



The Drivers and Logic for the Teesside GasPort Facility

Presented by James Ball and John Baldwin, Gas Strategies Consulting

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Presentation Agenda

James Ball, this presentation

- A short history of the LNG industry
- The conception of Teesside GasPort
- What Drives the marginal cargo in LNG?
- Supply/Demand outlook – a tale of two winters

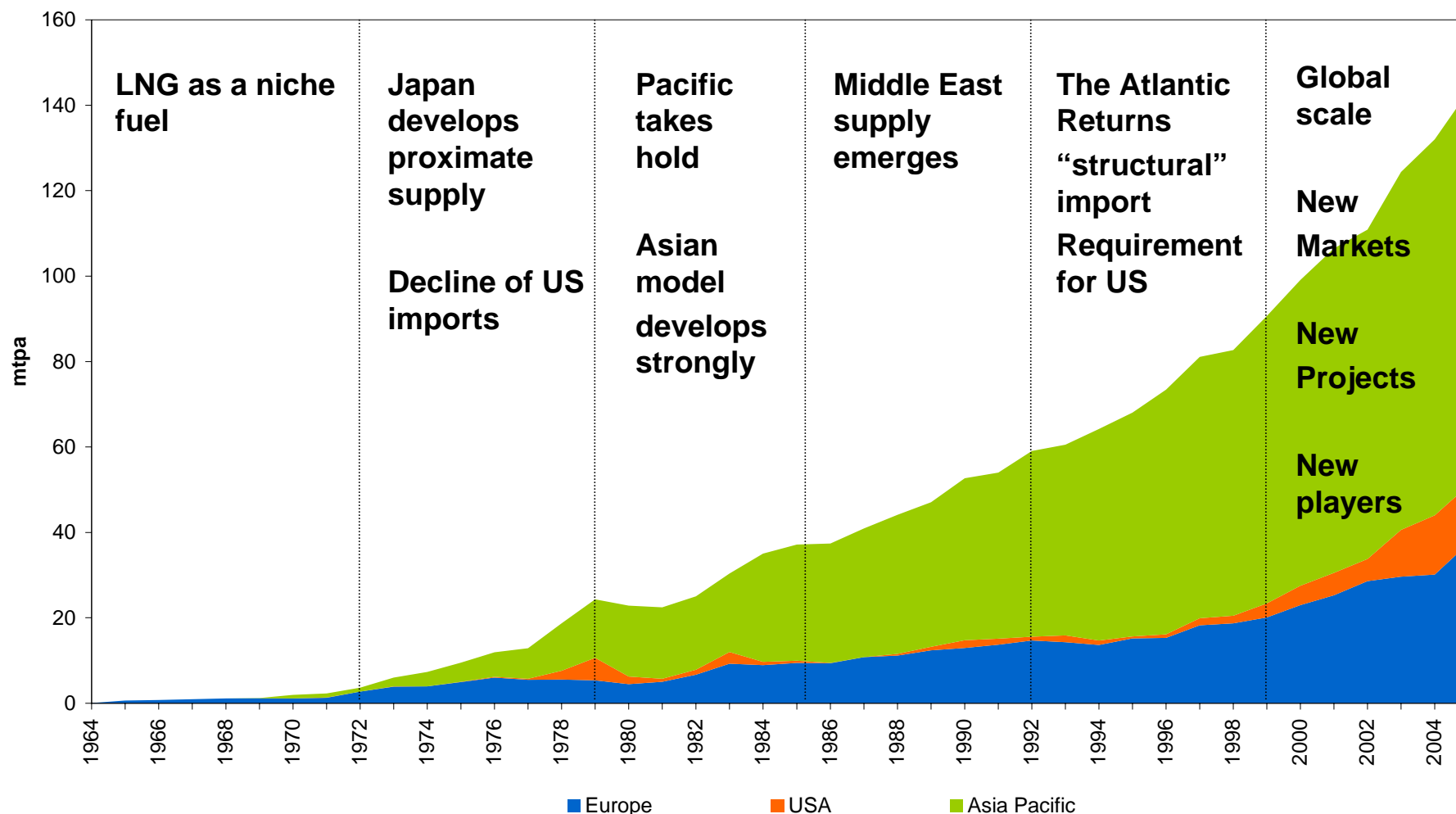
John Baldwin, next presentation

- Project outline and progress on GasPort



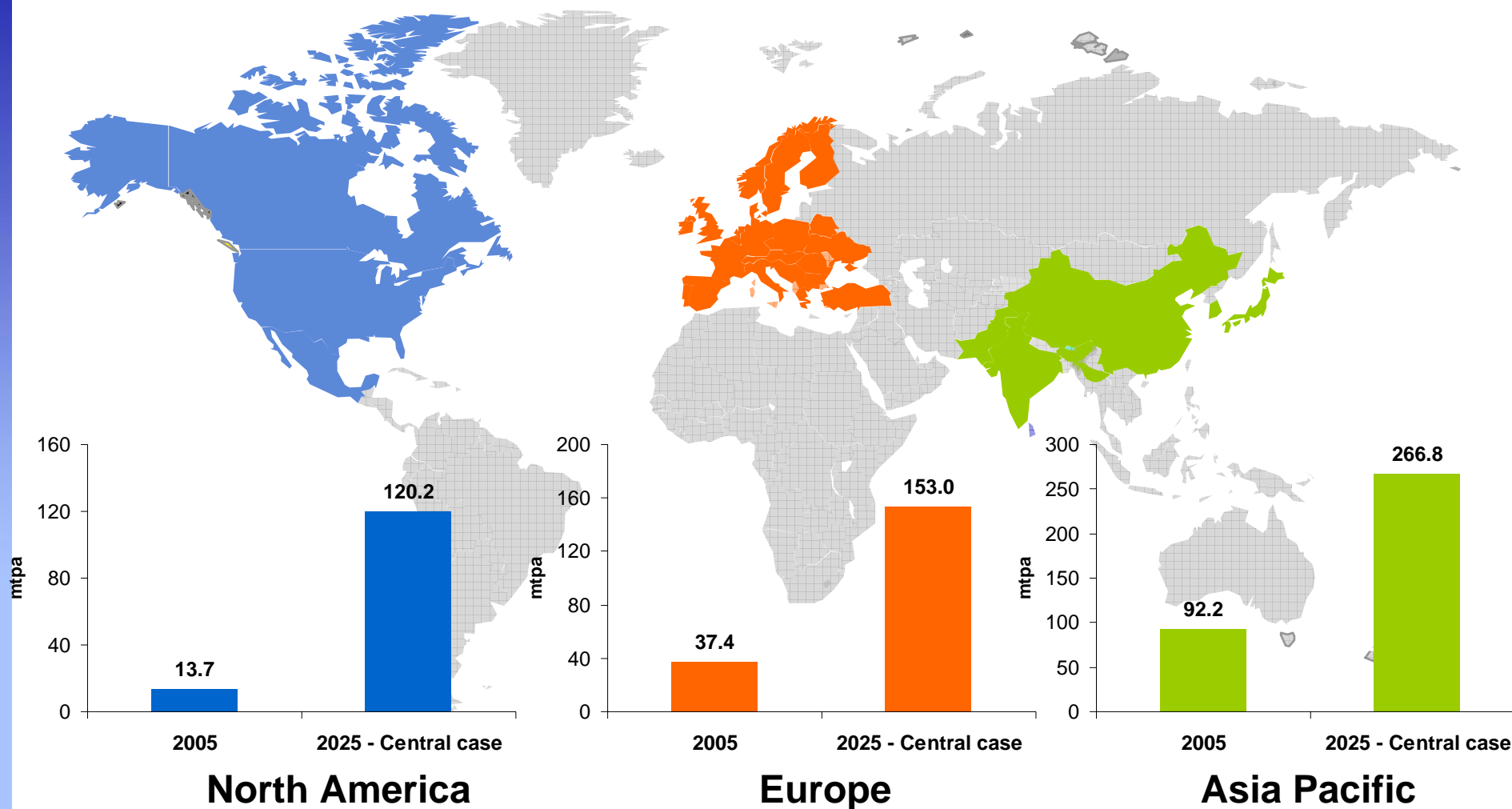
Increasing gas demand, new gas finds and diversity of supply have driven global LNG imports

