

European Gas Contracts: Will Oil-Indexation Persist?

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BIEE Seminar

Gas Outlook – Winter 2011 and Beyond

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Themes

- **Europe's Hybrid Gas Market**
- **The Gas Glut – A Catalyst for Change**
- **Continental Gas Market Evolution**
- **Midstream Exposure – The Enduring Dilemma**
- **Current Snapshot and Final Thoughts**

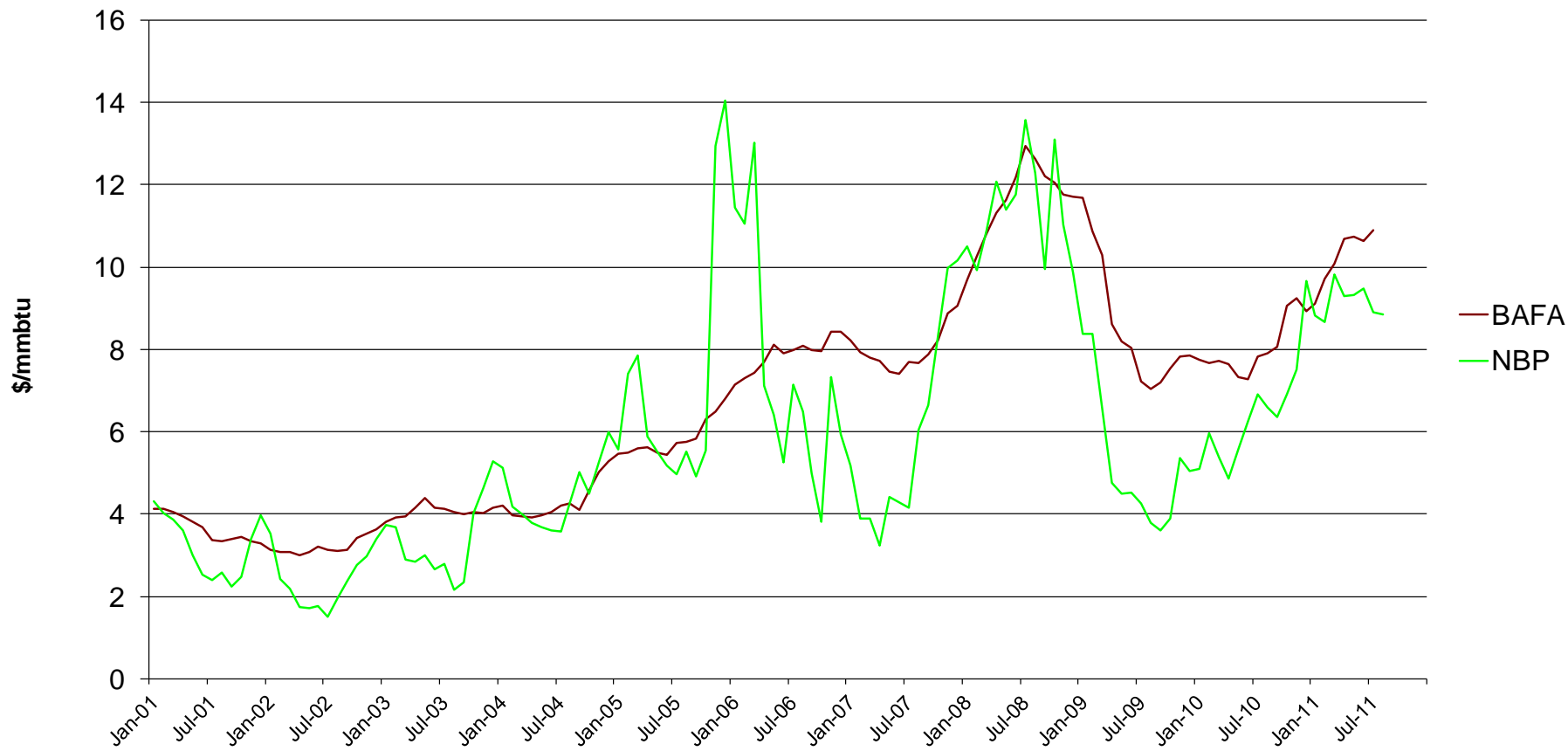
Based on the Following Published Research:

'LNG trade-flows in the Atlantic Basin, trends and discontinuities', Howard Rogers, March 2010, <http://www.oxfordenergy.org/pdfs/NG41.pdf>

