



A RECOGNIZED INDEPENDENT CENTRE OF THE UNIVERSITY OF OXFORD



# International Gas Market Workshop

## European Gas Market Outlook

23<sup>rd</sup> August 2012

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Director Natural Gas Programme  
Oxford Institute for Energy Studies



# Themes

- European Price Transition from oil indexation to hub pricing.
- Europe and Asia LNG ‘Tug of War’
- European outlook to 2015
- Beyond 2015: Future Uncertainties and Implications

***Based on the Following Published Research:***

‘The Transition to Hub-Based Gas Pricing in Continental Europe’, Jonathan Stern and Howard Rogers, March 2011,  
<http://www.oxfordenergy.org/wpcms/wp-content/uploads/2011/03/NG49.pdf>

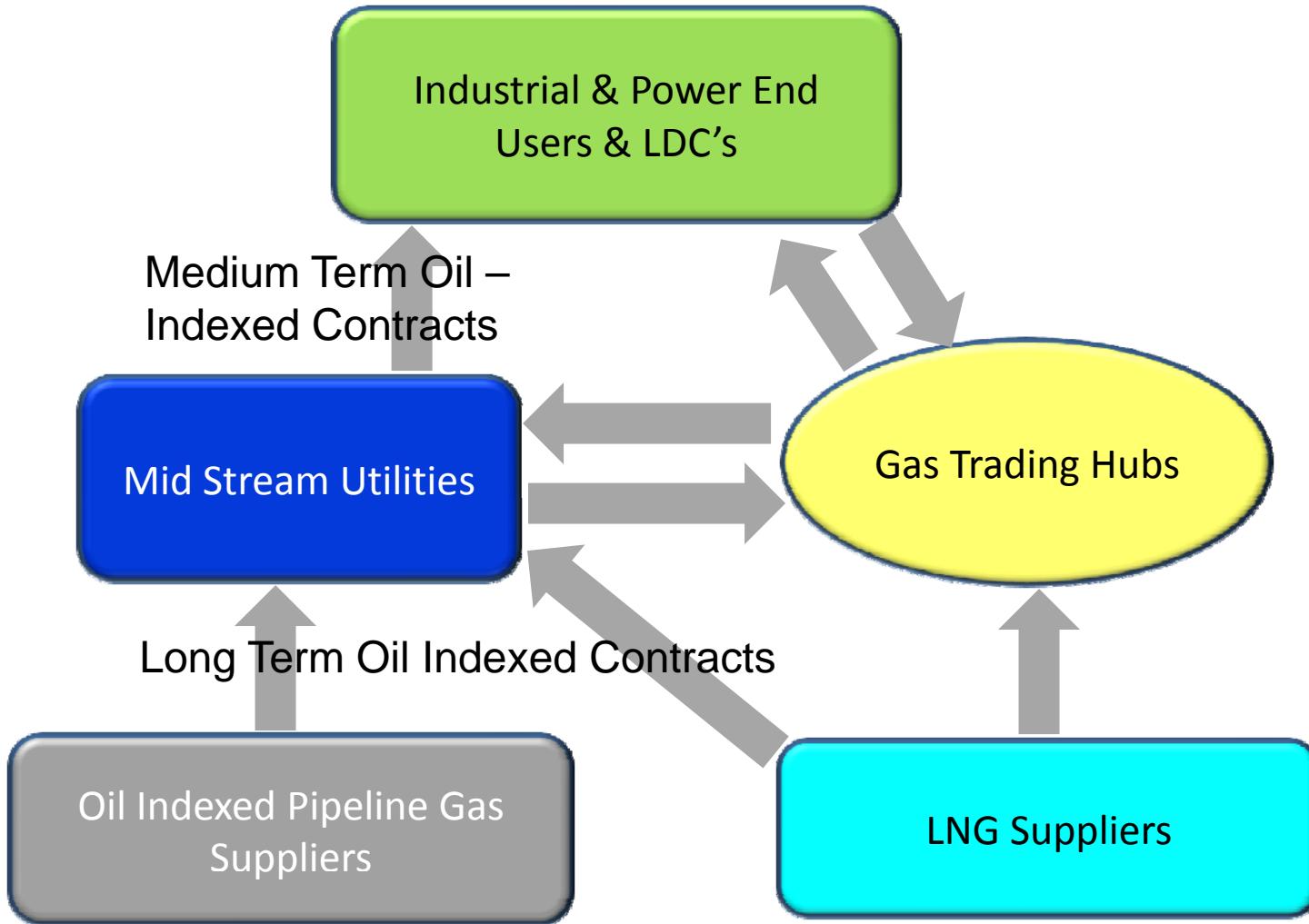
‘The Impact of a Globalising Market on Future European Gas Supply and Pricing: the Importance of Asian Demand and North American Supply’, Howard Rogers, January 2012,  
[http://www.oxfordenergy.org/wpcms/wp-content/uploads/2012/01/NG\\_59.pdf](http://www.oxfordenergy.org/wpcms/wp-content/uploads/2012/01/NG_59.pdf)

‘Continental European Gas Hubs. Are they fit for purpose?’, Patrick Heather, June 2012,  
<http://www.oxfordenergy.org/2012/06/continental-european-gas-hubs-are-they-fit-for-purpose/>

‘A realistic perspective on Japan’s LNG demand after Fukushima’, Akira Miyamoto, Chikako Ishiguro, Mitsuhiro Nakamura, June 2012  
<http://www.oxfordenergy.org/2012/06/a-realistic-perspective-on-japan%2E2%80%99s-lng-demand-after-fukushima/>