Global LNG Imports 1964-2005 by regions





By 2025 Global LNG forecasted to grow to 540 mtpa, with North American market making up 22%





The Global LNG market has three distinct regions, but are becoming interconnected

US : deep, liquid market

Assessed as having a structural requirement for LNG imports

Region of highest growth

Projected strong gas prices which supports new LNG supply economics

Market based on gas- gas competition. LNG not expected to be more than 15% of gas consumed in 2015

Access to regas capacity and takeaway capacity will ensure long term market access

BUT

Several issues to resolve over permitting/ building of terminals

Europe: liberalisation continues

Pipeline supply will continue to compete in most markets

Many new players entering the market

Pace of liberalisation uncertain

Future of pricing uncertain - continued oil linkage?

Access to regas capacity and take-away capacity will ensure long term market access

BUT

Suppliers need to be able to manage country price risk

Asia-Pacific: New entrants

Traditional customers prefer long term contracts. Security of supply is important , many entering the upstream

New markets of China and India yet to demonstrate their long term sustainability or price appetite

Limited pipeline competition means stability for long term contracts and stable pricing

New import market of West Coast of N.America adds a significant new variable to the region's balance.

BUT

Shifting supply demand balance in the region and tolerance of high marginal prices



From LNG ... to the GasPort concept

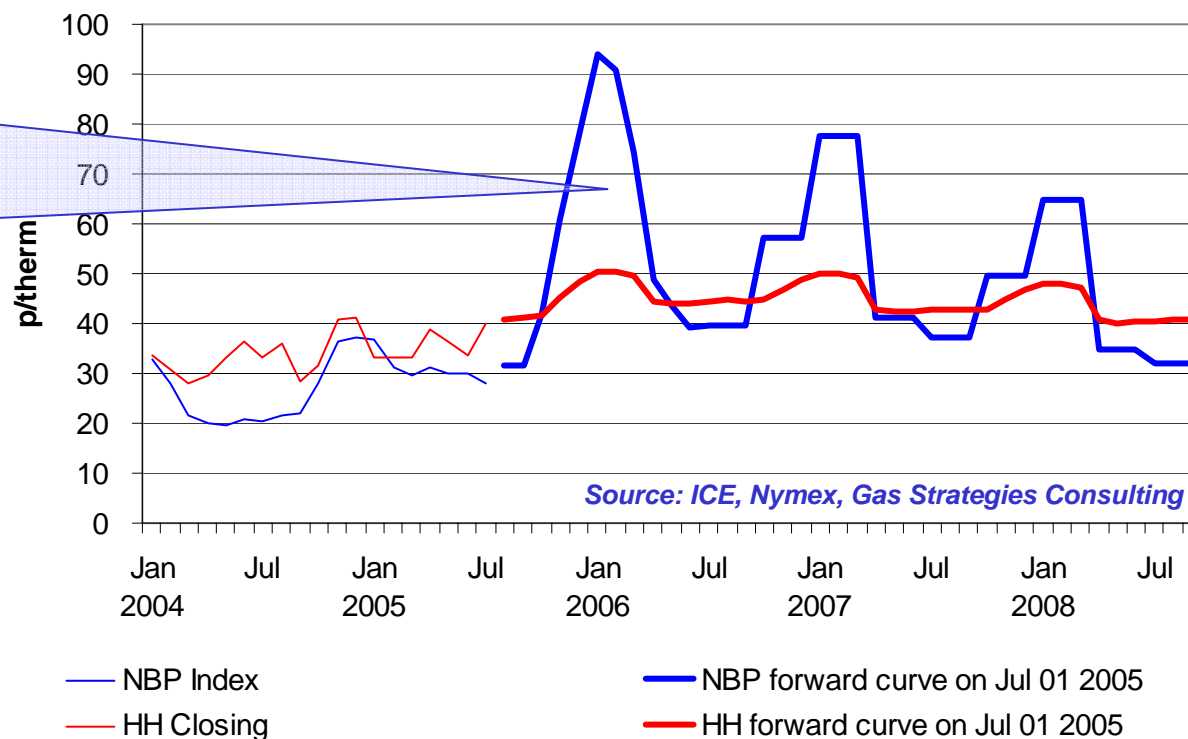
- **Is there a way to make LNG more flexible?**
 - Put the terminal on the ship – Energy Bridge
 - Start installing buoys connected to grid – Gulf Gateway etc.
- **How can you quickly access Atlantic market differentials?**
 - This was the question Excelerate Energy was grappling with in July 2005
- **Surely you can't mean this winter or next?**
 - This is the question we put to Excelerate when they called us up that July
- **Ah yes, but find a port with a grid and we can use the high pressure manifold even more quickly than adding a buoy**
 - Thus the quest to connect the GB Grid and Energy Bridge LNG ships via the world's first application of GasPort began
- **Let us look first at the logic and then the technology**