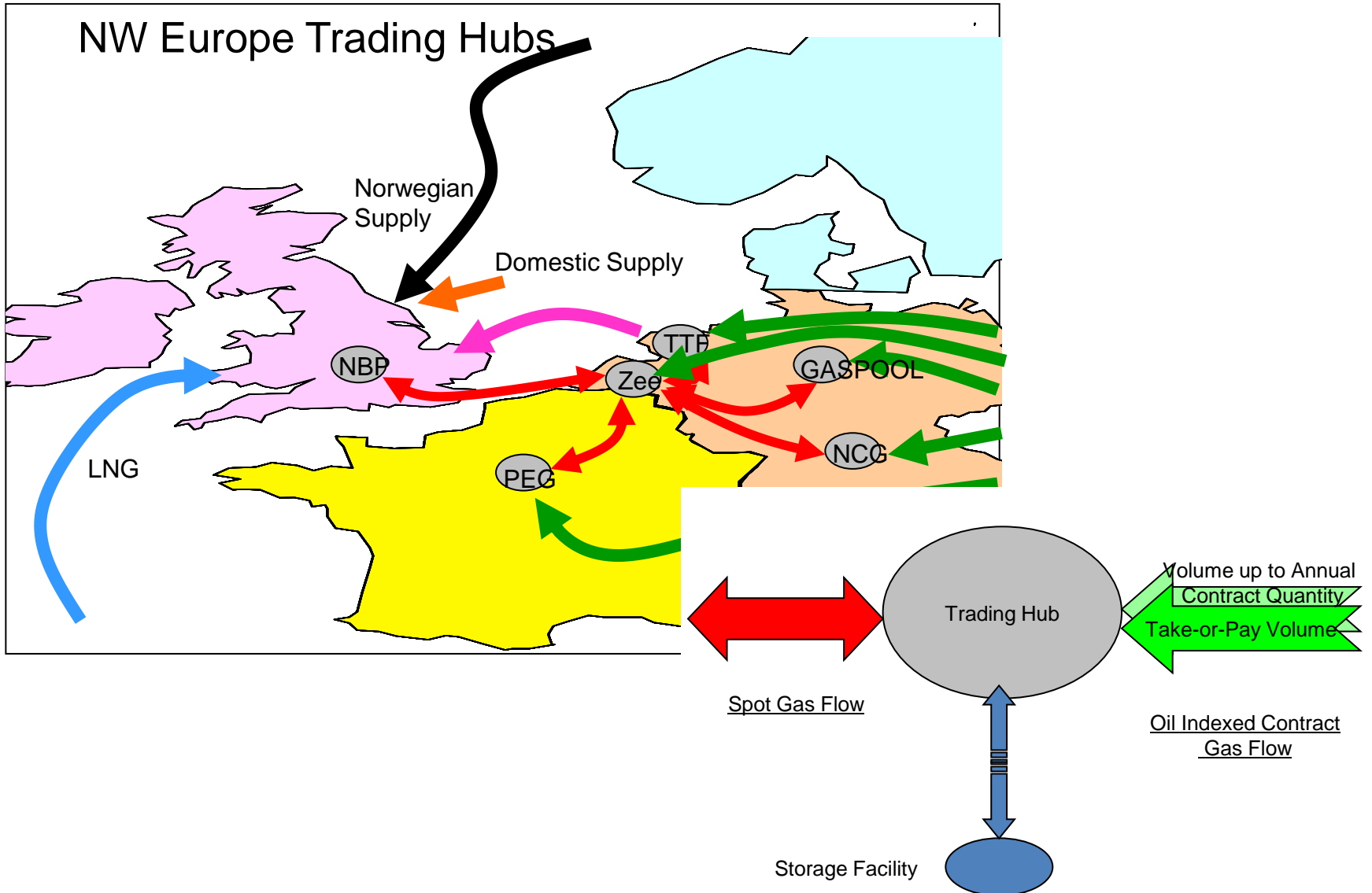
'The Transition to Hub-Based Gas Pricing in Continental Europe', Jonathan Stern and Howard Rogers, March 2011, <http://www.oxfordenergy.org/wpcms/wp-content/uploads/2011/03/NG49.pdf>



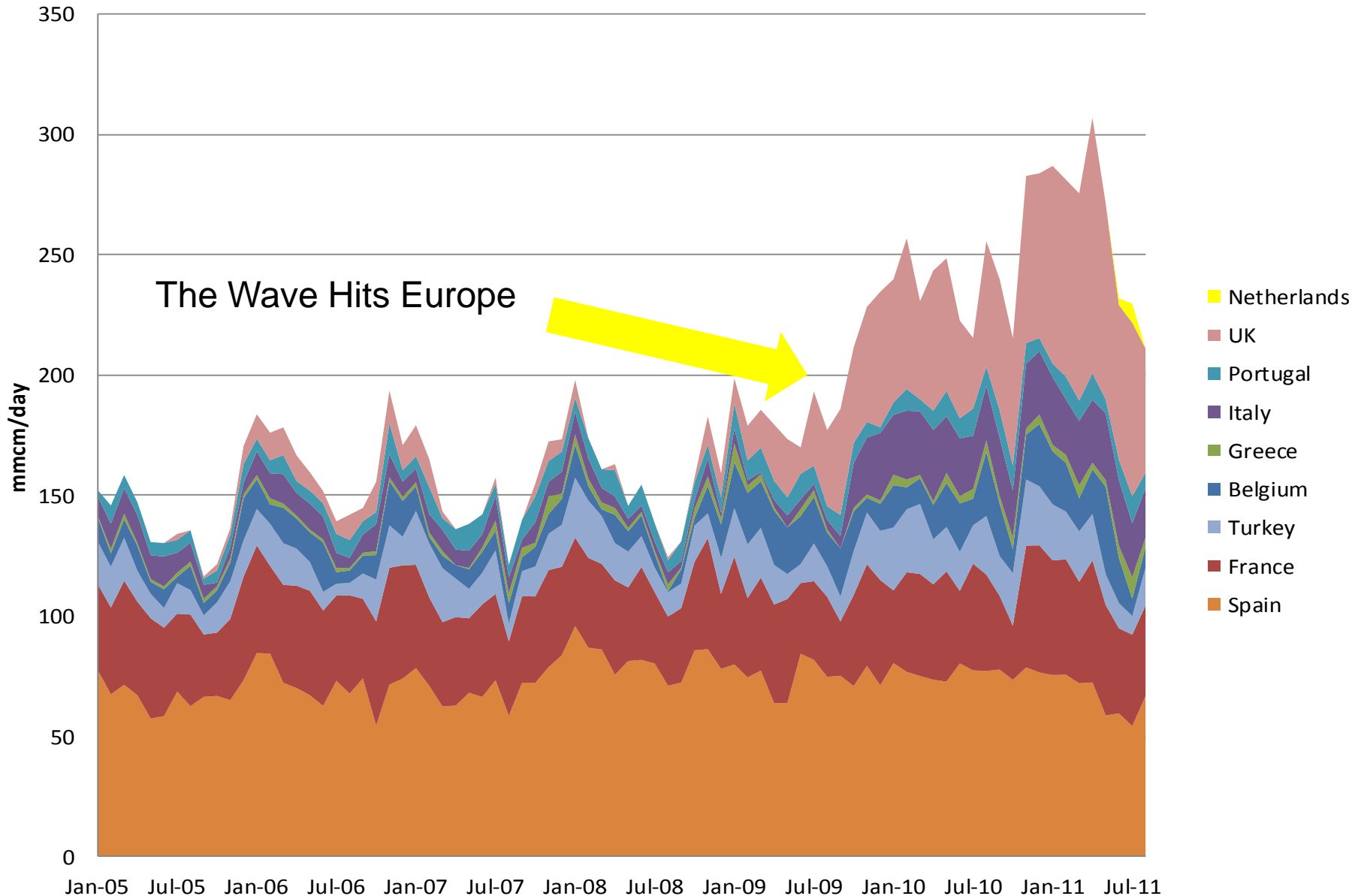
Europe's Hybrid Gas Market – UK & German Gas Prices Jan 2001 – Aug 2011



