THE OXFORD INSTITUTE FOR ENERGY STUDIES

A RECOGNIZED INDEPENDENT CENTRE OF THE UNIVERSITY OF OXFORD

UNIVERSITY OF OXFORD

The impact of global developments on the British gas market

Professor Jonathan Stern
Chairman and Senior Research Fellow
OIES Gas Programme

Ofgem Winter Outlook Seminar

London, October 28, 2014

AGENDA

THE (RECENT) PAST:

- **Price developments post-2008**
- **LNG arrival and departure**

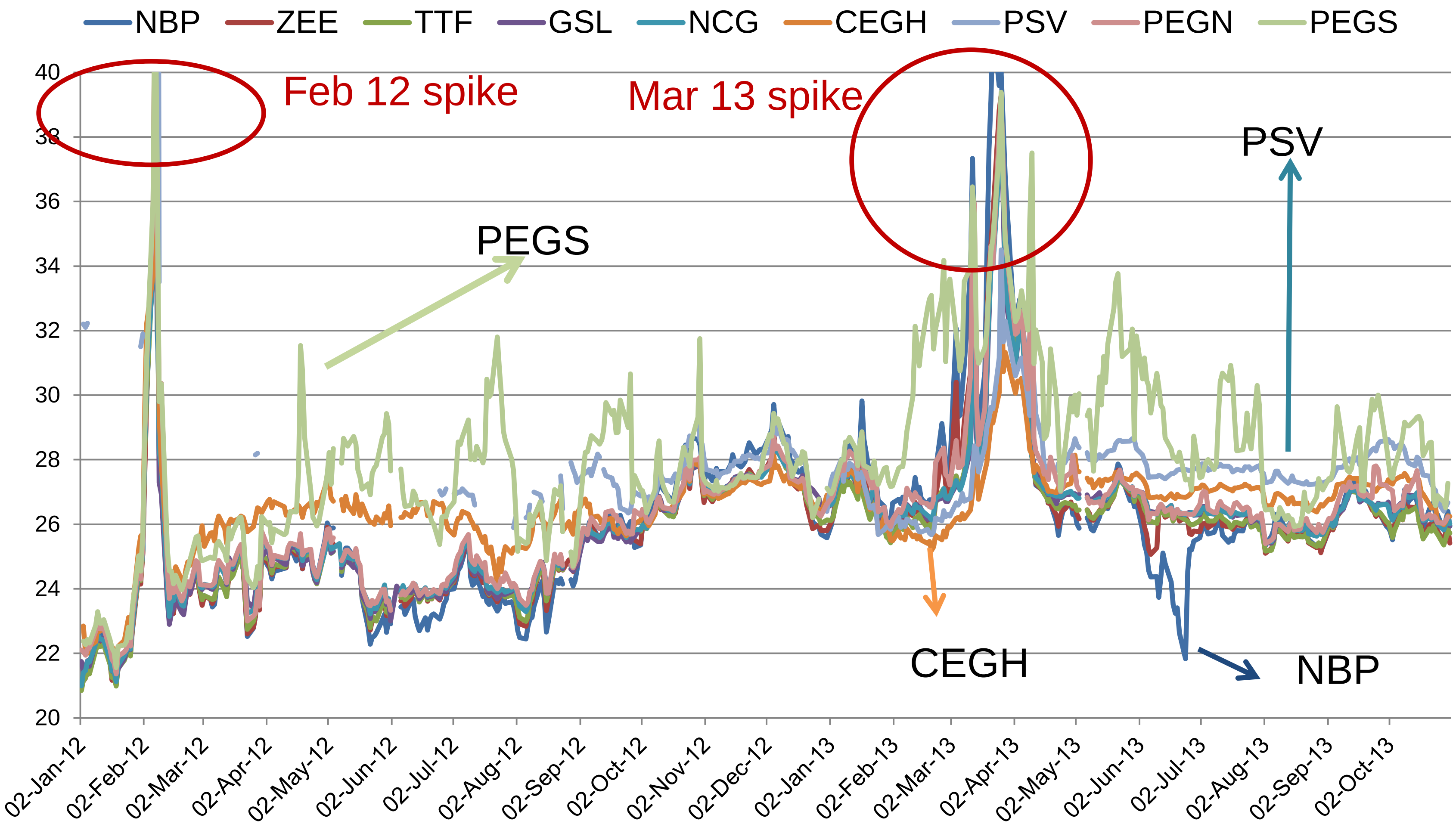
THE PRESENT – a Russia-Ukraine winter crisis?