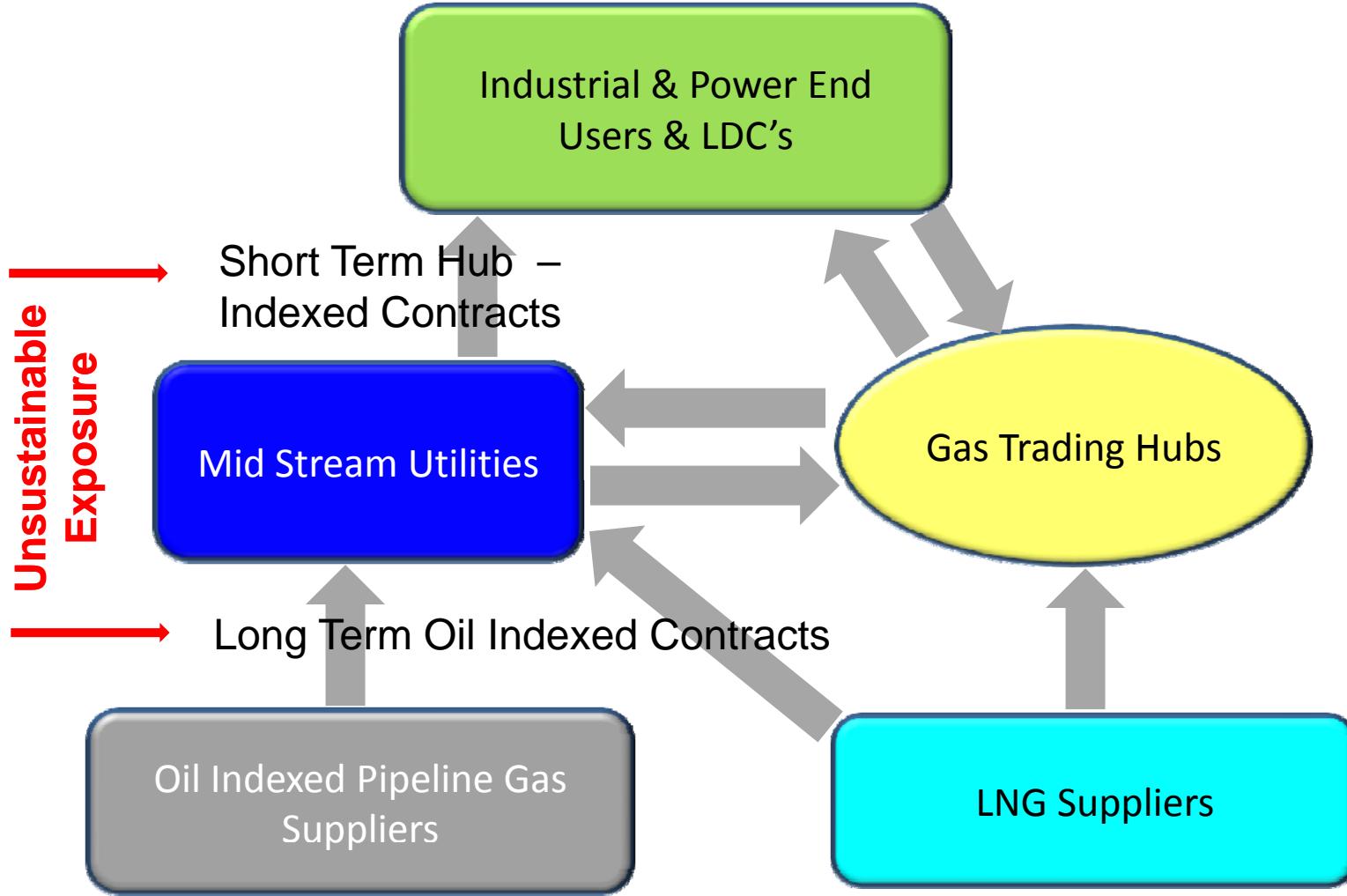
# The European Hybrid Model



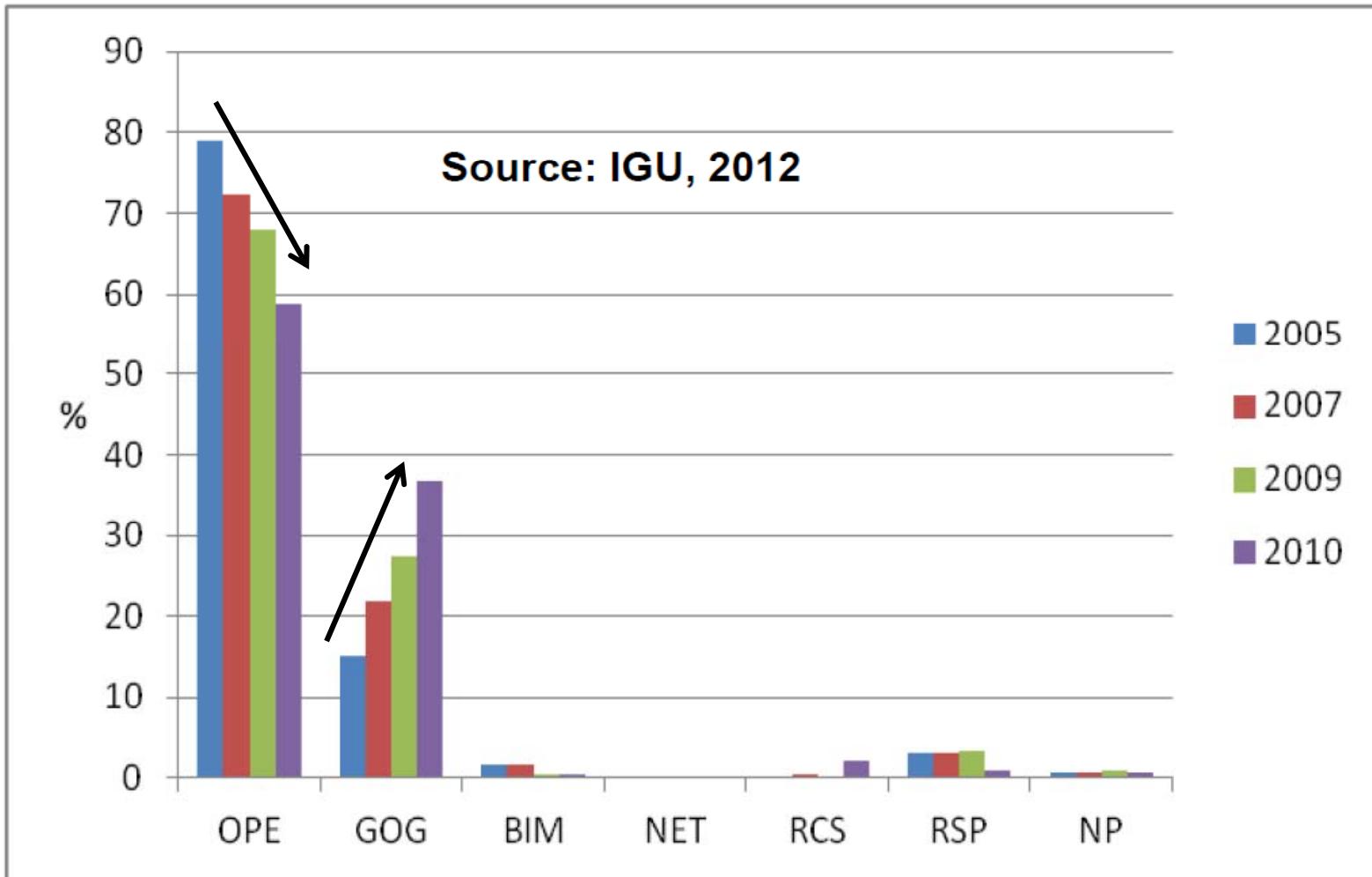
Source: Based on a Gazprom Presentation



# The European Current Reality

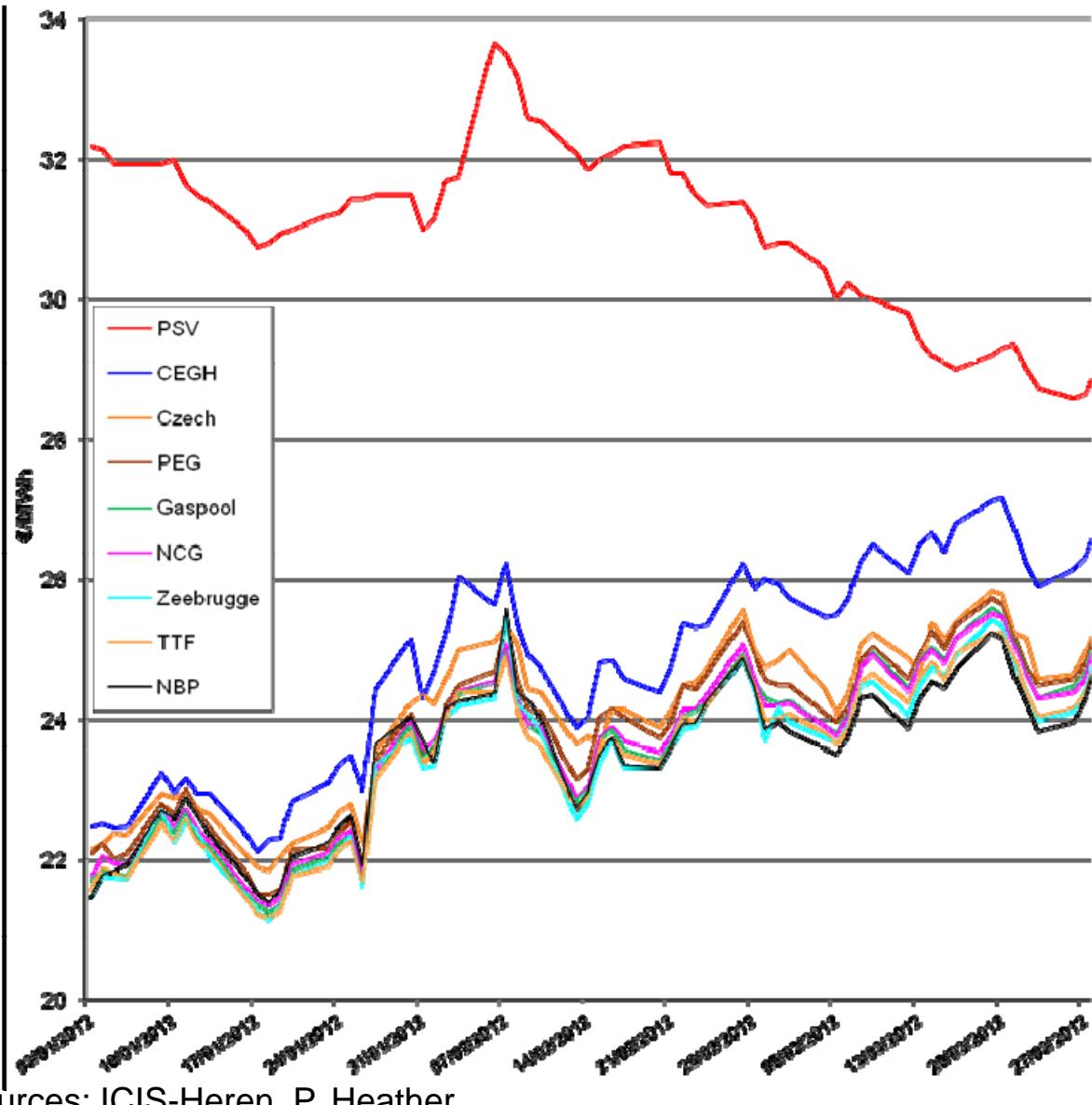


# Changes in Wholesale European Price Formation 2005-10



**OPE – oil price linked; GOG – gas to gas competition  
(spot/hub-based)**

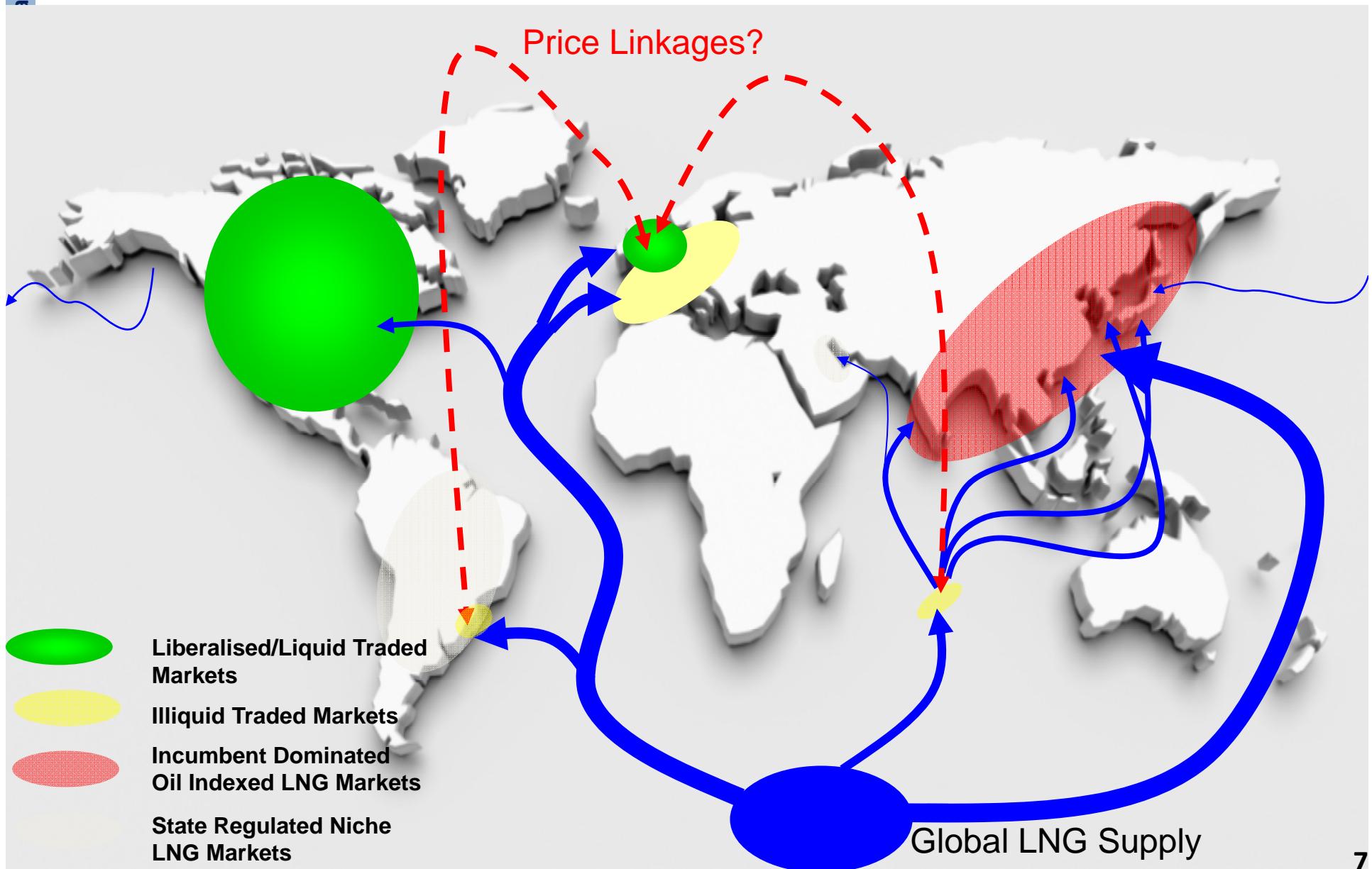
# European Month Ahead Hub Prices: Q1-2012