European Trading Hubs & Connectivity



European LNG Imports Jan 2005 – August 2011



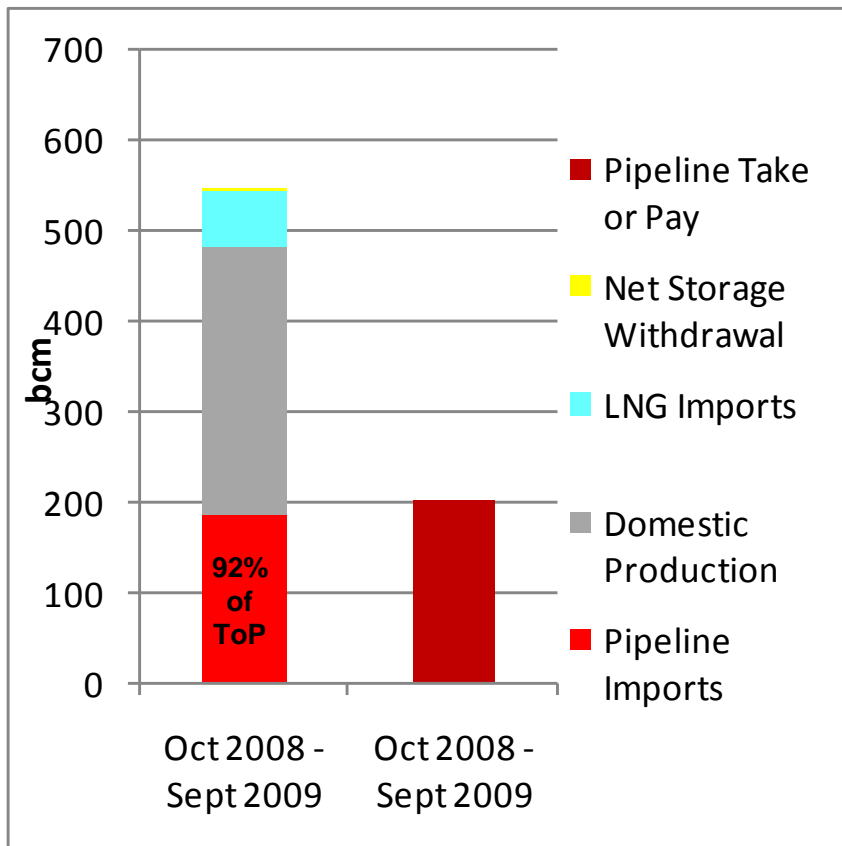
What Happened to the Gas Glut ?

- **Asian LNG Demand very strong in 2010** – a major factor tightening the market; up 18% on 2009 demand – completely unforeseen. (Pre Fukushima Asian LNG Demand up 10% y-o-y in 1Q2011).
- **Abnormally cold winters in Europe 2009/10 and 2010/11** provided a respite to underlying soft fundamentals.
- **Europe absorbed the LNG ‘surge’** while still increasing imports of oil indexed pipeline gas.
- **De-coupled prices (though currently less so in Europe).**
 - US spot gas prices \$3 to \$5/mmbtu.
 - European Spot (Hub) prices \$5 to \$10/mmbtu
 - European and Asian Oil Indexed gas prices \$8 - \$15/mmbtu.