In July 2005 the price outlook for placing gas into the UK market looked strong vs the US for the first time

NBP and HH closing and forward price, Jan 2004 - Sept 2008

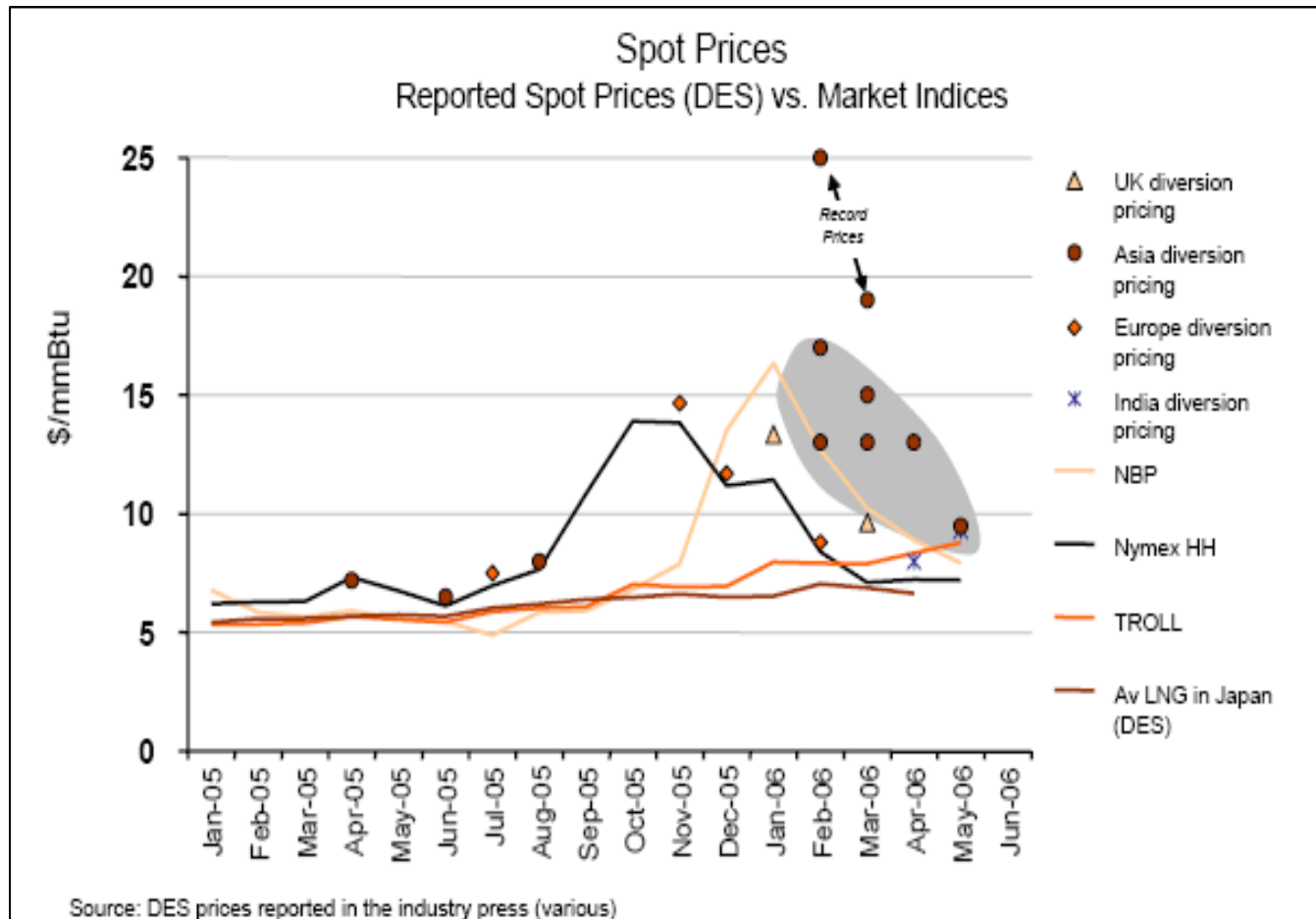
View of forward market from July 2005 highlights opportunity of capitalising on high NBP forward prices during peak winter period compared to HH