THE FUTURE (up to 2020):

- **Regional price differentials**
- **Increasing LNG availability**

The Recent Past

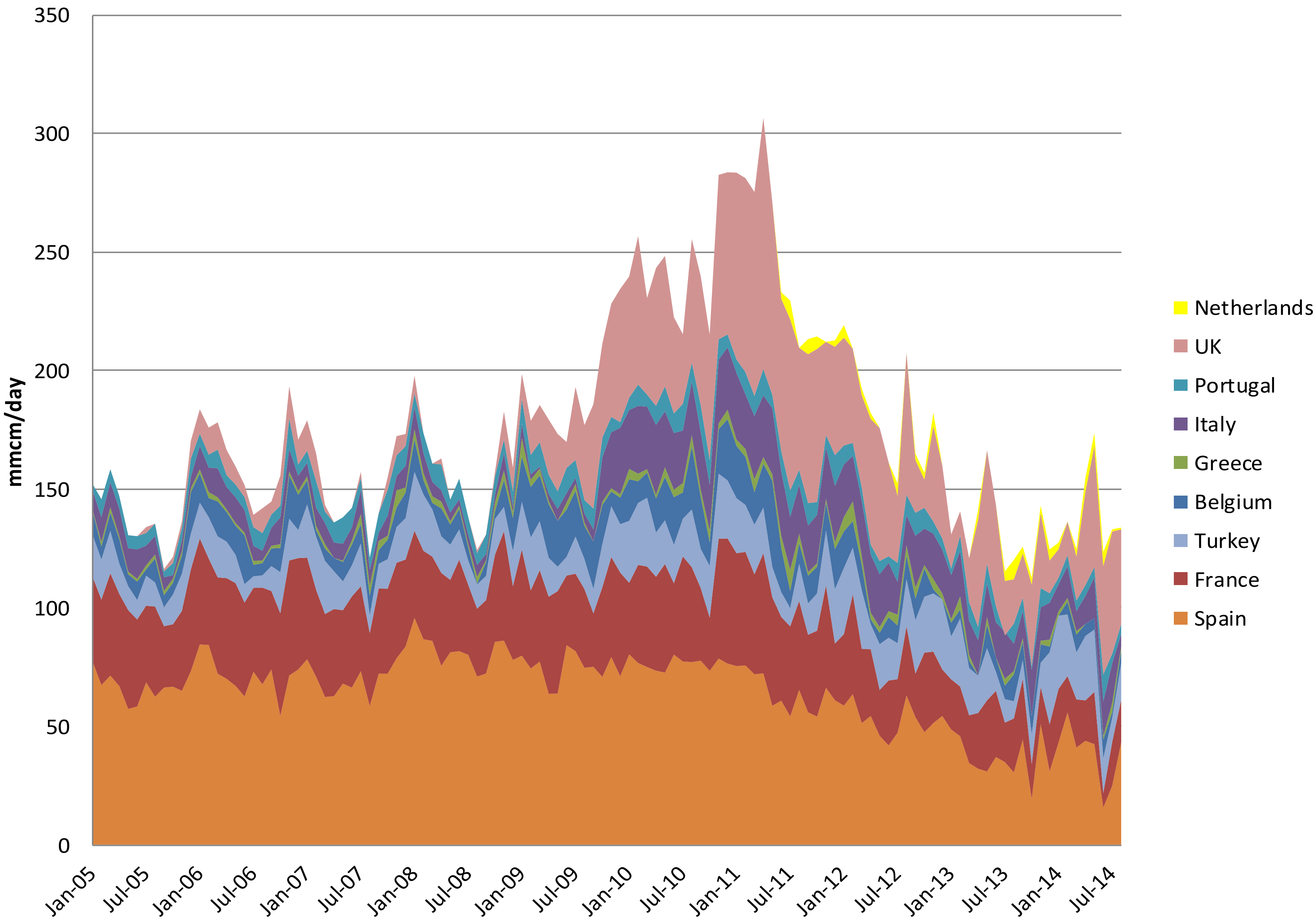
Day-Ahead OTC prices at 10 European Hubs 2012-14