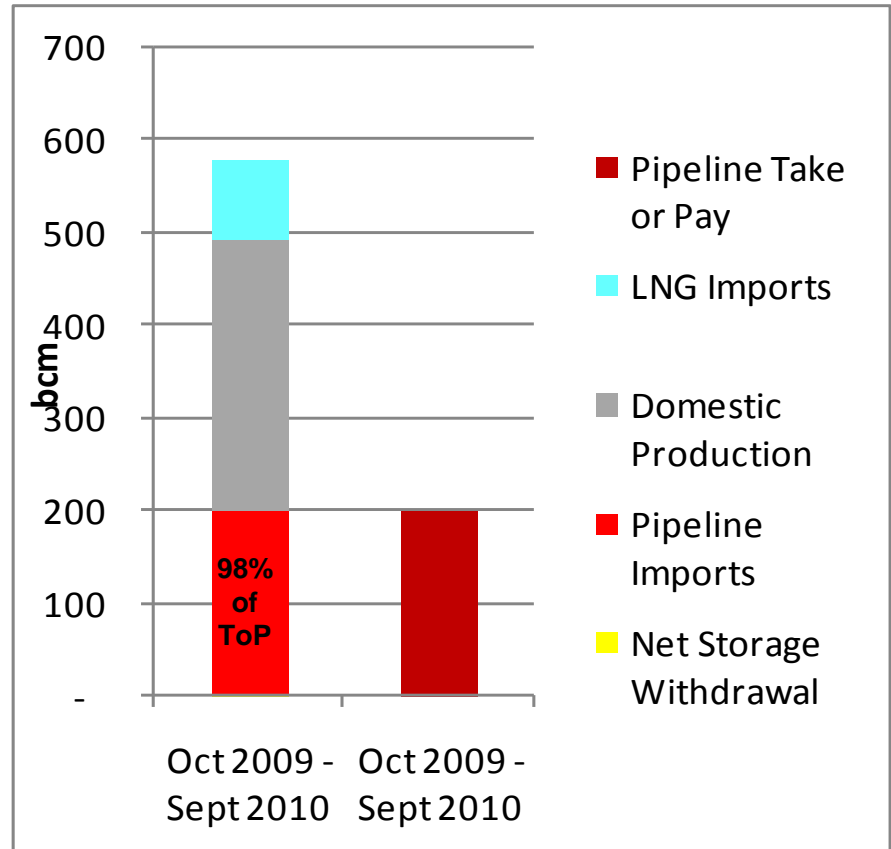


European Balance Contract Years 2008/9 and 2009/10

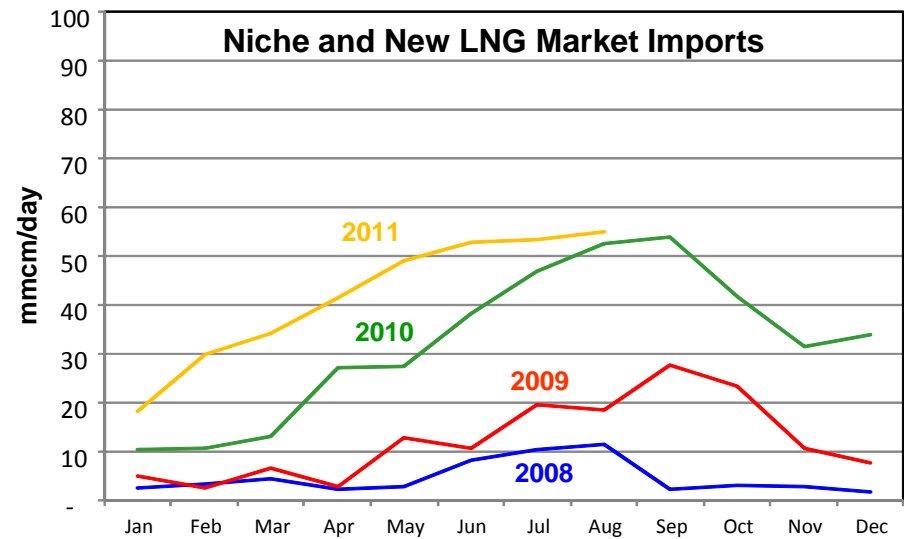
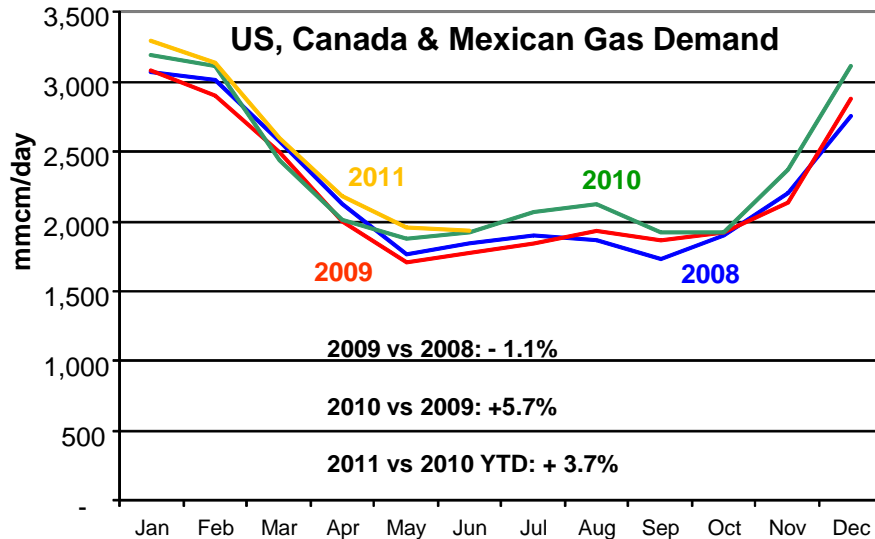
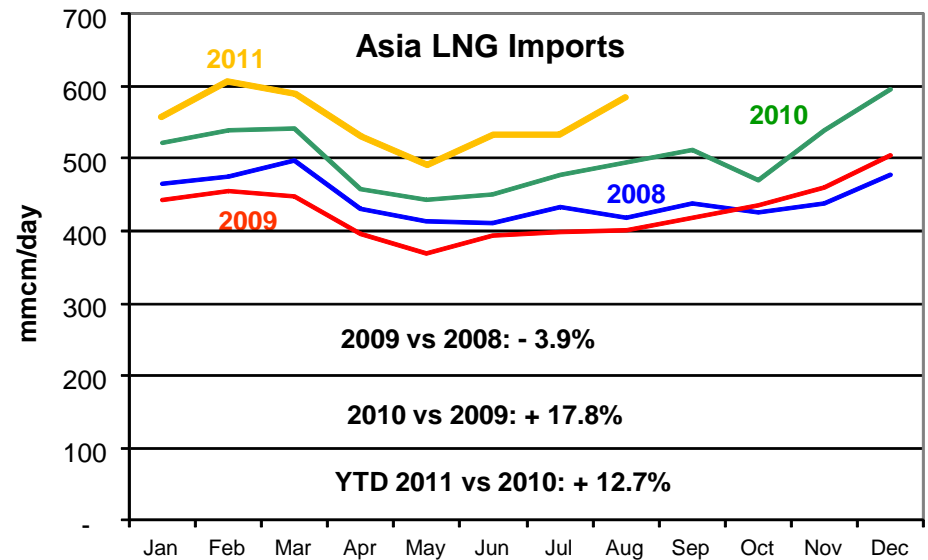
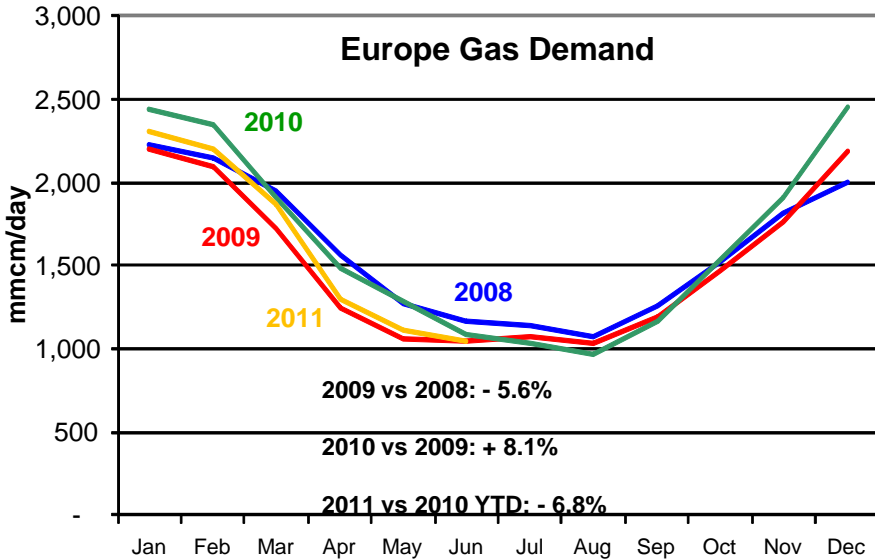
Contract Year 2008/9