■ NW European supply was unusually tight



But the 05/06 winter siren call to flexible LNG cargoes came from the Pacific

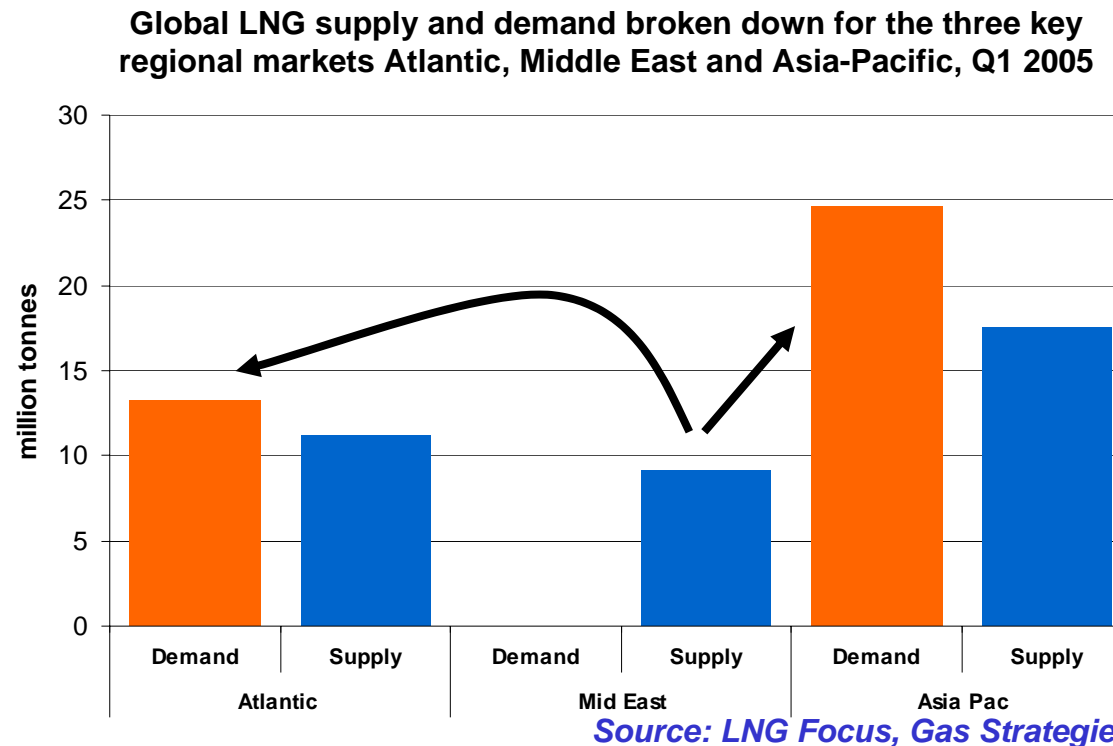


(Source: Extracted from BG paper to First China LNG Forum 30 June 2006)