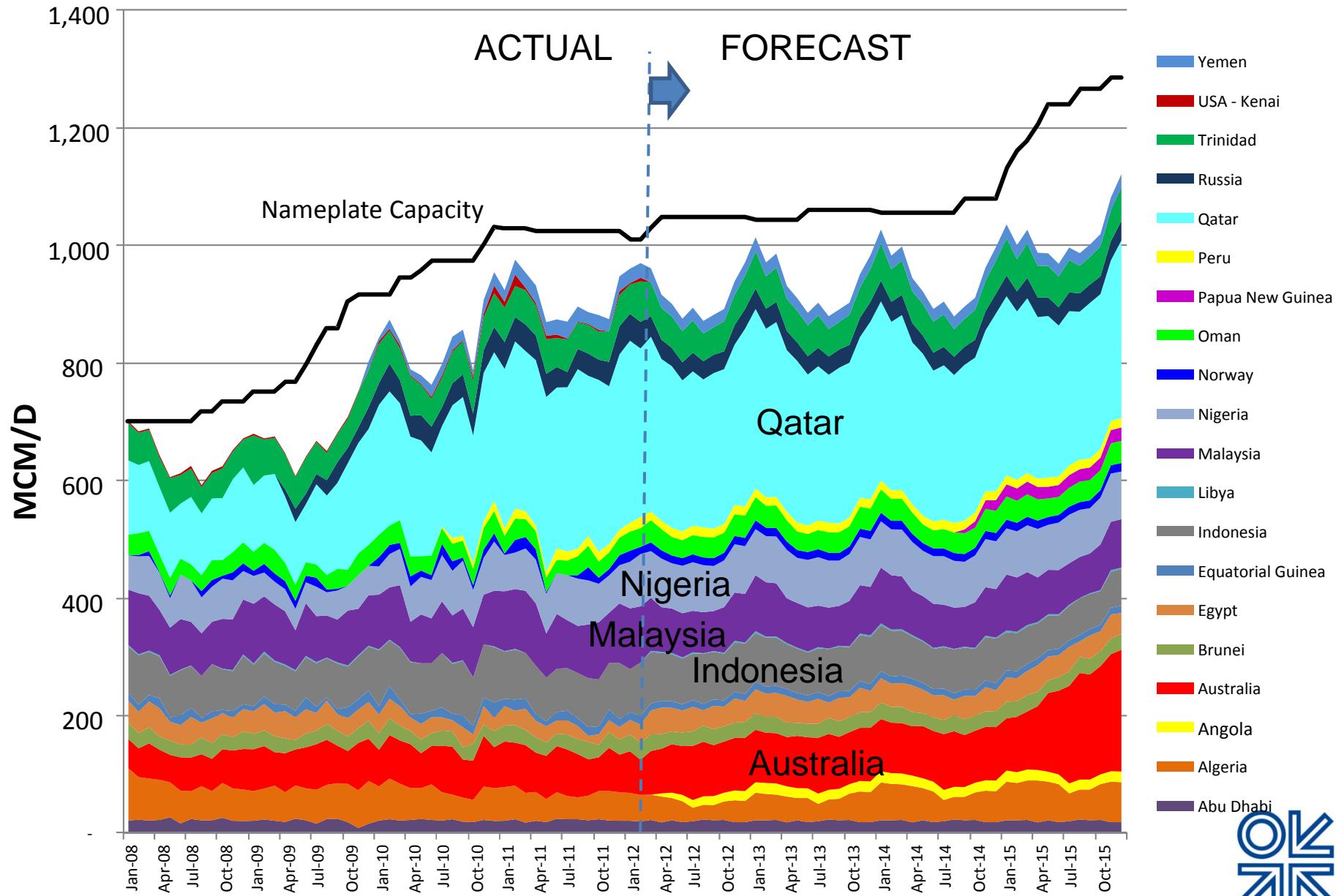
Sources: ICIS-Heren, P. Heather



# Current System 2012



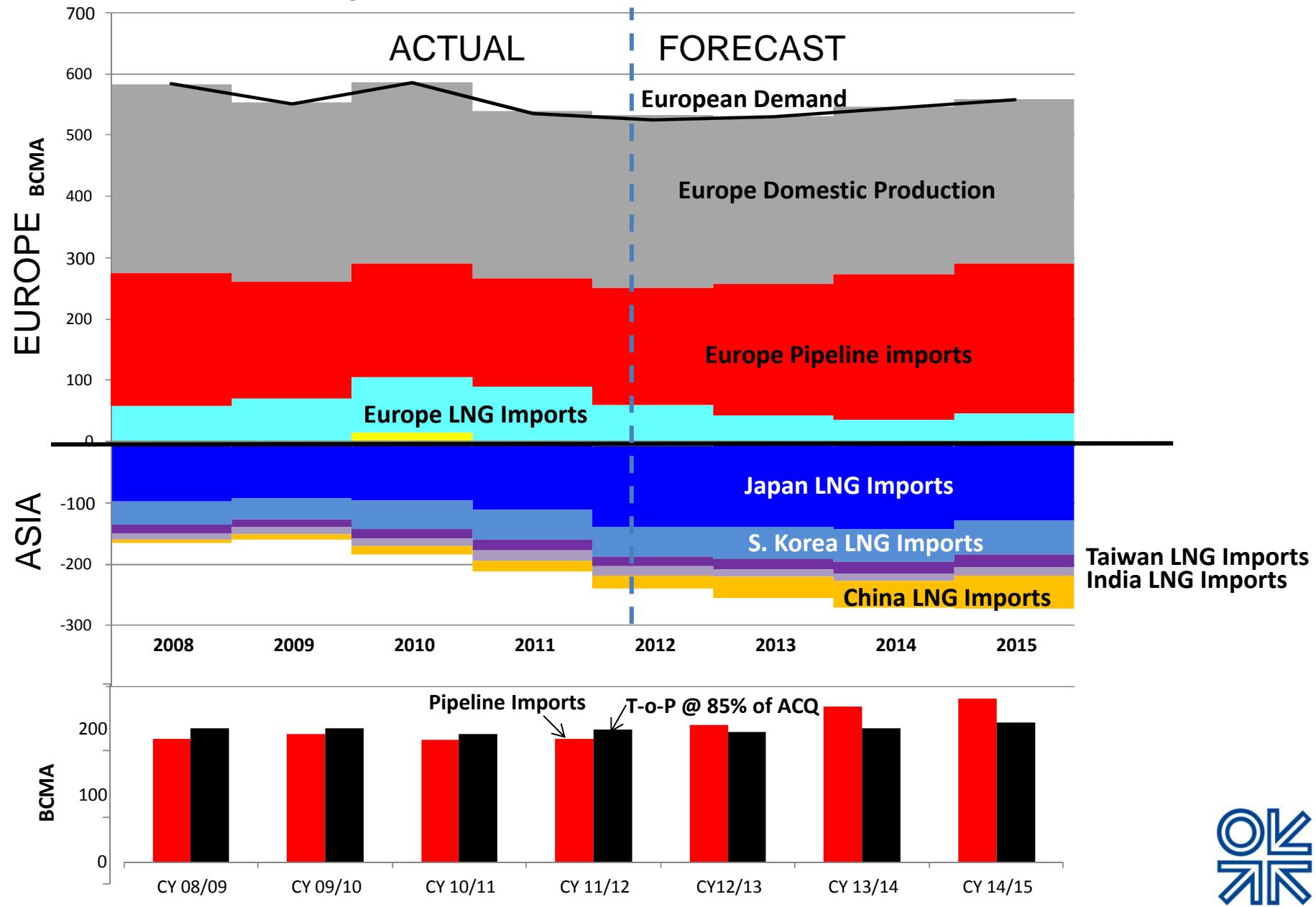
# Global LNG Supply 2008 - 2015



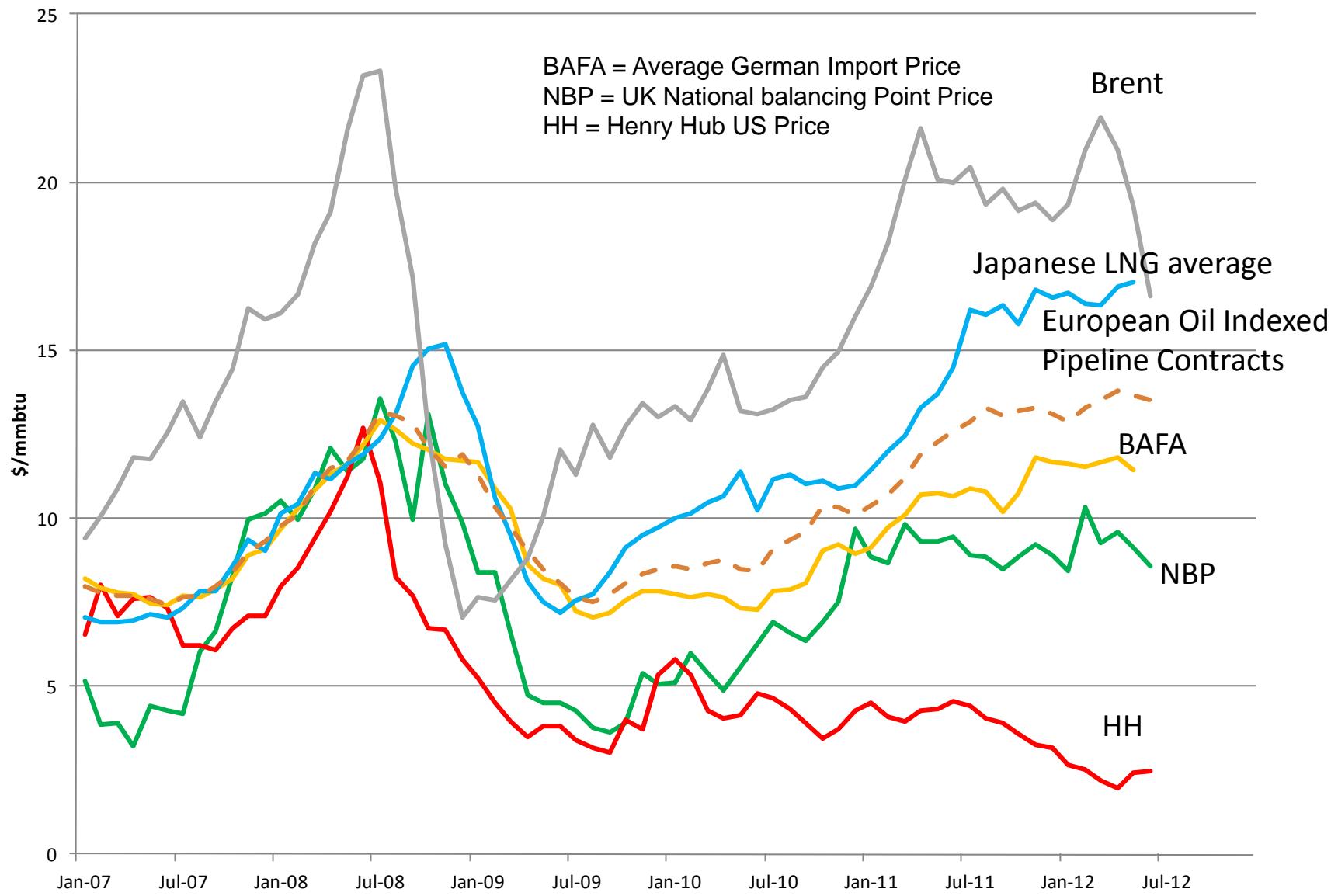
Source: Waterborne LNG



# Europe – Asia LNG Balance 2008 - 2015

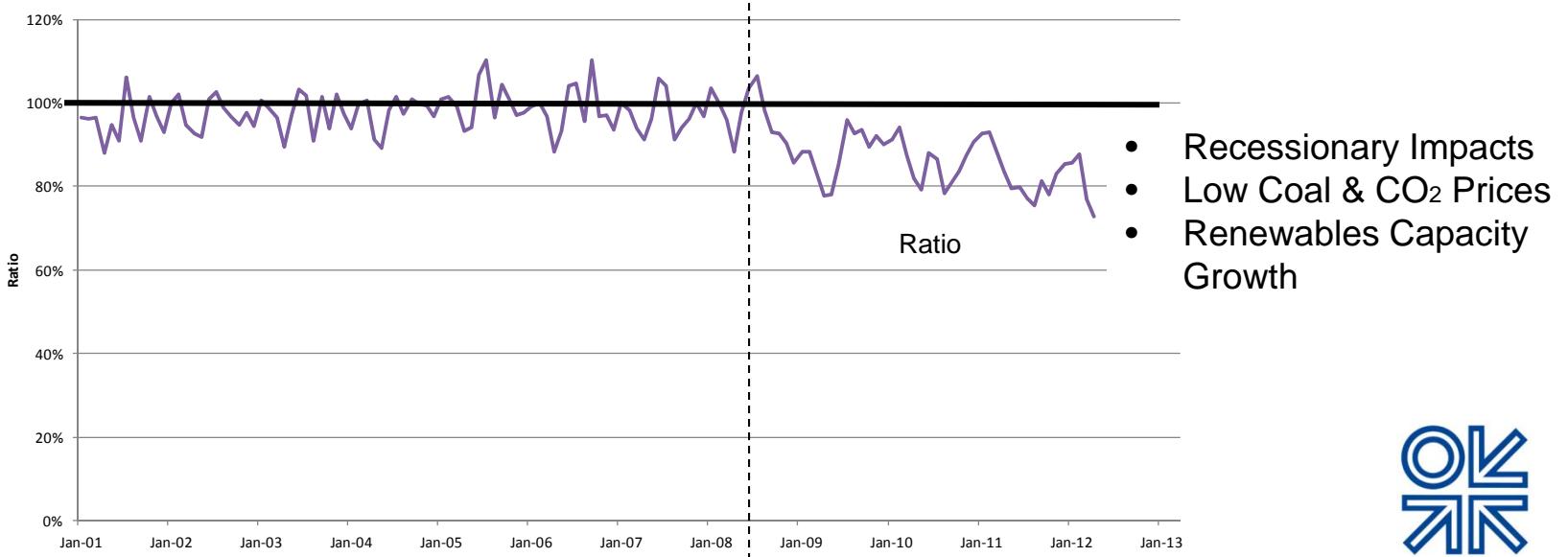
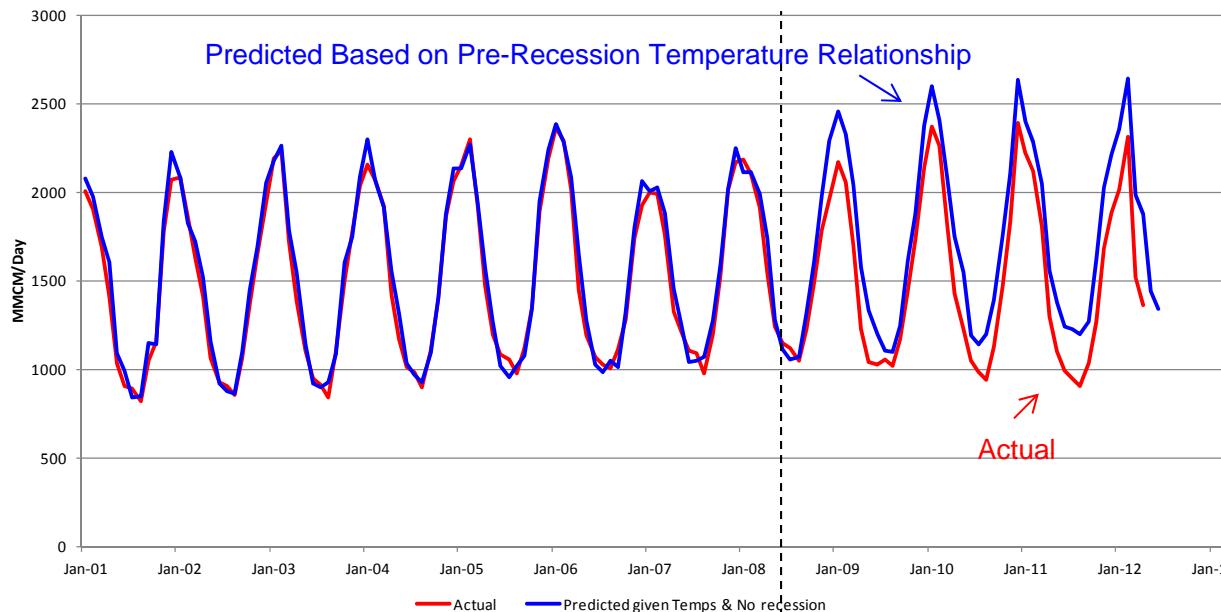