Contract Year 2009/10



Demand in Key Global LNG Markets



Source: IEA Monthly Data, EIA, Waterborne LNG

The original rationale for indexing gas prices to oil in long term contracts

- Groningen Field, Holland
 - Low Cost Base, pricing dilemma
 - Priced on basis of competitiveness with consumers' alternative fuels (oil products).
- Same rationale adopted for pipeline imports from Russia, Norway and North Africa.
- Contract price linked to time averaged values of fuel oil and gasoil with contract year (October – September) requirement to take or pay for circa 85% of the Annual Contract Quantity.
- Price re-openers periodically.



Gas Pricing in Europe: economic logic and market power

ECONOMIC LOGIC: traditional netback market pricing based (largely) on oil products is no longer logical because:

- gas and oil product markets have diverged
- very little switching capacity remains

MARKET POWER: major players (sellers and buyers) were comfortable with the traditional mechanism and didn't want change



Commercial Position of Traditional Buyers

- Pass-through of purchase costs to all customer classes no longer guaranteed
- National/regional monopoly position has been eroded; most are now in an intensifying competitive environment where...
- margins are diminishing and...
- hub prices provide a transparent and accessible benchmark for all (large) customers
- Period since 2008 shows that a “two price system” involves unacceptable commercial risks for buyers if hub prices diverge from oil indexed prices



Corporate Structure and Culture of European Gas Buyers

- European gas buyers are no longer “gas companies” they are the gas divisions of power/utility companies
- Their managements are unwilling to tolerate (even short term) losses on gas trading with share price/credit rating exposure and...
- have decreasing experience /tolerance of traditional gas “long term relationship” culture



Klaus Schafer, Eon-Ruhrgas, ONS 2010



‘Hubs are the reference point when customers talk to us’

‘LTC’s in their current form no longer reflect the market’

‘We have to re-engineer the LTC’s to anticipate the future needs of the market: price levels, indexation and review mechanism’

<http://www.ons.no/index.cfm?event=doLink&famId=129516>

Midstream Exposure

- **June 2006:** the Higher Regional Court of Dusseldorf upheld Federal Cartel Office (FCO) decision declaring long-term delivery contracts between E.ON Ruhrgas and its distributors illegal and imposing limitations as regards the duration of new gas supply contracts.
- **Between 2006 and 2008** the German Cartel Office investigated 15 national and regional gas transmission companies for foreclosing the market for the supply of gas to regional and local distributors by concluding long-term gas supply contracts.
- **March 2010:** German Federal High Court of Justice declares that prices for natural gas for private clients are no longer allowed to be immediately linked to the price for heating oil as this represents an inadequate disadvantage for the private clients.
- **June 2010:** After a market evaluation the German Cartel Office found that the significance of the long running contact terms and high supply quotas previously objected to in the supply contracts of gas transmission companies such as E.ON Ruhrgas, VNG, Wingas and RWE has drastically declined. The market was found to be now characterized by different types of contracts, product diversity, a wider selection of suppliers and greater bargaining power on the demand side.



E.on and RWE Financials

‘Executives at E.ON and RWE reported falls in half-year profits of 45 percent and 40 percent respectively this week. Both firms are being hit by a gas price squeeze as high global oil prices - to which long-term gas contracts (LTC) are index linked - clash with weak spot gas prices in central Europe, where customers reference prices to local hubs at 20 to 30 percent discounts.