■ It was to be what BG's Betsy Spomer calls the "LNG Trader's perfect storm"



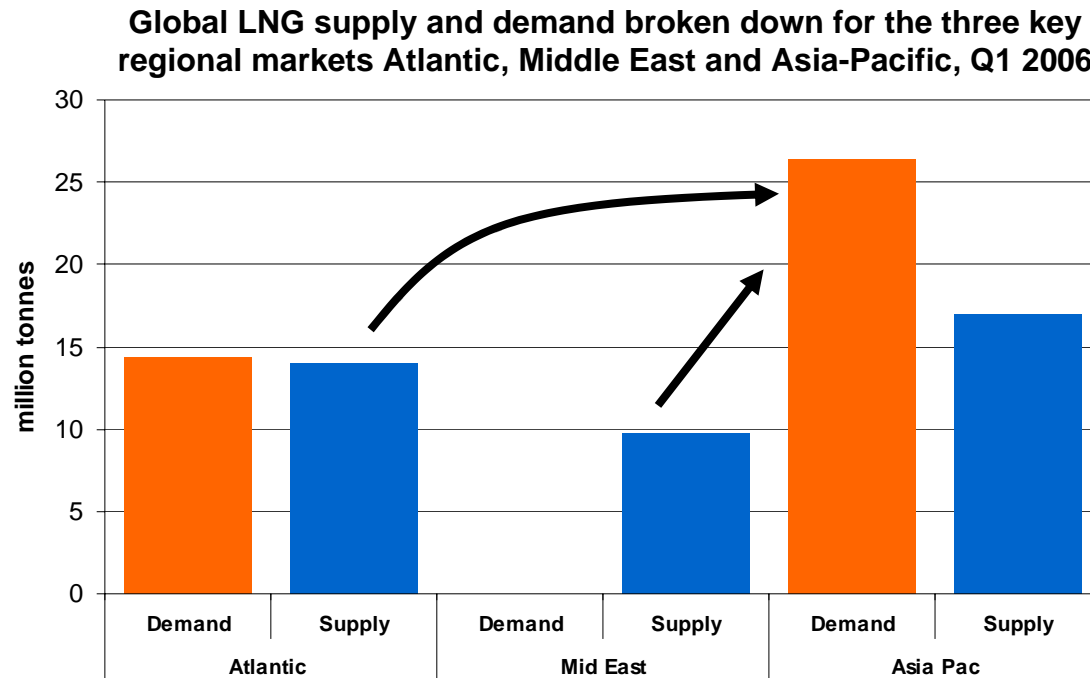
In 2005 LNG basically went where it was contracted to do so



- Asian supply able to provide for customers with assistance from Middle Eastern volumes
- Middle East LNG goes both directions to supply markets – no Atlantic volumes move East

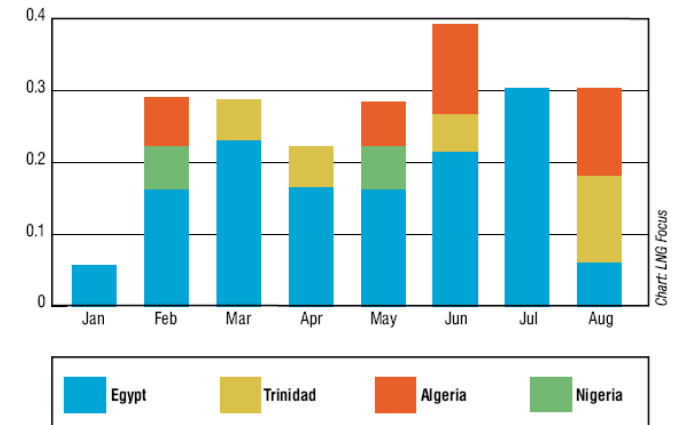


By Q1 2006, Atlantic volumes were lured East by Pacific price, supply/demand gap



Source: LNG Focus, Gas Strategies

Atlantic Basin cargoes moving East in 2006



Asian Pacific demand is up, but supply is down as a result of Indonesian problems