# Gas Prices 2007 – May 2012

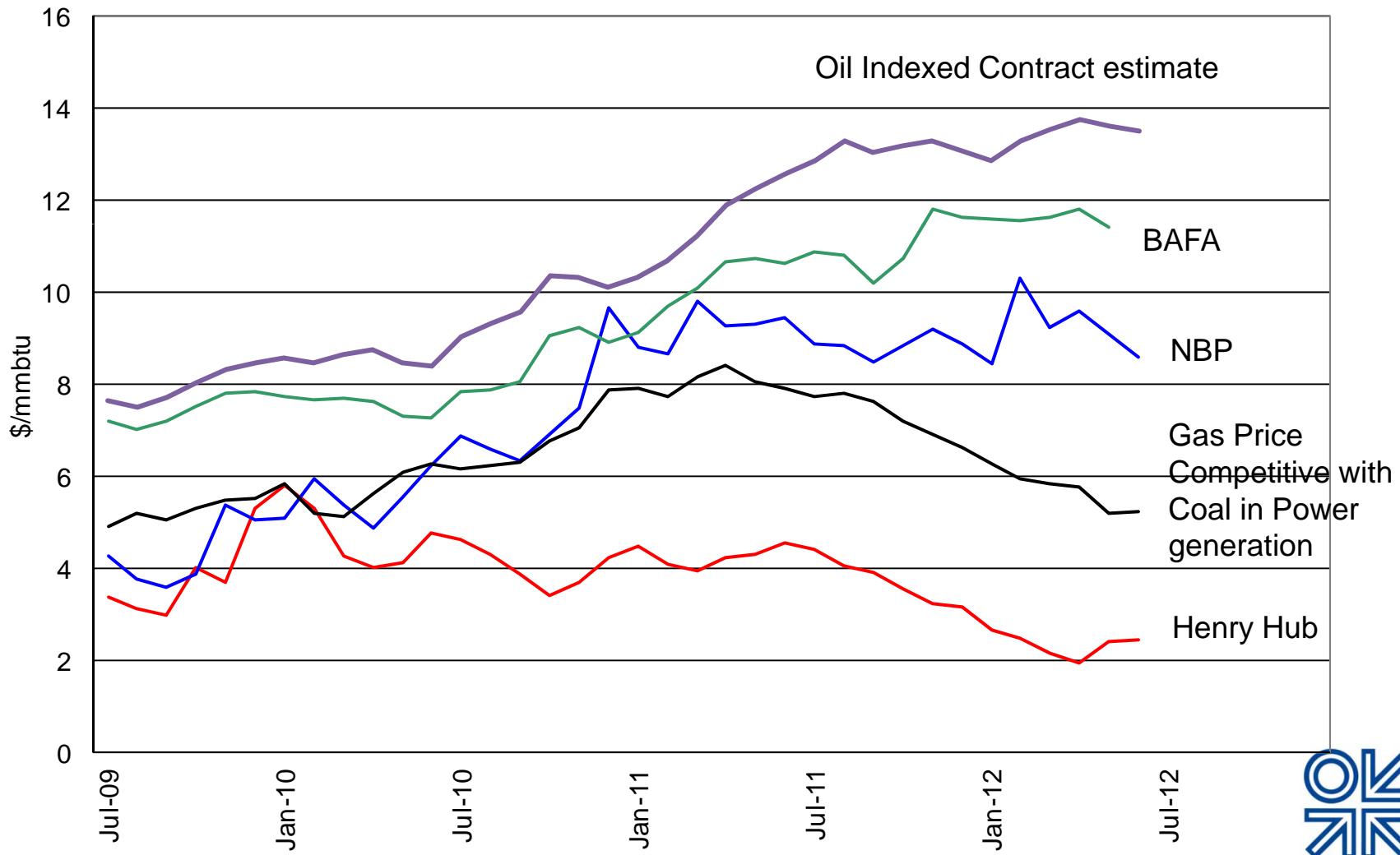


Sources: Argus, BAFA, EIA, ICIS Heren, Own analysis

# European Demand 2001 - 2012 – The Slump Continues



# European Gas Prices vs Coal – June 2009 – June 2012

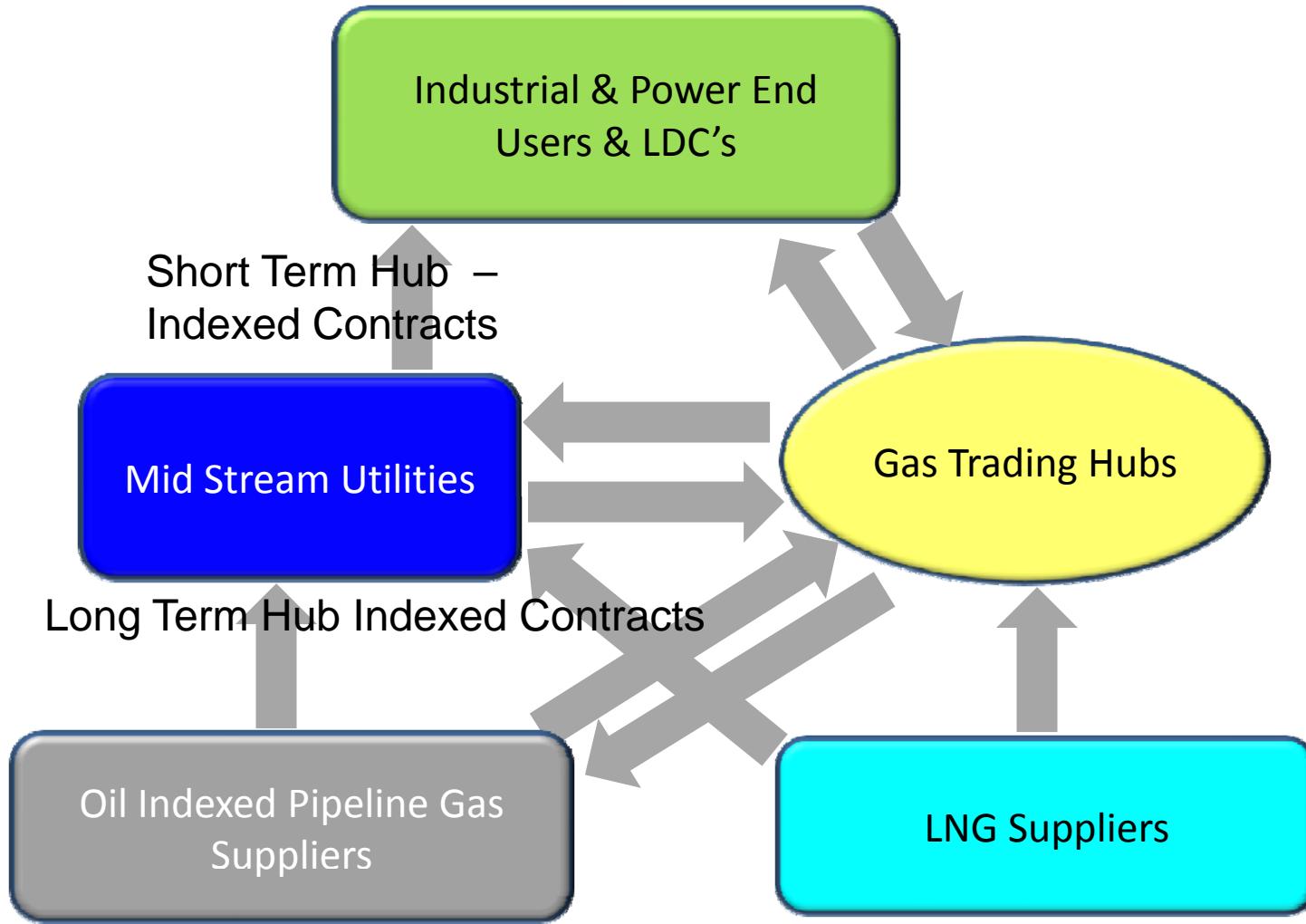


## The Future: Major Uncertainties

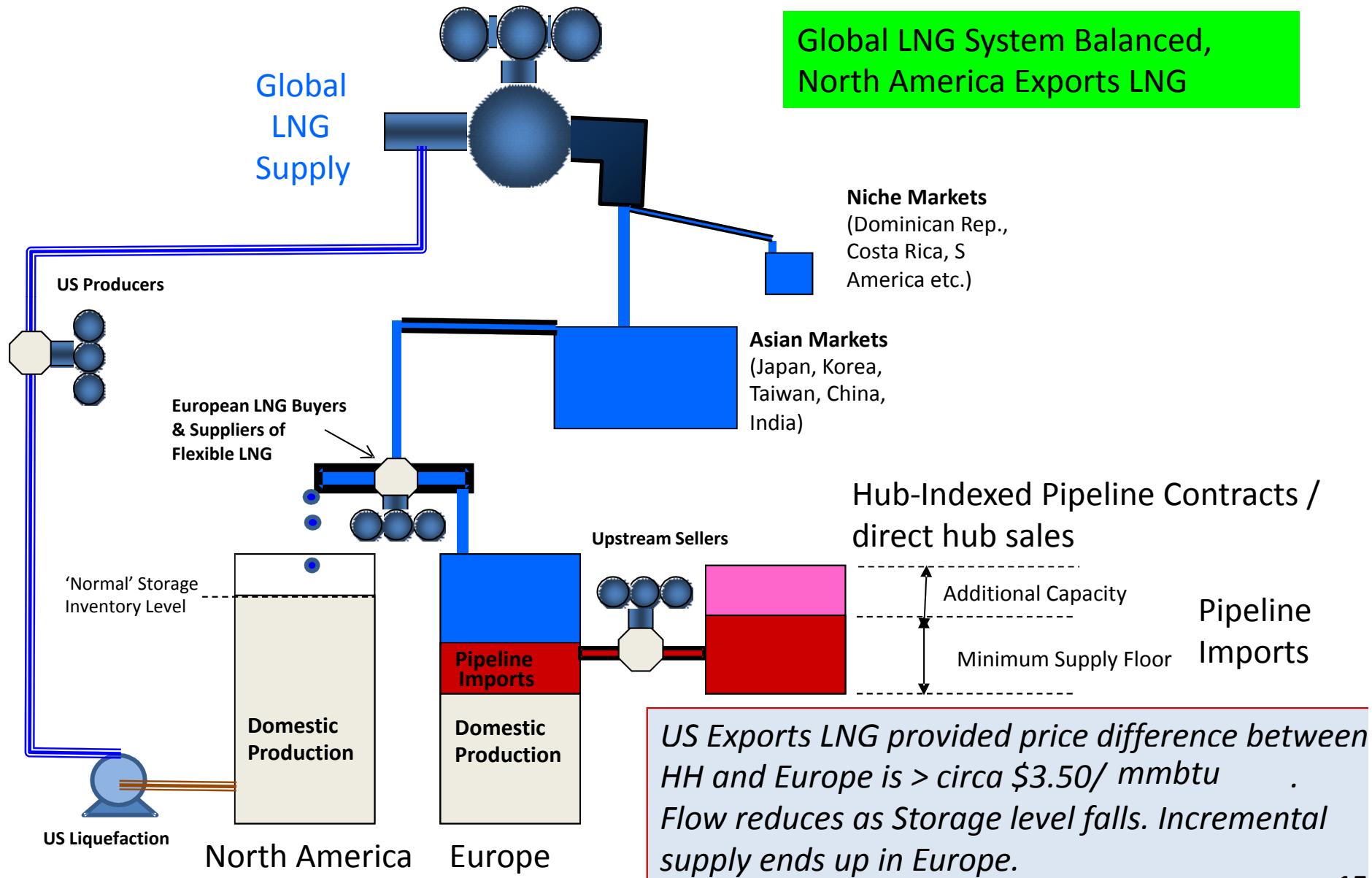
- Asian Natural Gas and LNG Demand.
- US Future Shale Gas Production Growth and potential scale of North American LNG exports.