Source: Petrovich/OIES based on data from Tankard Parties

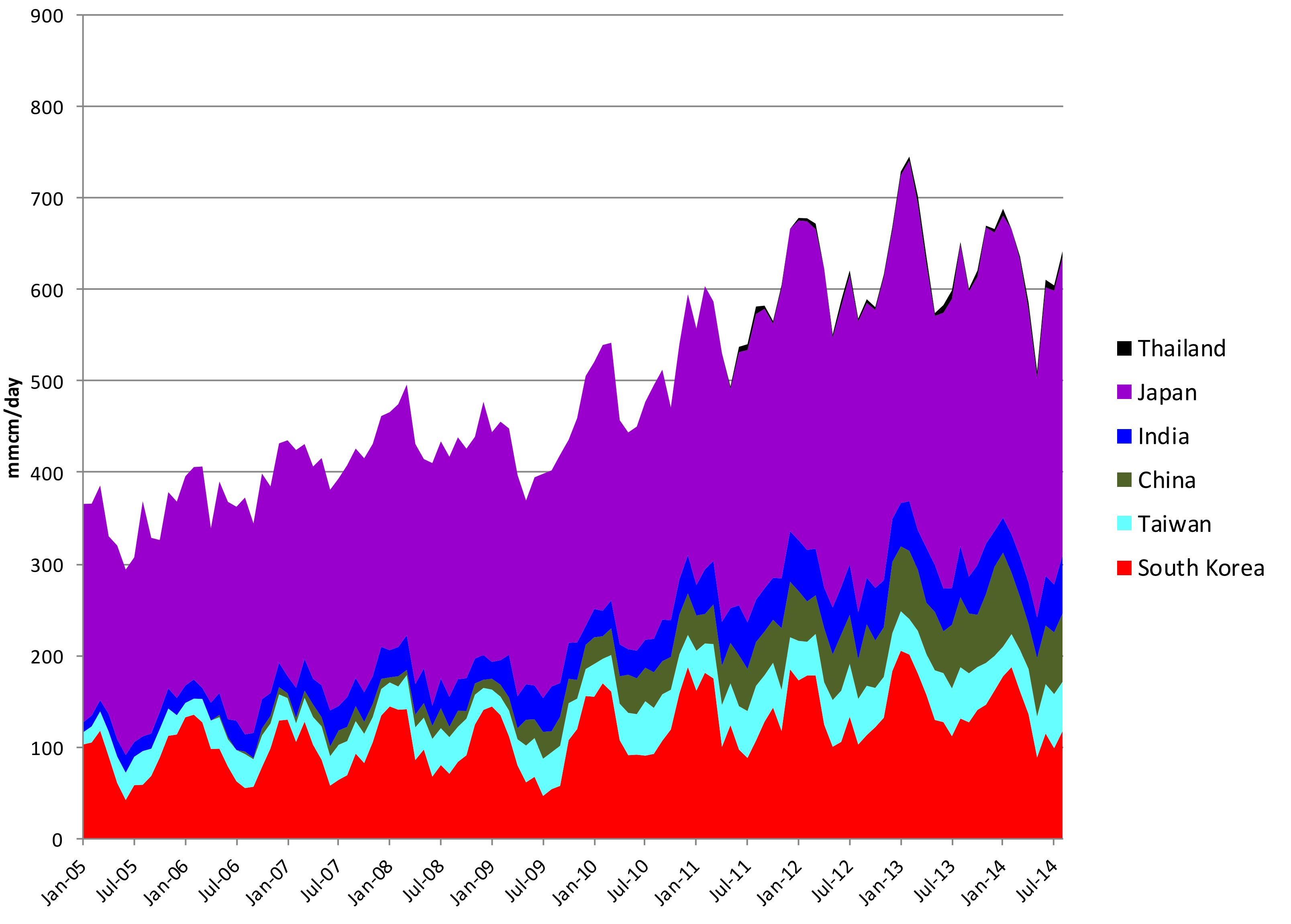
NBP delinks during the summer (IUK maintenance); but overall correlation with NW Continental European hub prices is high

Ebb and Flow of European LNG Imports: 2005-14



Source: Platts

Asian LNG Imports: 2005-14



Source: Platts

The Present:
a Russia/Ukraine winter crisis?

A Russia-Ukraine Crisis: will it happen?