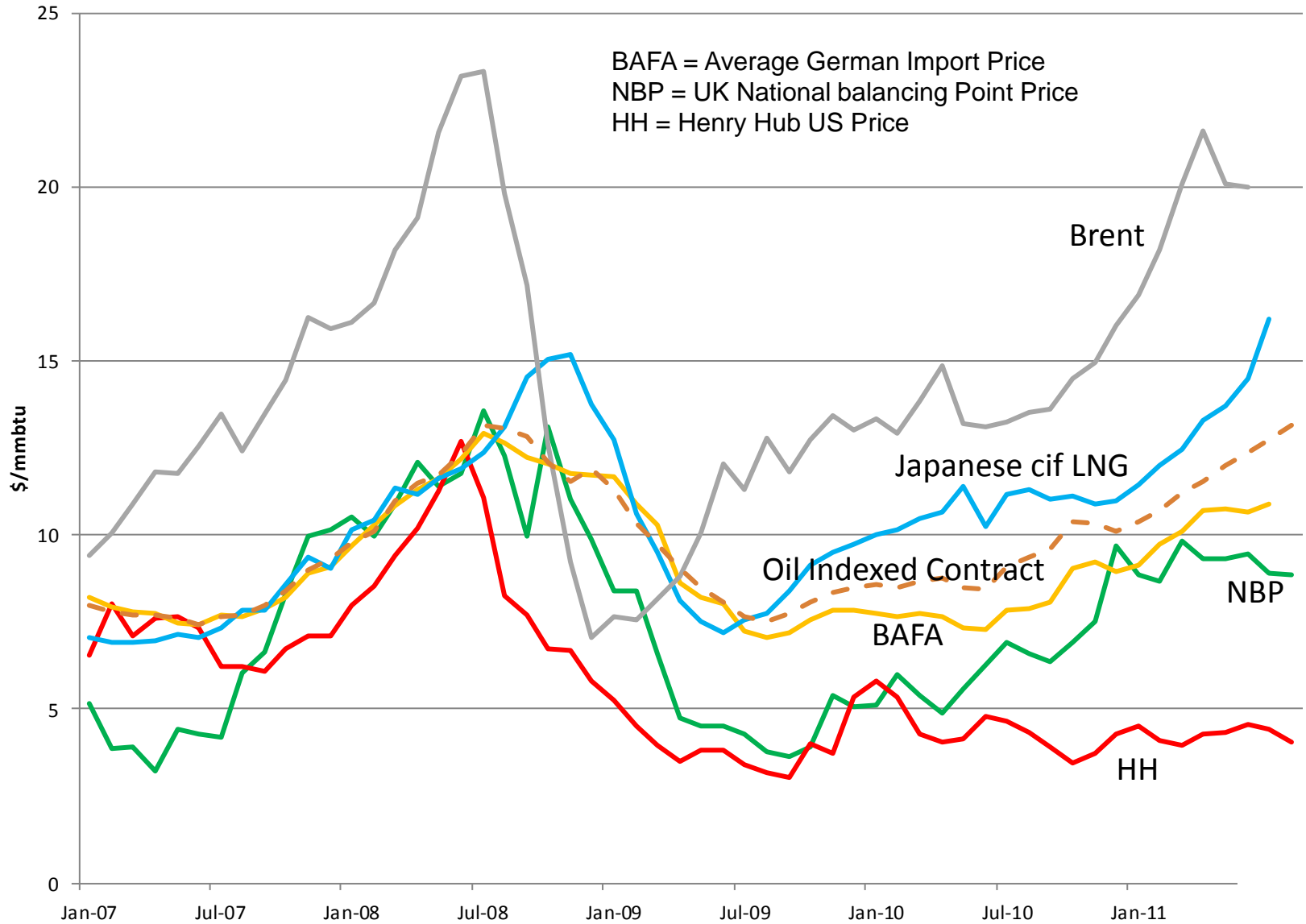
E.ON has said that this could lead to a gas trading loss of around 1 billion euros this year. With Gazprom, the main supplier, insisting on keeping the long-term deals in place, the case is now being dealt with by arbitration courts for settlement.

That means a change of contracts is unlikely to be implemented soon, leaving E.ON and RWE hoping for a significant drop in oil prices to bolster their gas trading results’.