- The Success of Shale Gas outside the US
- Timing/slippage of new non-North American LNG projects.
- Production versus pricing policy for European pipeline gas suppliers post oil-indexation.



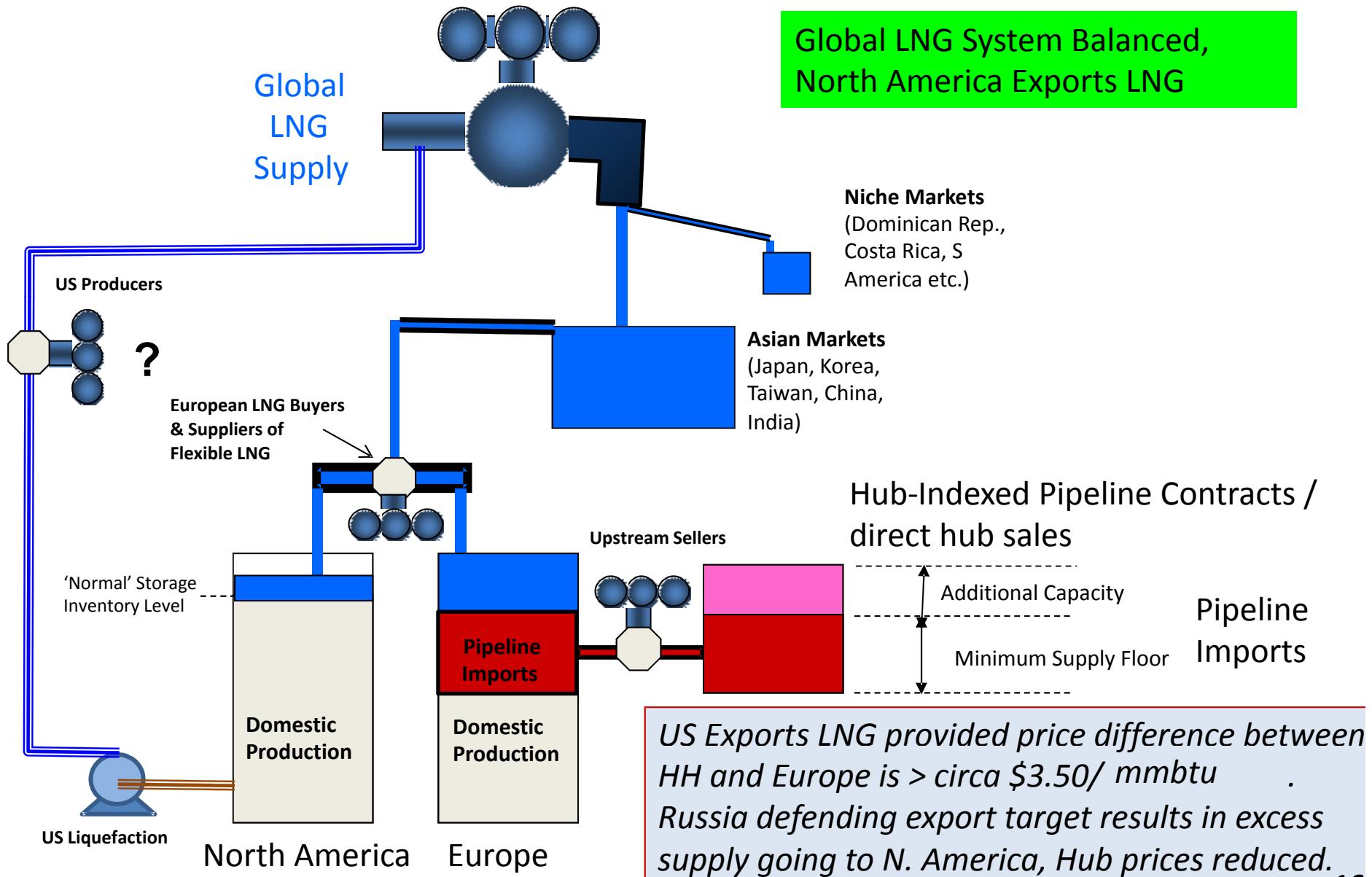
# The European Future



# Global LNG System 2015+: High US Production, High & Low Asia Demand

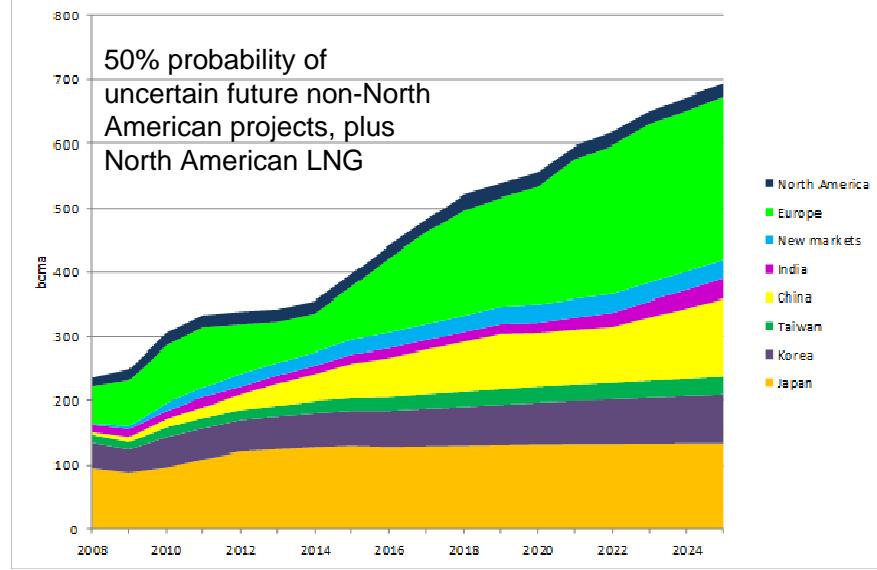


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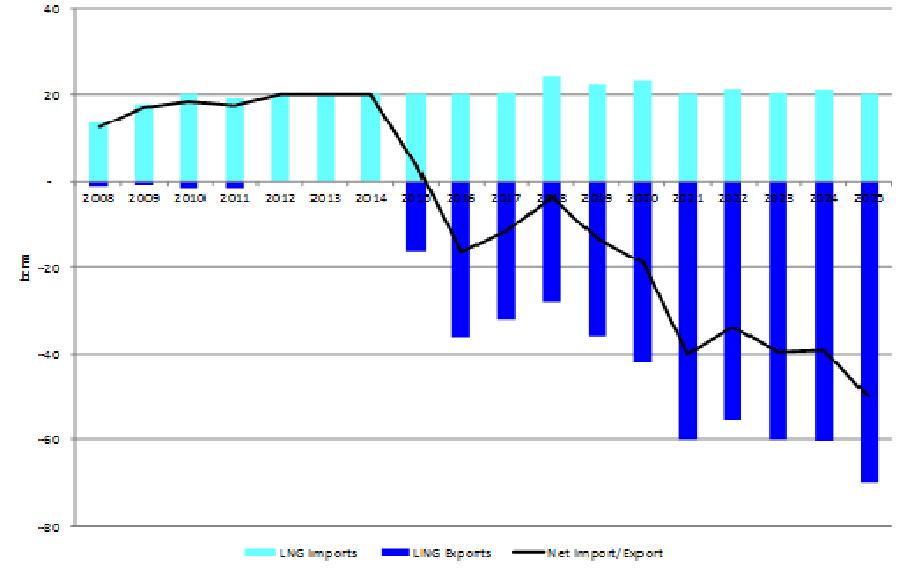


