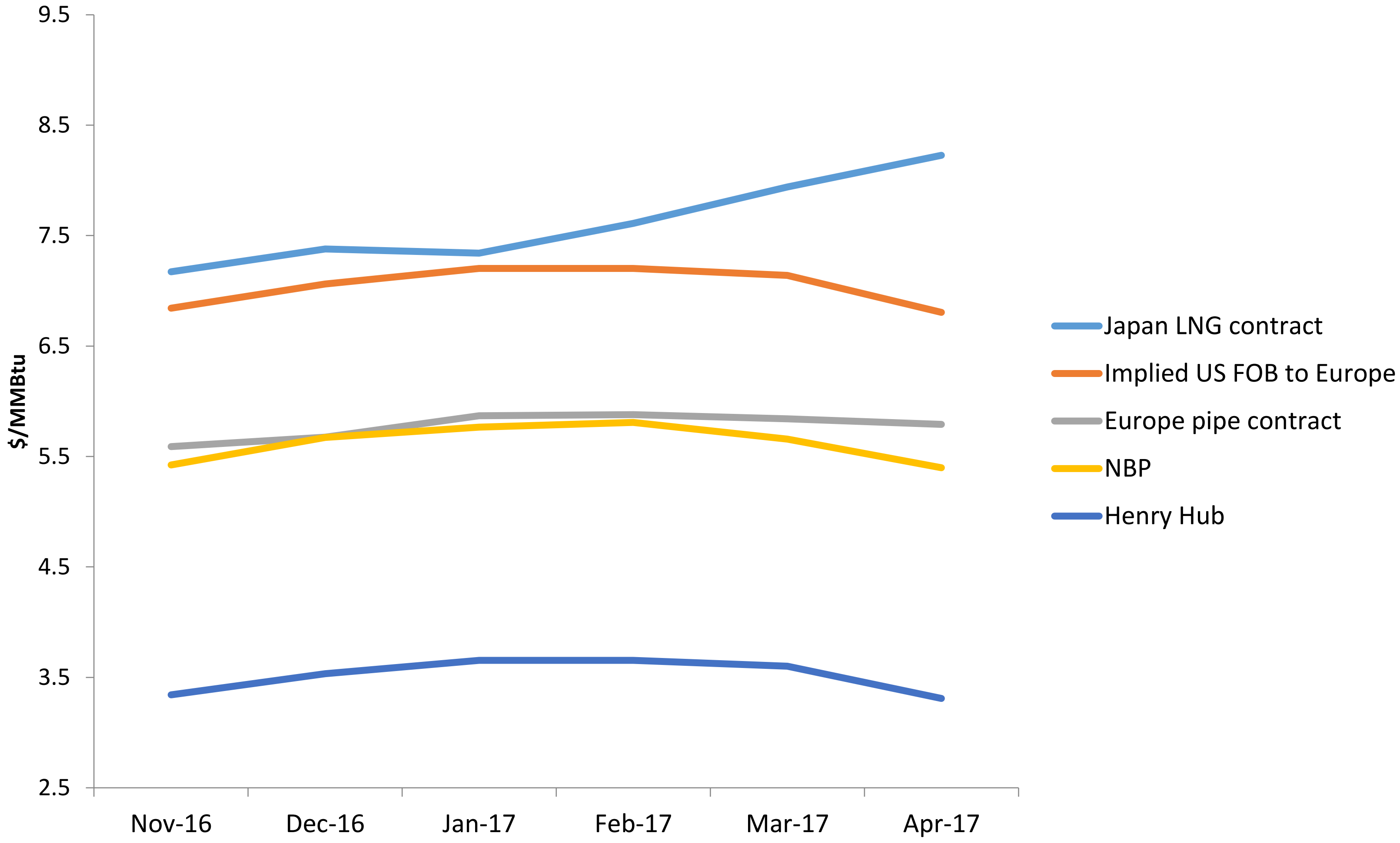
France, Spain, Belgium, Italy up; UK down