Source: Reuters, Aug 12, 2011



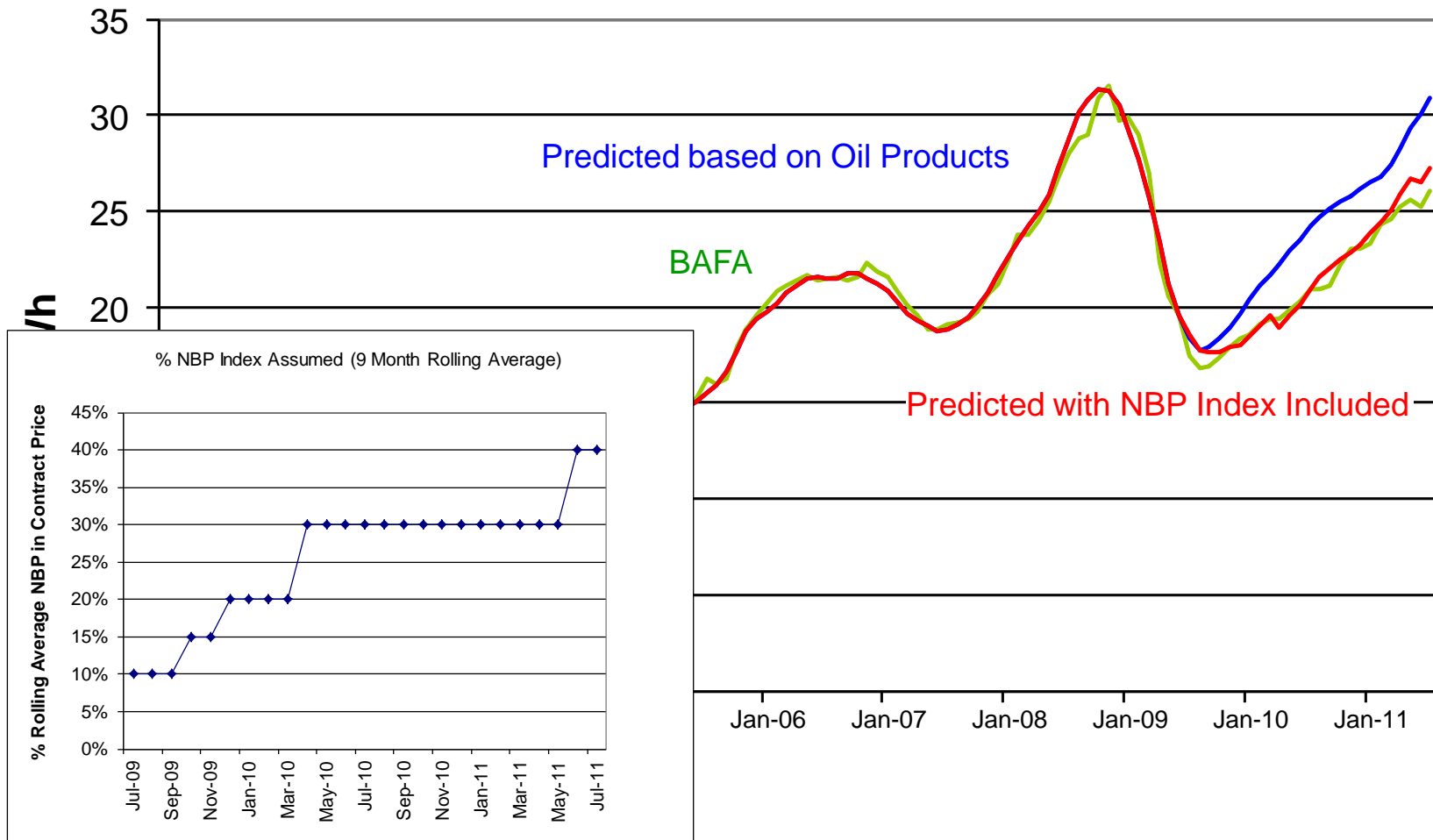
Gas Prices 2007 – August 2011



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

German Import Price (BAFA)

$$\text{BAFA Predictor} = 1.2184 + 0.3470 \cdot (\text{9 month rolling average gasoil price}) + 0.3672 \cdot (\text{9 month rolling average fuel oil price}) \text{ in } \text{€}/\text{MWh}$$