# High US Production, High Asian Demand, European Pipeline Suppliers Enforce Price Target

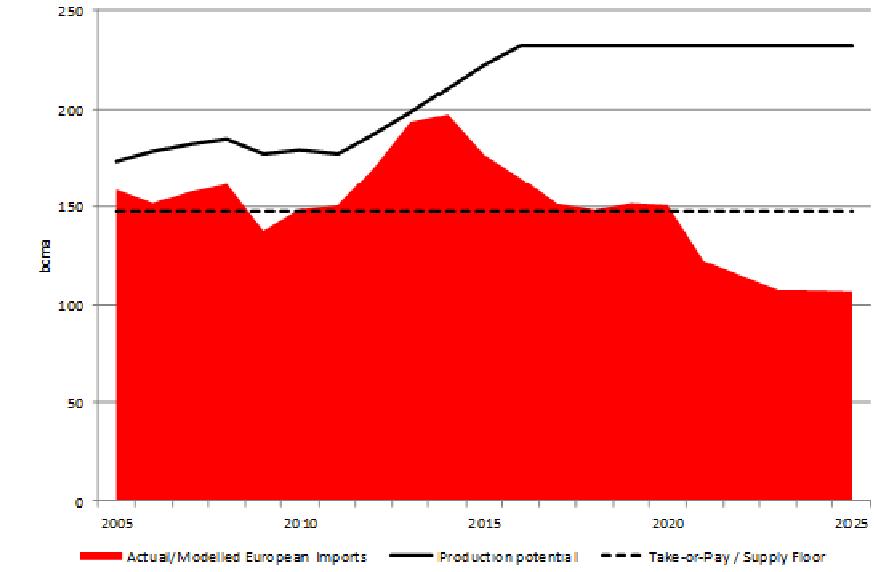
Global LNG Consumption



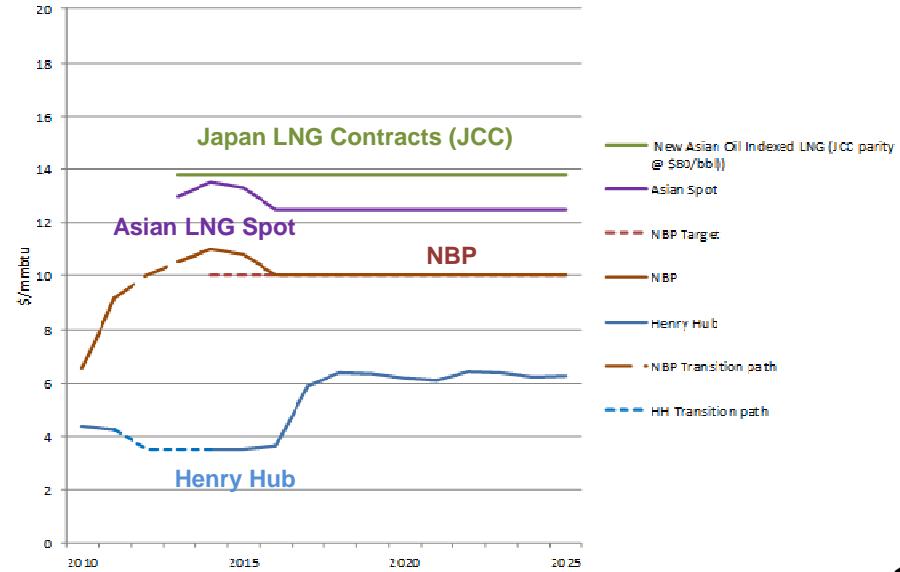
North American LNG Imports/Exports



Russian Pipeline Exports to Europe

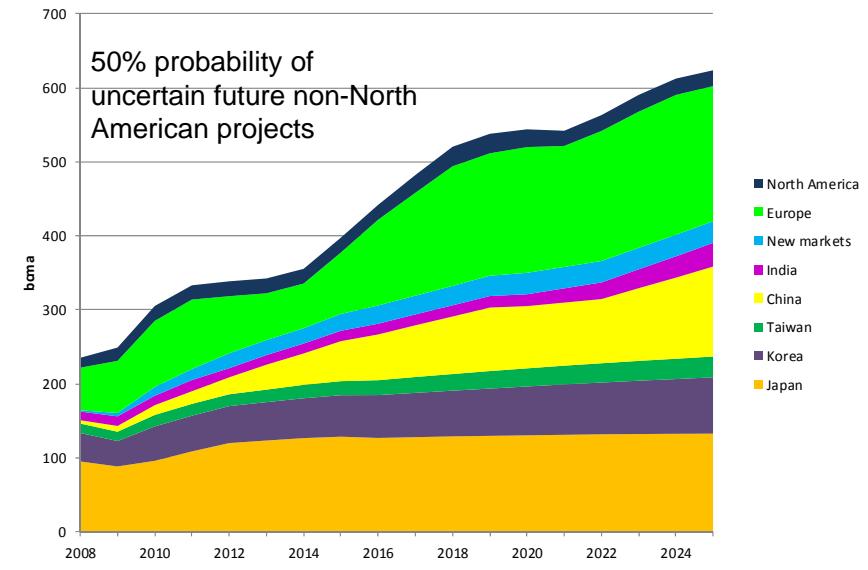


Regional Prices

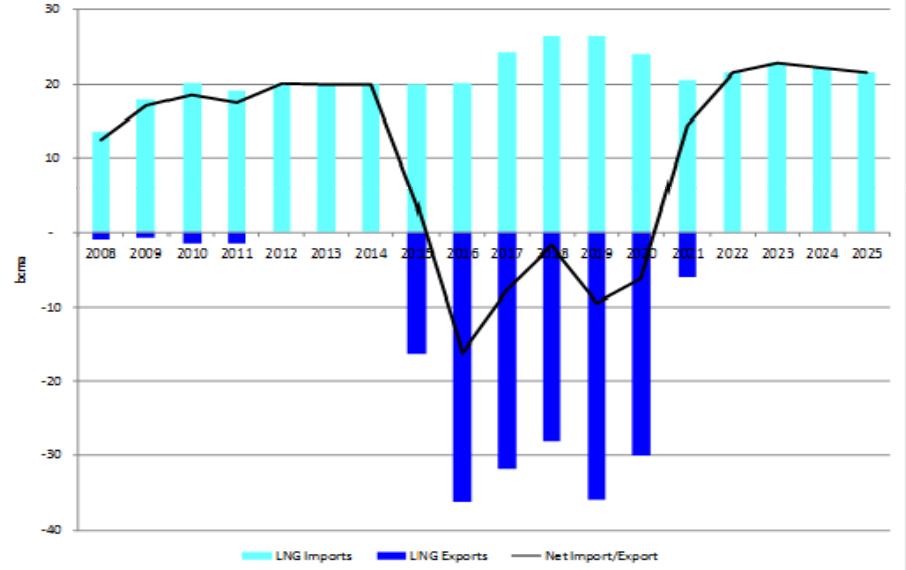


# High US Production, High Asian Demand, European Pipeline Suppliers Maintain Export Target

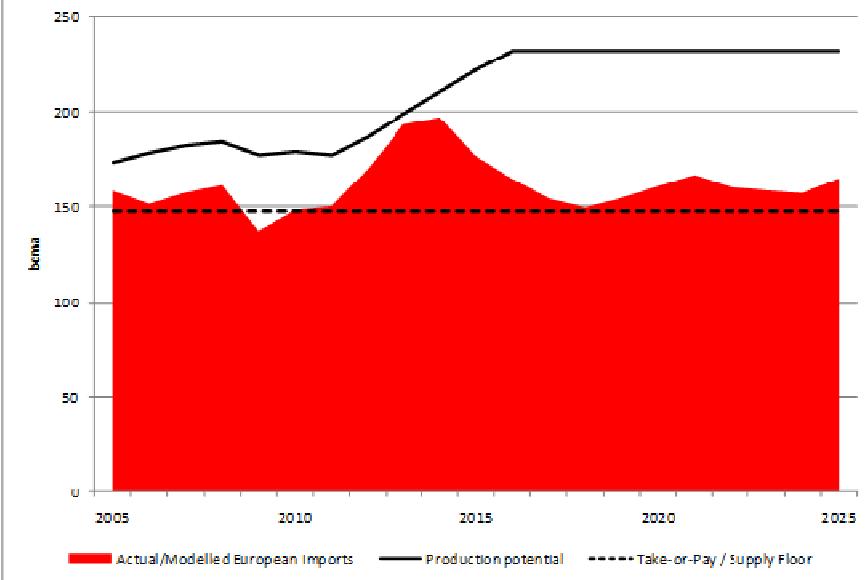
Global LNG Consumption



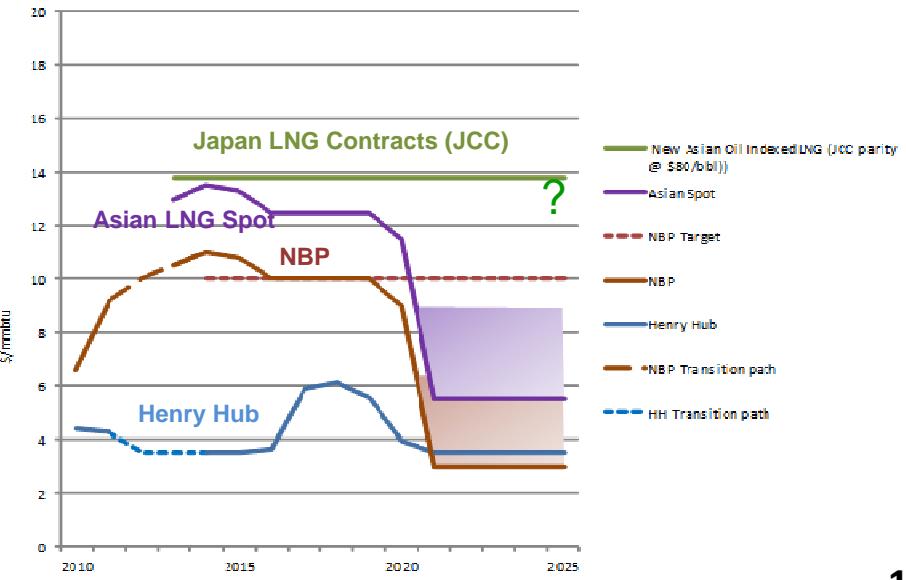
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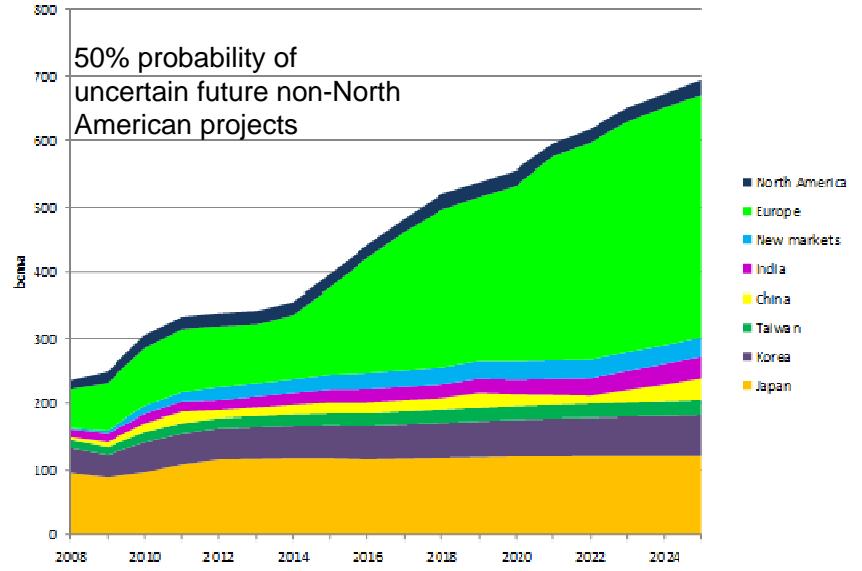