Source: ICIS LNG Edge

Europe gas is still below Asia LNG



Gas, LNG and Henry Hub this winter

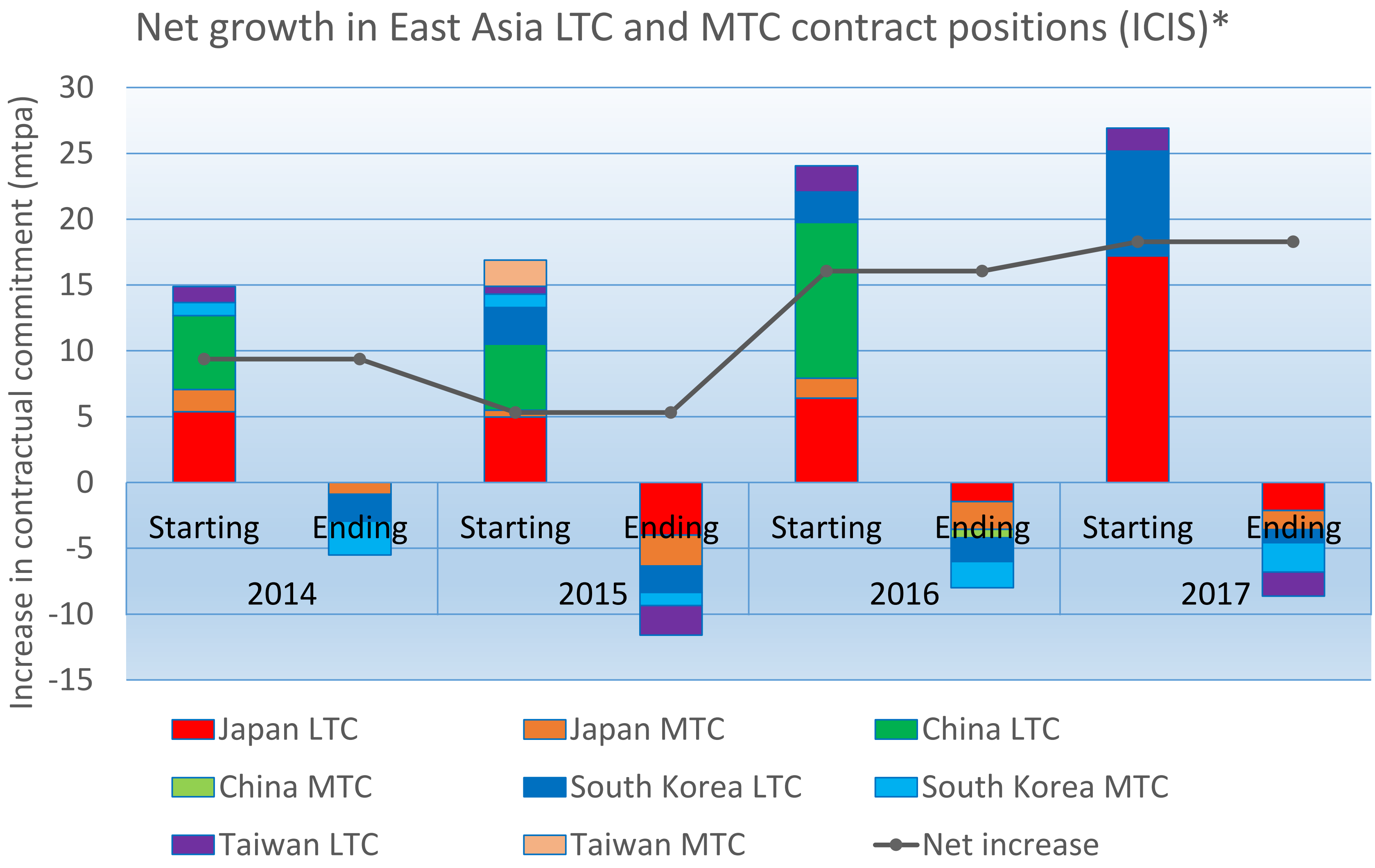


A new phase of European supply deals

Buyer	Seller	Volume (mtpa)	Supply	Receiving point	Index	Contract length (years)	Contract start
EDF Trading	JERA	1.5	US?	Europe	NW Europe	2.5	2018
RWE	Qatargas	1.1	Qatar -DES	Europe	NW Europe	7	TBC
EDF Trading	KOGAS	N/A	US?	Includes Europe	N/A	?	2017
EDF Trading	RasGas	2	Qatar -DES	Dunkirk	NW Europe	Mid term	2017
EDF Trading	Angola	Multiple cargoes	Angola DES	Europe	NW Europe	2	2016
ENGIE	Cheniere	1	Sabine/ Corpus DES	France	NW Europe	5	
EDF Trading	Cheniere	1.7	Sabine -DES	TBD	TTF	2	2017-2018
EDF Trading	Cheniere	1.9	Sabine -DES	Dunkirk	TTF	2	2016-2018
DONG	Iberdrola	0.7	Snohvit LNG - DES	Gate	hybrid TTF/Brent	10	2011
South Hook Gas	Qatargas/Exxon Mobil	15.6	QG II -DES	South Hook	% NBP	25	2007-2008
Centrica	Qatargas	2.4	QG4 -DES	Grain	% NBP	3, renewed	2011
E.ON	RasGas	1.4	Qatar -DES	Grain	% NBP	3	2014
E.ON	Qatargas	1.5	QG 4 Train 7 - DES	Gate	European hub	5	2014
Petronas	Qatargas	1.14	QG 4 Train 7 - DES	Dragon	% NBP	5	2014
Total	Qatargas	1.5	QG2 -DES	South Hook/Fos	% NBP	25	2009