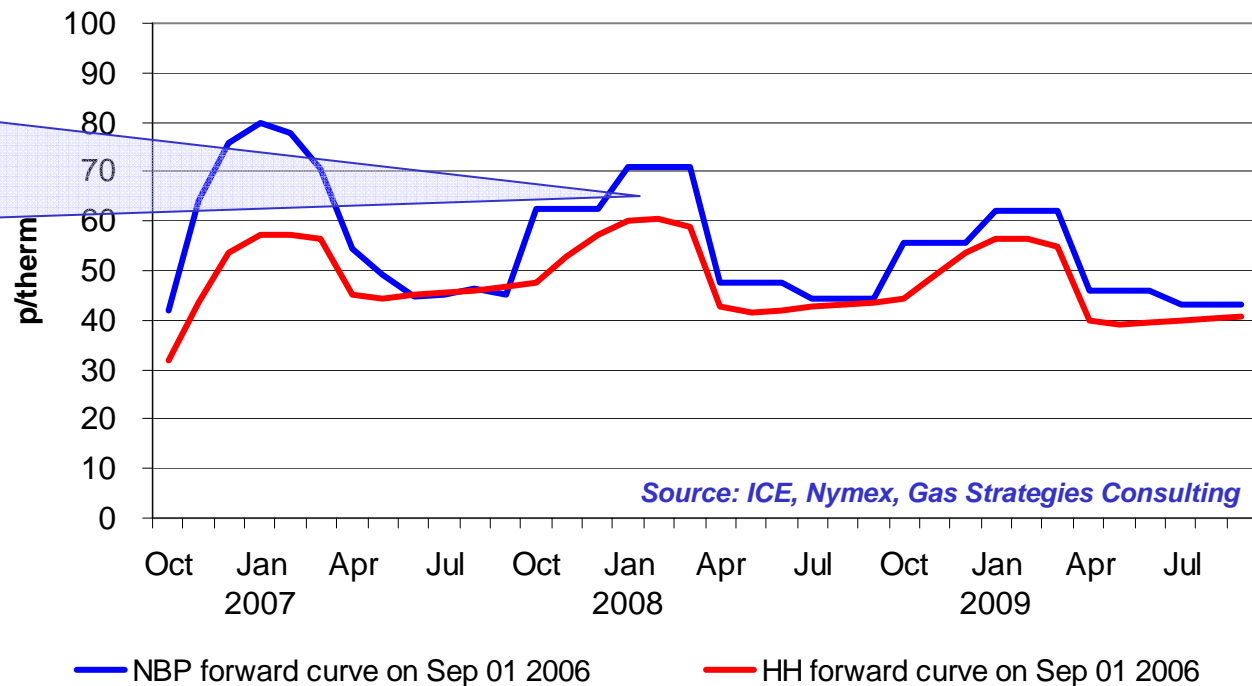
- Atlantic demand reduced virtually to what supply is available
- Almost all Middle East – and significant Atlantic basin volumes – go to Asia, a trend that has sustained as Indonesian production is reduced
- Only 0.33 million tonnes of LNG moved from the Atlantic to the Pacific in 2005 – 2.1 million tonnes moved that way to the end of August in 2006



Yet, despite lower supply tightness expected in winter 06/07, the October NBP forward curve remains relatively attractive, and HH is dropping dramatically