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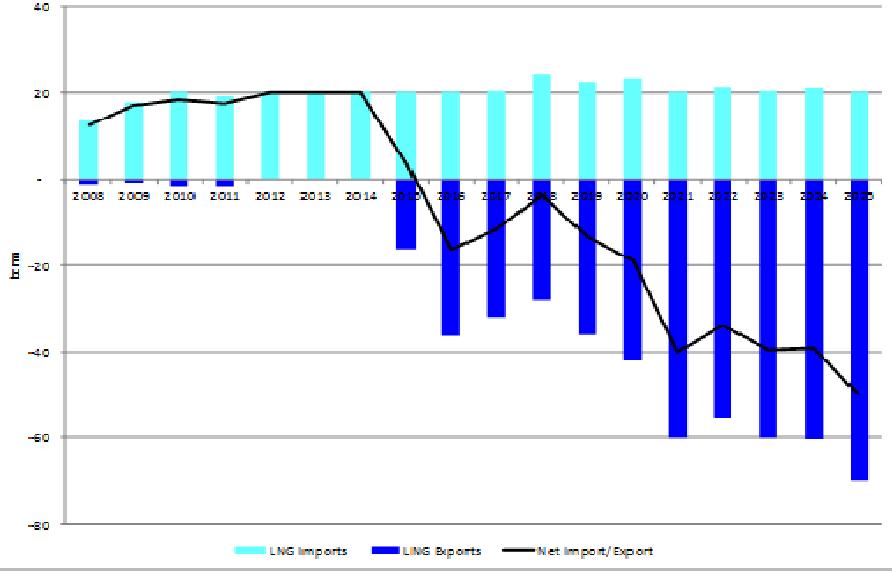


# High US Production, Low Asian Demand, European Pipeline Suppliers Enforce Price Target

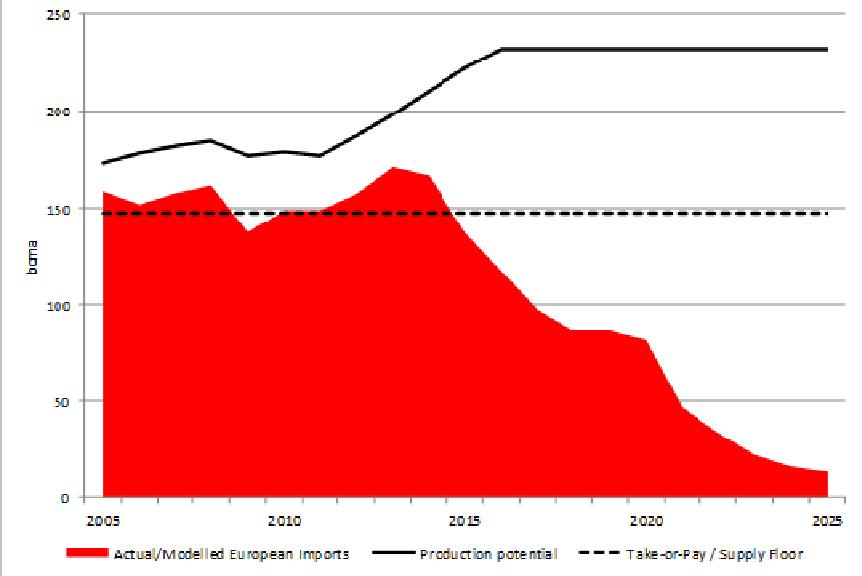
Global LNG Consumption



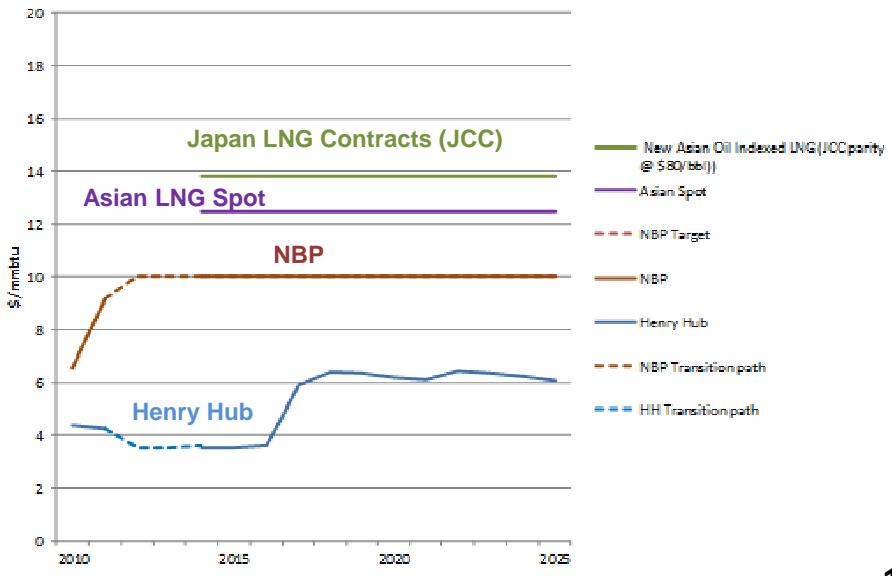
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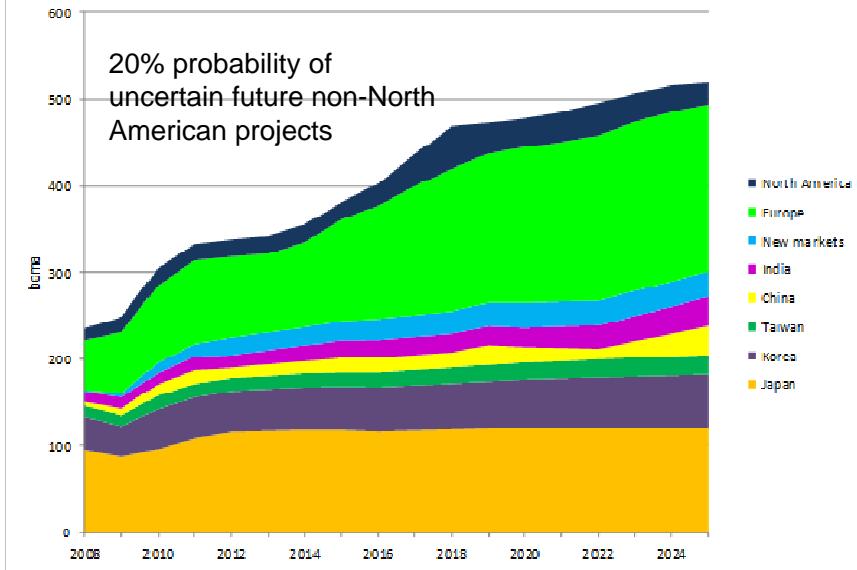