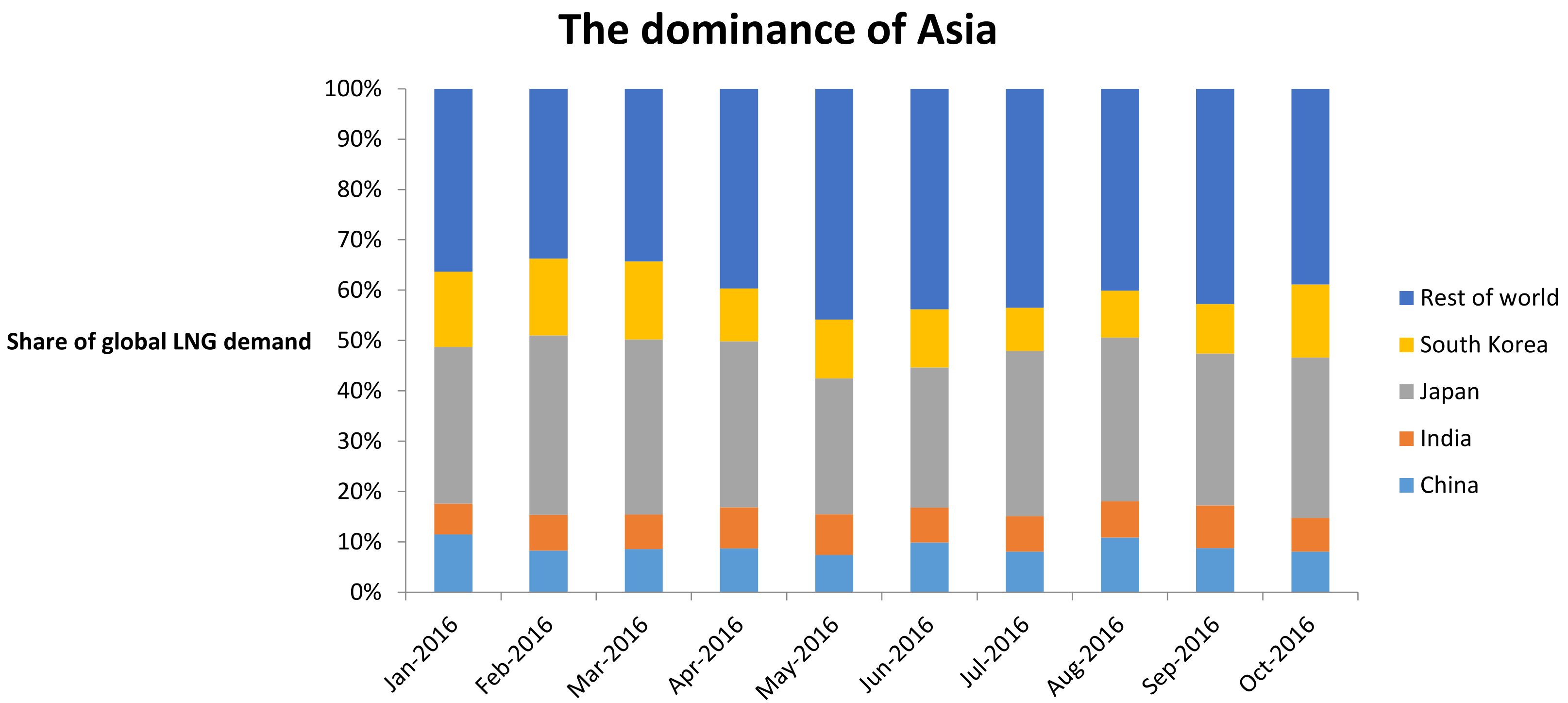
A quickly-changing LNG world

East Asia contract portfolios expand 2016/17