NBP and HH forward prices, Oct 2006 – Sept 2009

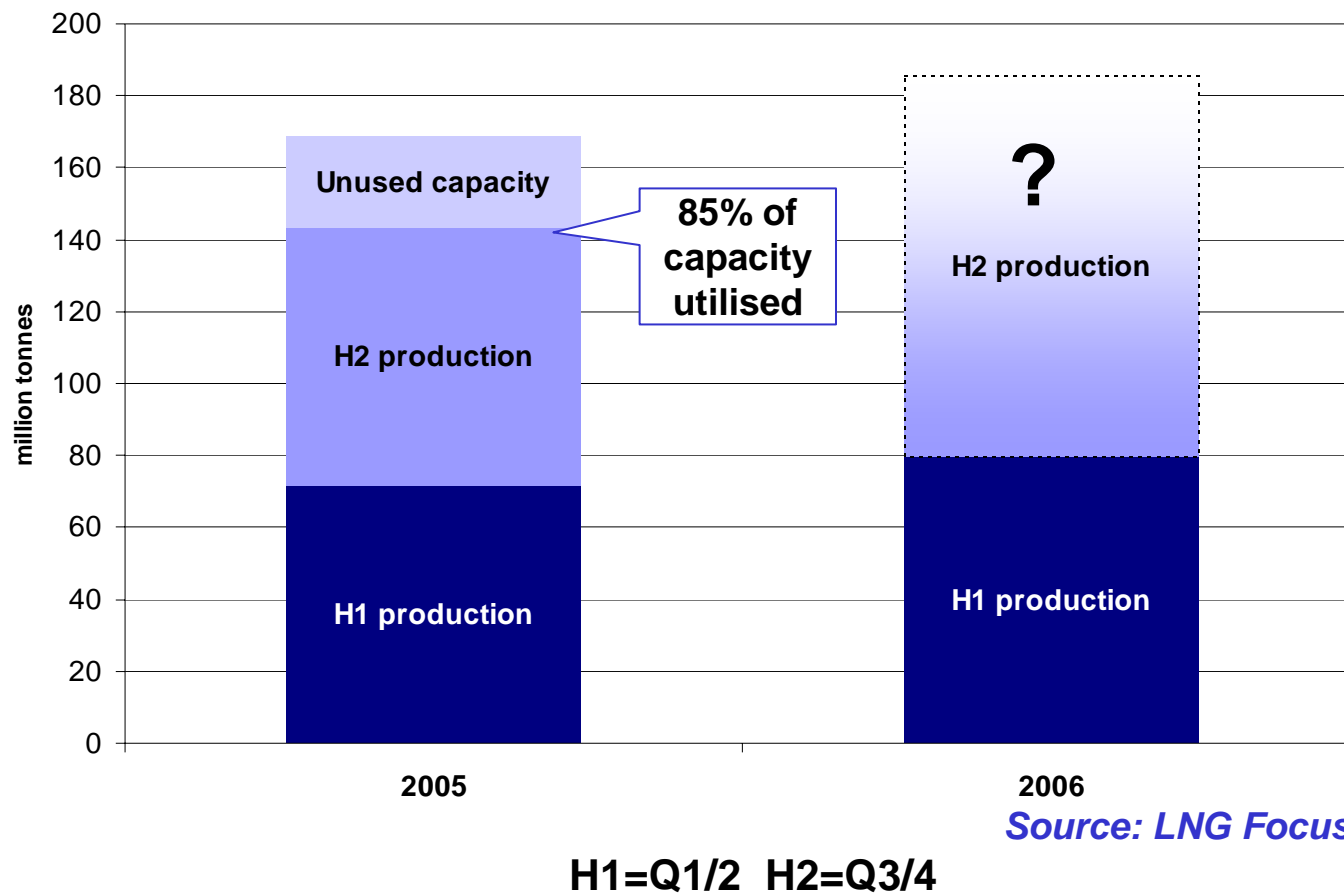
The rise in forward prices for HH from the previous winter has narrowed the arbitrage opportunity between the UK and US, however the UK market still offers an upside on prices





LNG production has risen but still lagging behind theoretical capacity

Global LNG production and available capacity, 2005-2006





The market will still decide where marginal LNG goes this winter

- **When markets are open,**
- **developers are encouraged to invest,**
- **price signals are transparent and**
- **where infrastructure is in place**
- **Marginal LNG will flow to the most favourable market**
 - A combination of the above factors will determine what is “most favourable”
- **That is why Teesside GasPort makes sense**



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