Regional Prices

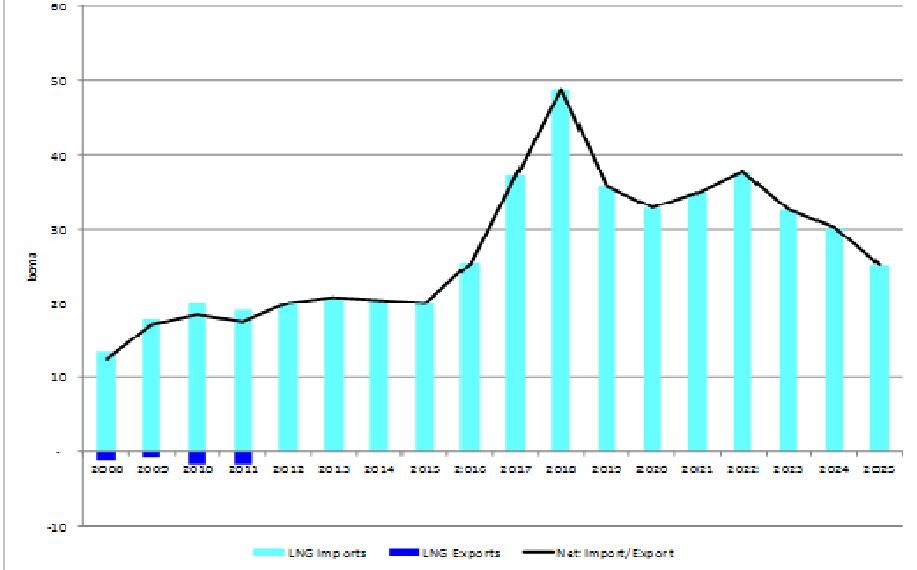


# High US Production, Low Asian Demand, European Pipeline Suppliers Maintain Export Target

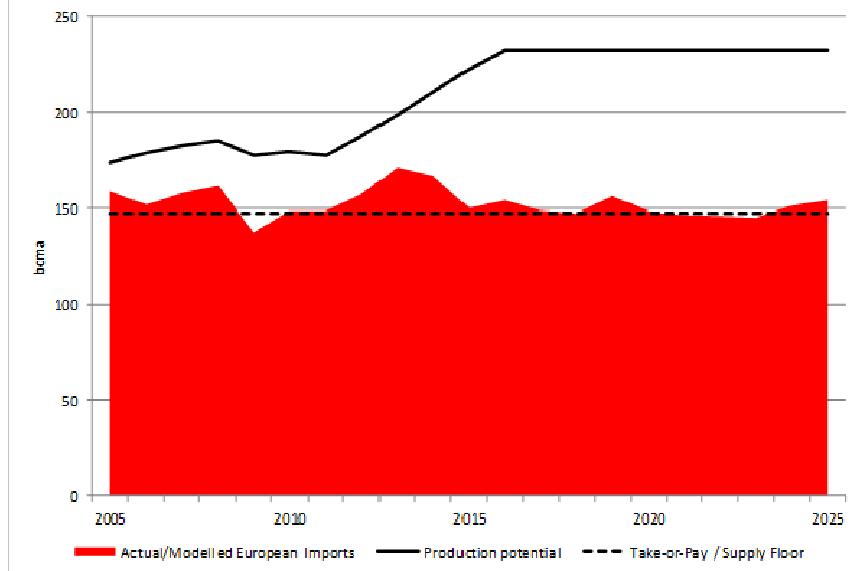
Global LNG Consumption



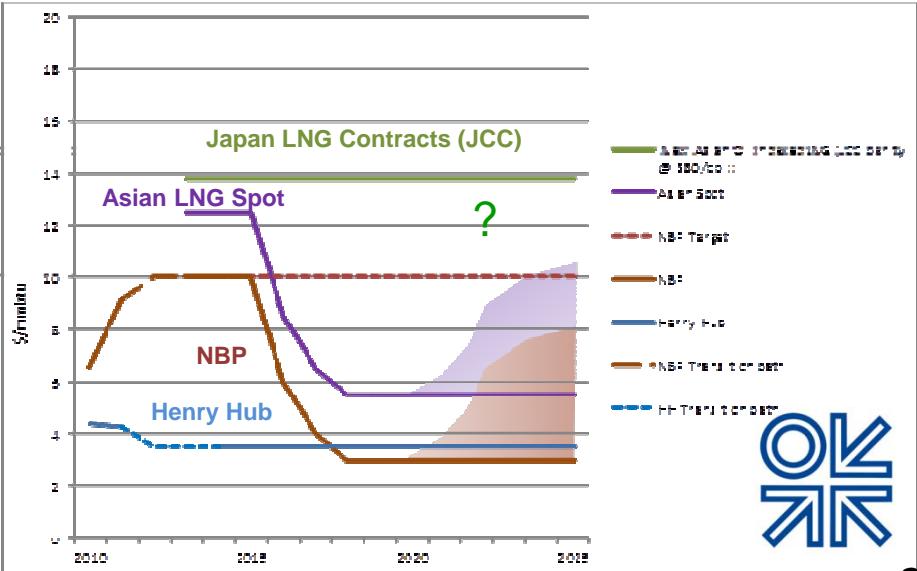
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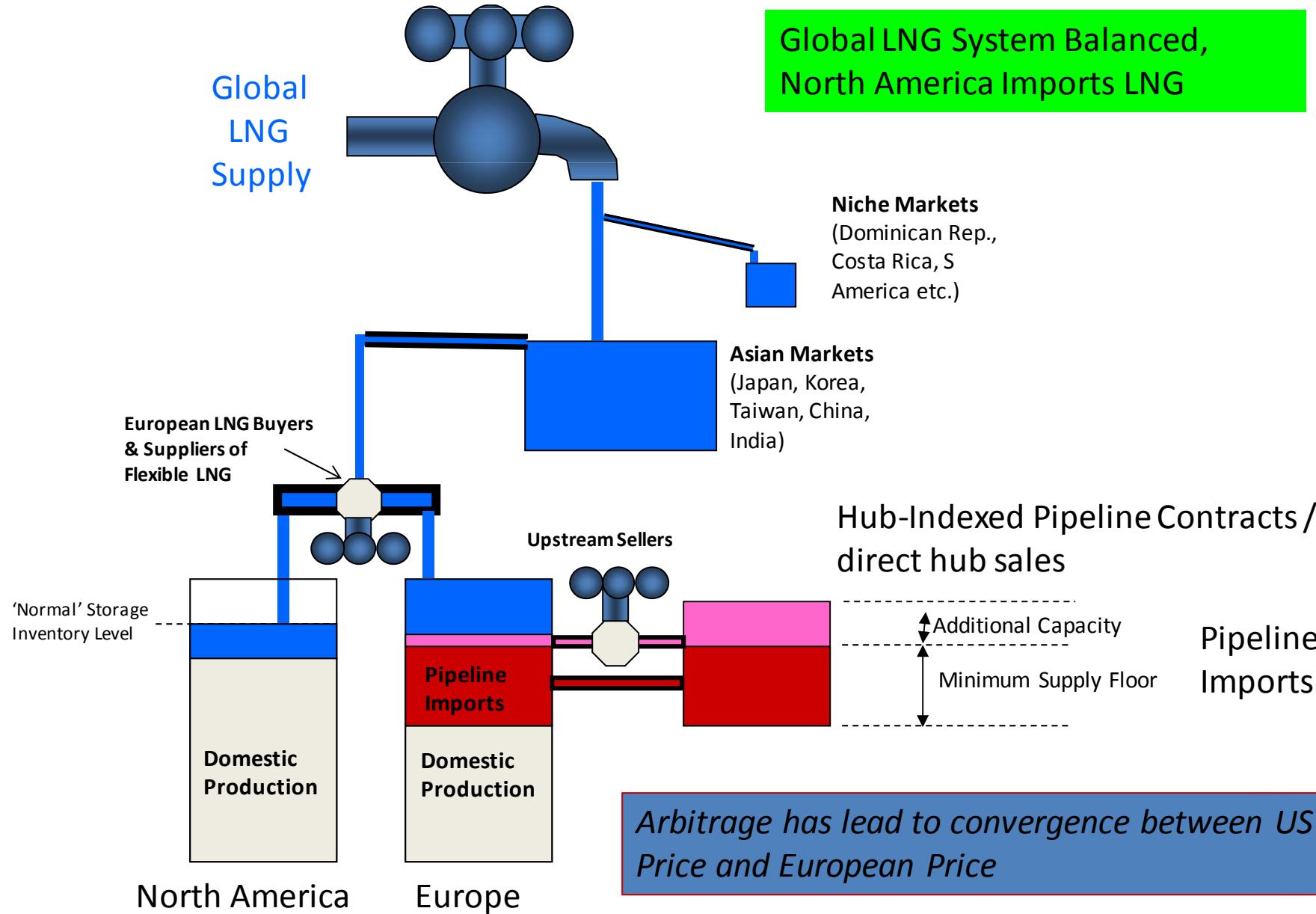
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Regional Prices

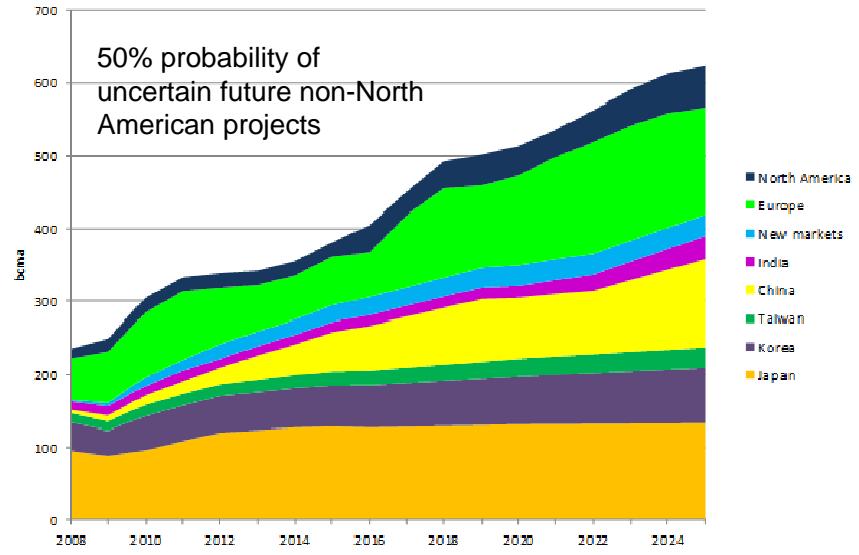


# Global LNG System 2015+: Low US Production

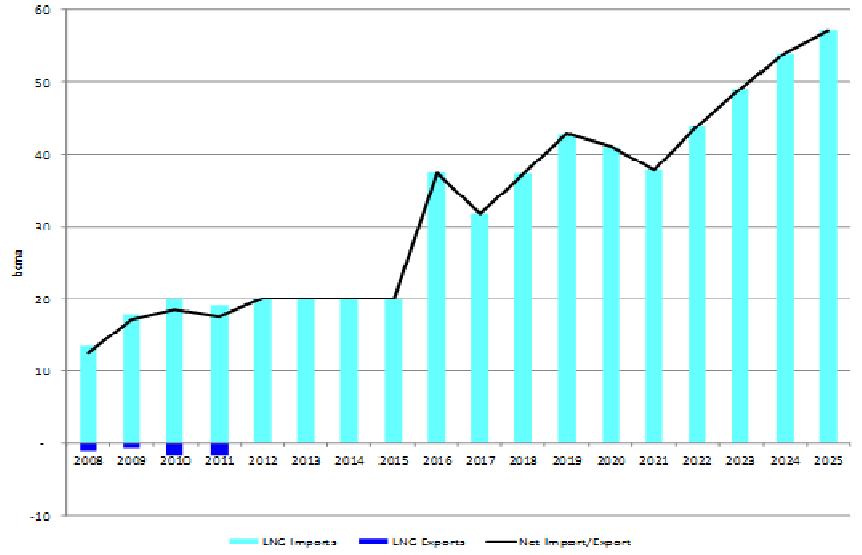


# Low US Production, High Asian Demand

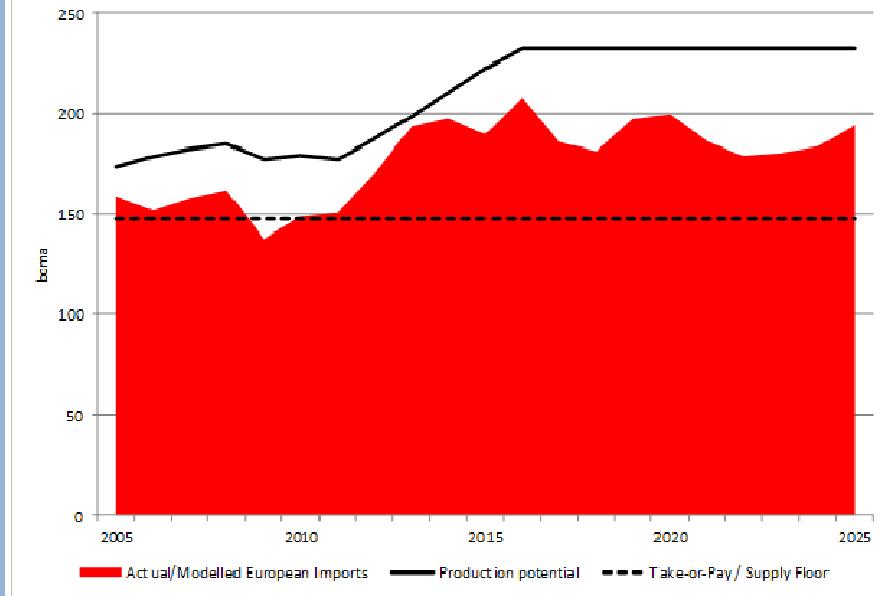
Global LNG Consumption



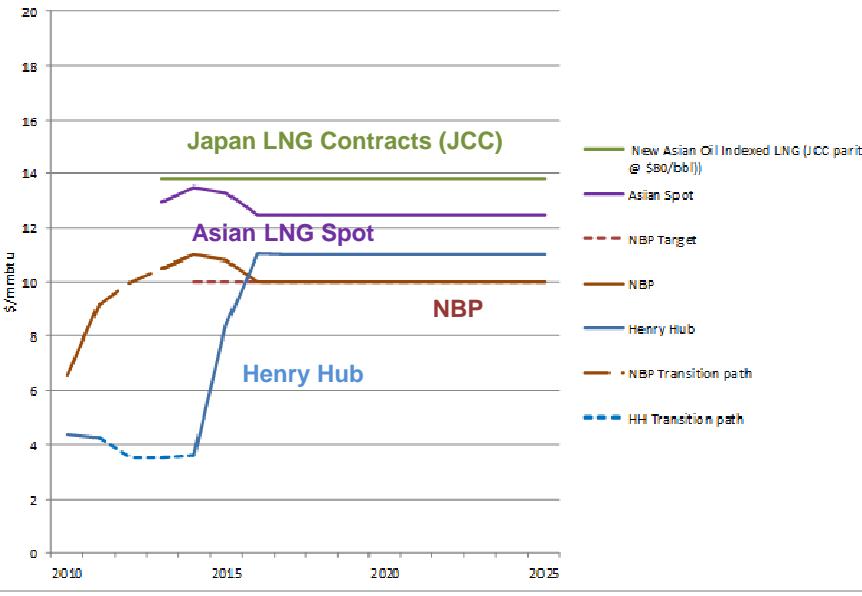
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Russian Pipeline Exports to Europe



Regional Prices



# Conclusions

- Europe appears to be transitioning from oil-indexed prices to hub based pricing. Russia is an unwilling participant but has made some concessions.
- With North America self-sufficient – to 2015 consensus view is that European hub prices will rise up to (modified) oil-indexed levels as Asia pulls LNG away from Atlantic Basin.
- However, flagging European demand and uncertainties over Asian economic robustness could keep market soft and prices moderate.
- In a hub-based European gas market, Russia would have significant market power and would be able to influence hub prices.
- Beyond 2015 scale of North American LNG exports, Asian LNG demand, pace of non-North American LNG supply growth and potential for shale gas internationally result in a wide range of scenarios.
- Russia is the large scale ‘swing producer’ facing potentially difficult choices over volume versus price in this future world – with implications for prices outside Europe.



Thank You  
for your attention.

*Look out for our new book ‘The Pricing of Internationally Traded Gas’ this Fall at:*

<http://www.oxfordenergy.org/gas-programme/>

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