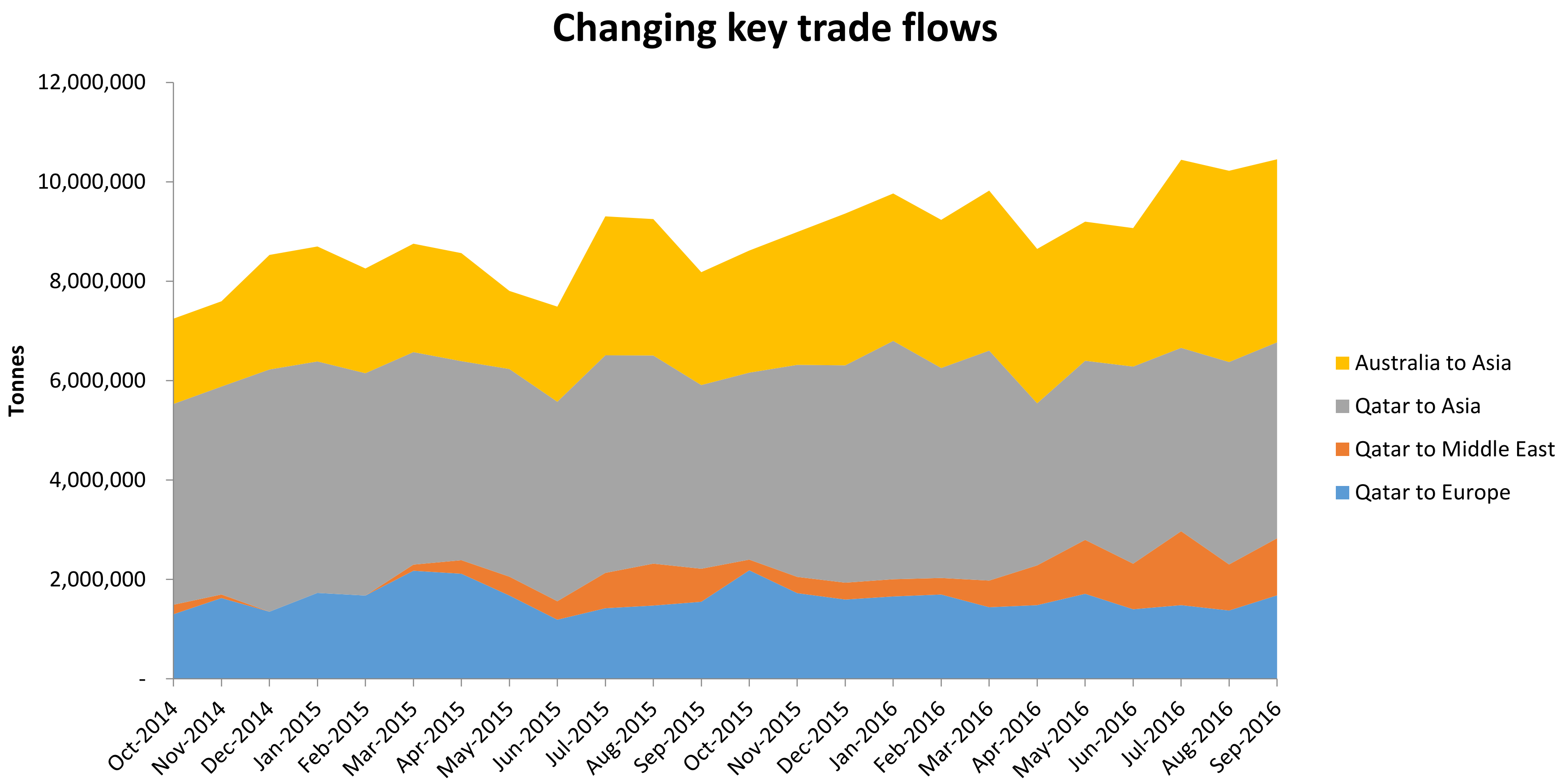
*At ACQ levels, excludes sales between end-users