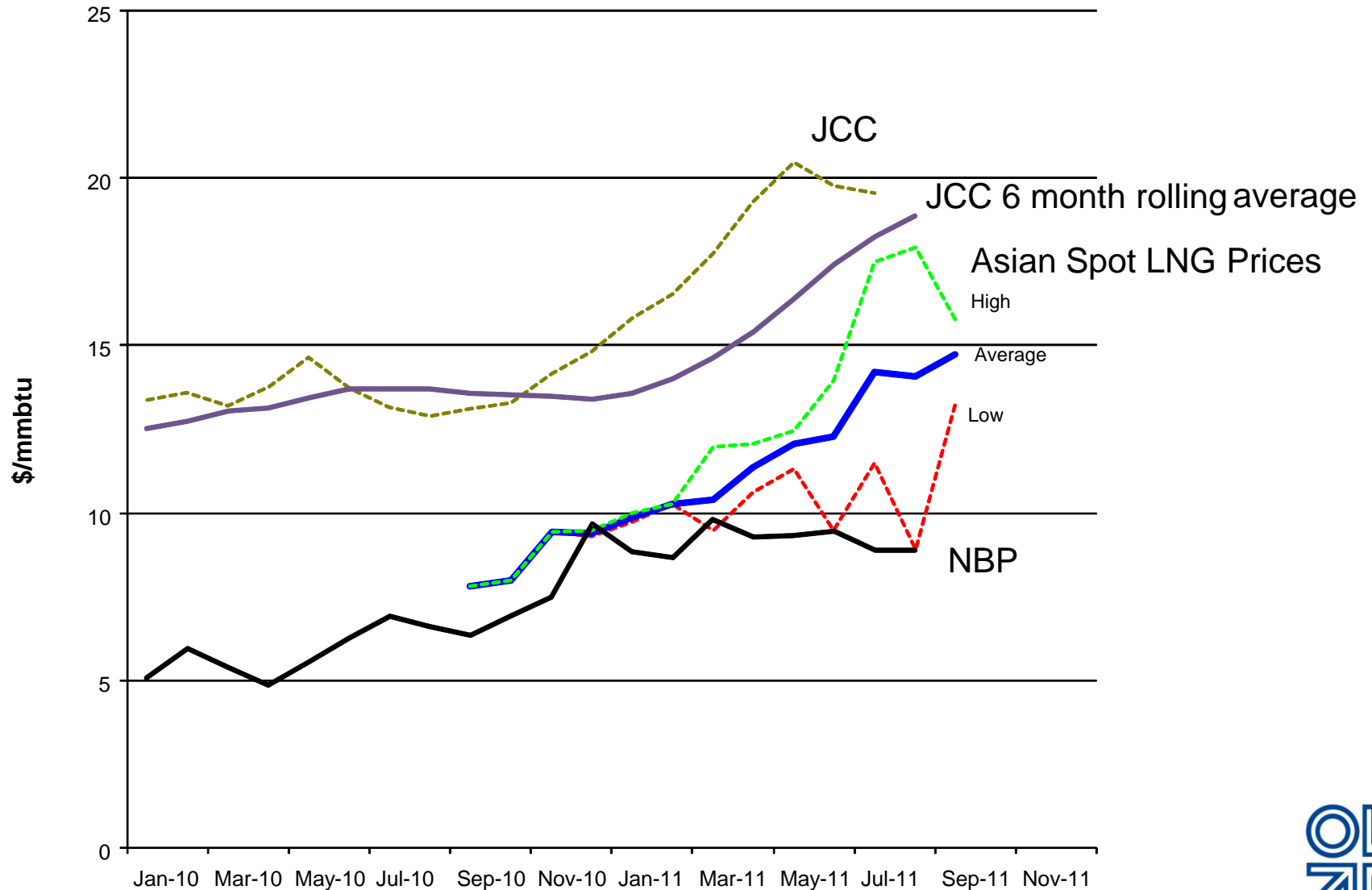


European Gas Pricing: Observations

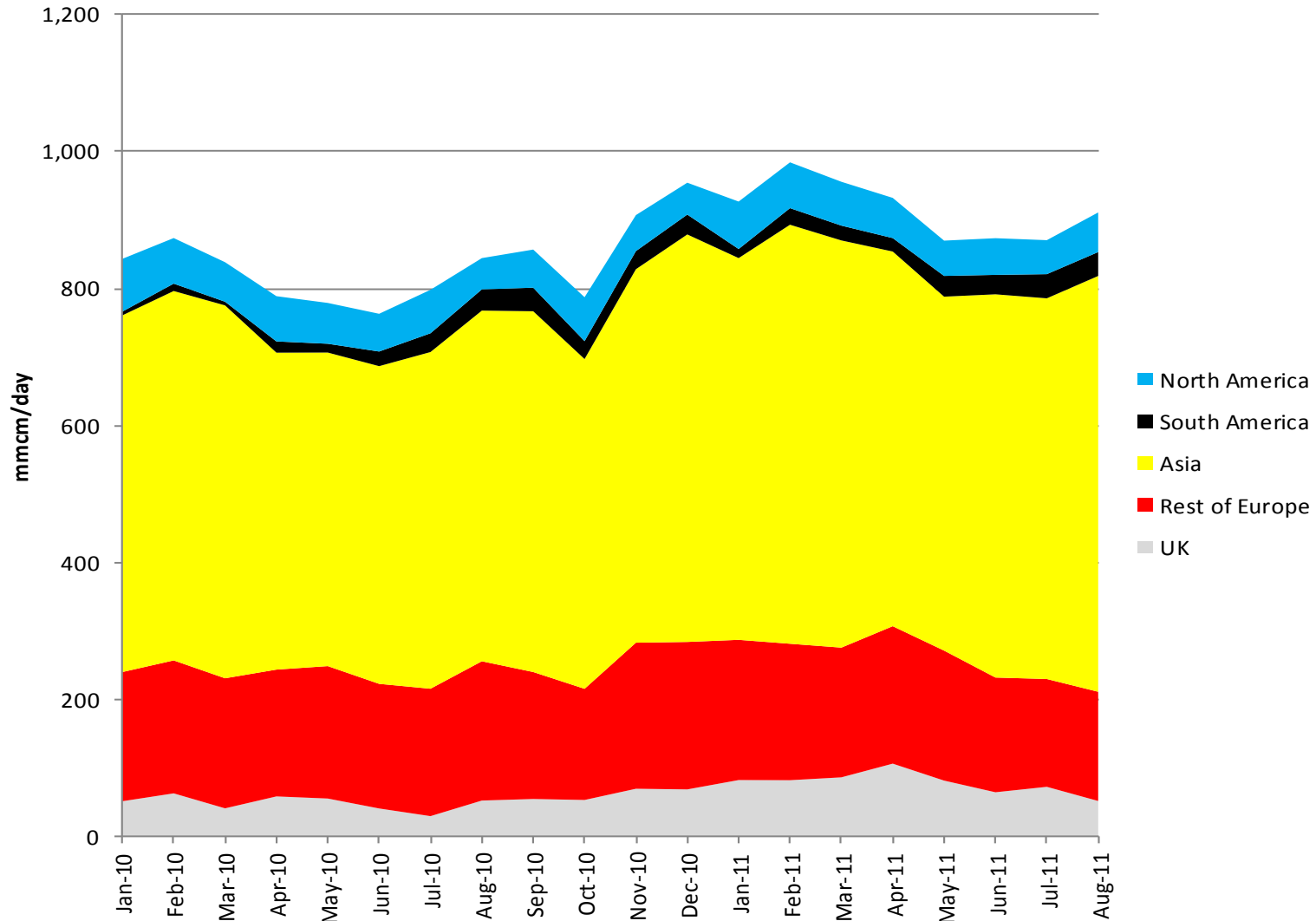
- Traditional oil product-linked gas pricing has become untenable in major European gas markets
- Hub-based pricing will gradually take over but..
- This will cause major problems for existing long term contracts, some of which may not survive
- The next 2-3 years will see the establishment of a new pricing and contractual gas framework; this will be a painful process



Asian LNG Spot Prices vs NBP and JCC Jan 2010 – July 2011



Global LNG Deliveries: Jan 2010 – Aug 2011



Be careful what you wish for.....

- A transition from oil-indexed to hub-indexed long term contracts raises the question in the seller's mind 'will high nominations by buyers depress hub prices?'
- Sellers might reasonably demand the right to fulfil part of the contract obligation through buying gas on the hubs and re-delivering to buyer.
- Having developed a supply & trading capability to accomplish this, seller might reasonably wish to sell gas directly on the hubs (same price as received from contract buyer).
- Through direct hub sales and hub purchase and re-delivery, seller achieves significant market power.
- Russia (with significant supply flexibility) attains the ability to control European hub prices through supply management.
- But too high a price target invites LNG diversion and new supply development.



Thank You
for your attention.

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