Uncertainty over East Asian demand



- Japan LNG in generation mix: 2015 = 43%; 2030 = 27%
- South Korea equivalent: 2015 = 23%; 2029 = 15%

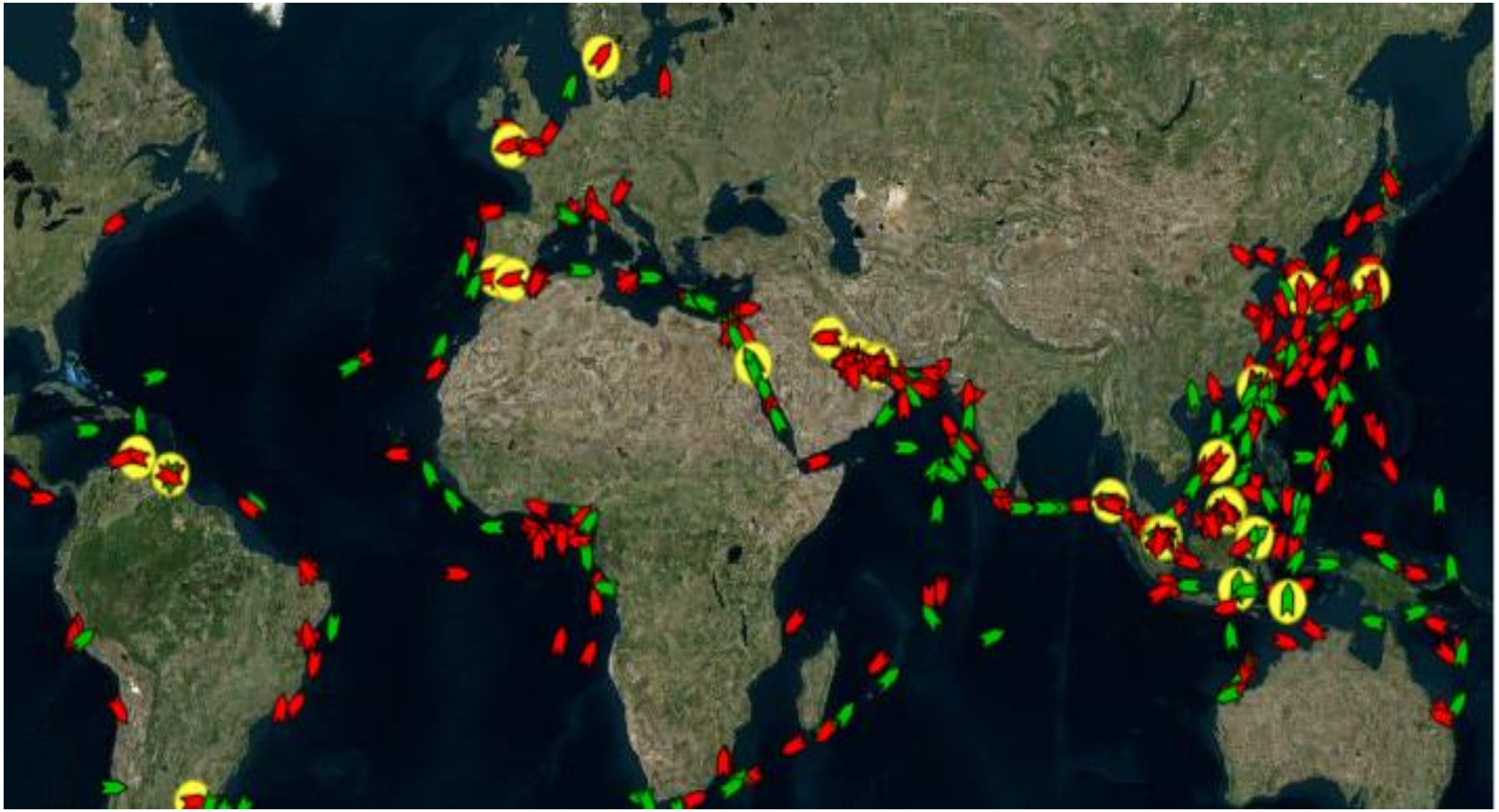
Australian LNG to displace Qatari exports



Key concluding points

- Demand concerns despite weak pricing
- Uncertainty dictates Asian strategy on Europe
- Low oil has stopped investment in new projects
- Long term, will the commodity cycle continue?

Thank you



Edward Cox
Editor, Global LNG
Ed.Cox@icis.com