ARGUMENTS FOR:

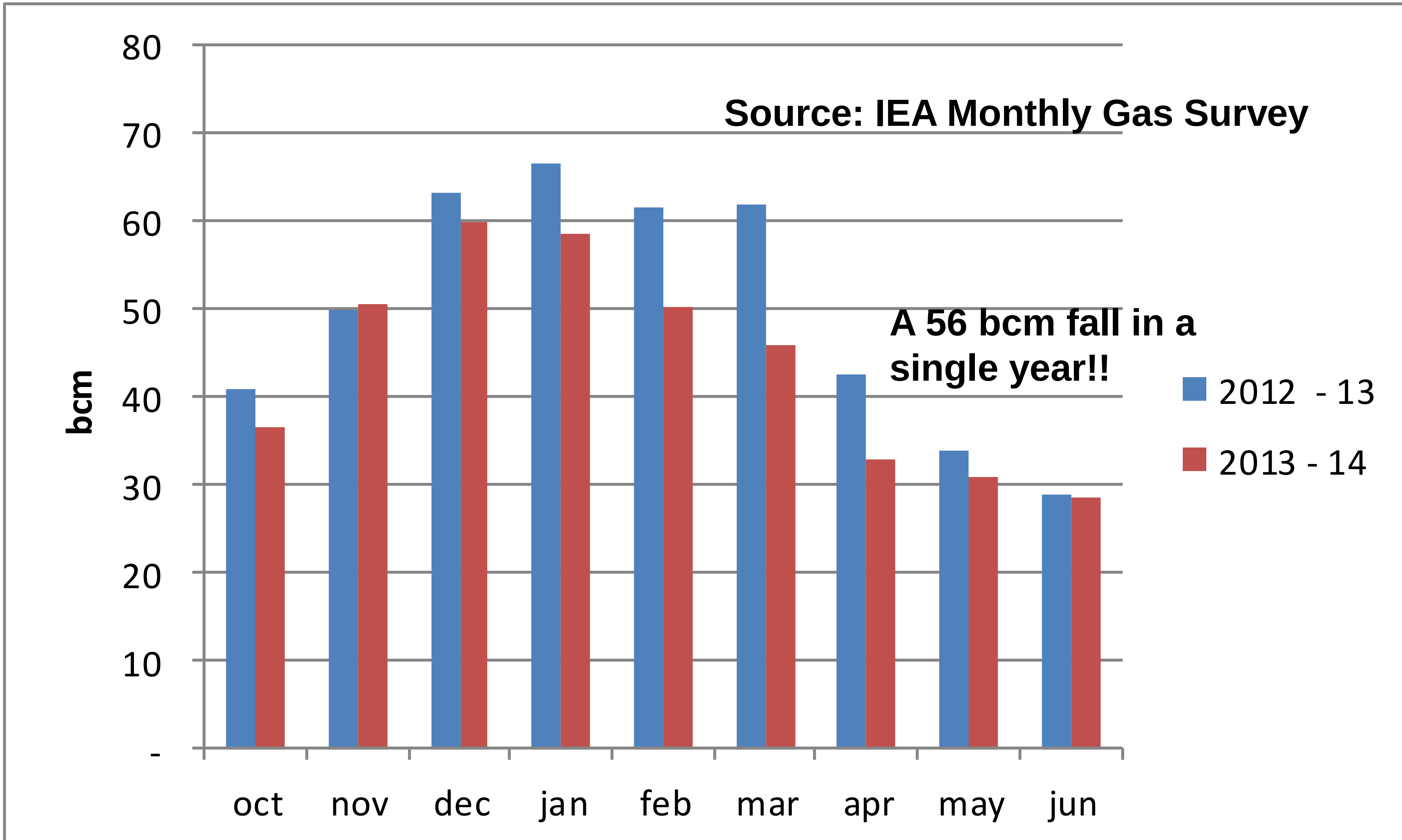
- Still no compromise between the two sides: Ukraine will not pay debts, Russia will not restart deliveries to Ukraine without payment
- Ukraine says it needs 4-5 Bcm of Russian gas to get through the winter; we believe the figure is closer to 7-8 Bcm
- If Ukraine steals gas, Russia will cut off supply

ARGUMENTS AGAINST:

- Storages full everywhere – most are well-prepared
- If there is a complete interruption through Ukraine, Russia can still deliver around 60% of volumes via Yamal, Blue Stream and Nord Stream (but South East Europe would be in trouble after a few weeks)

OXFORD INSTITUTE FOR ENERGY STUDIES Natural Gas Research Programme

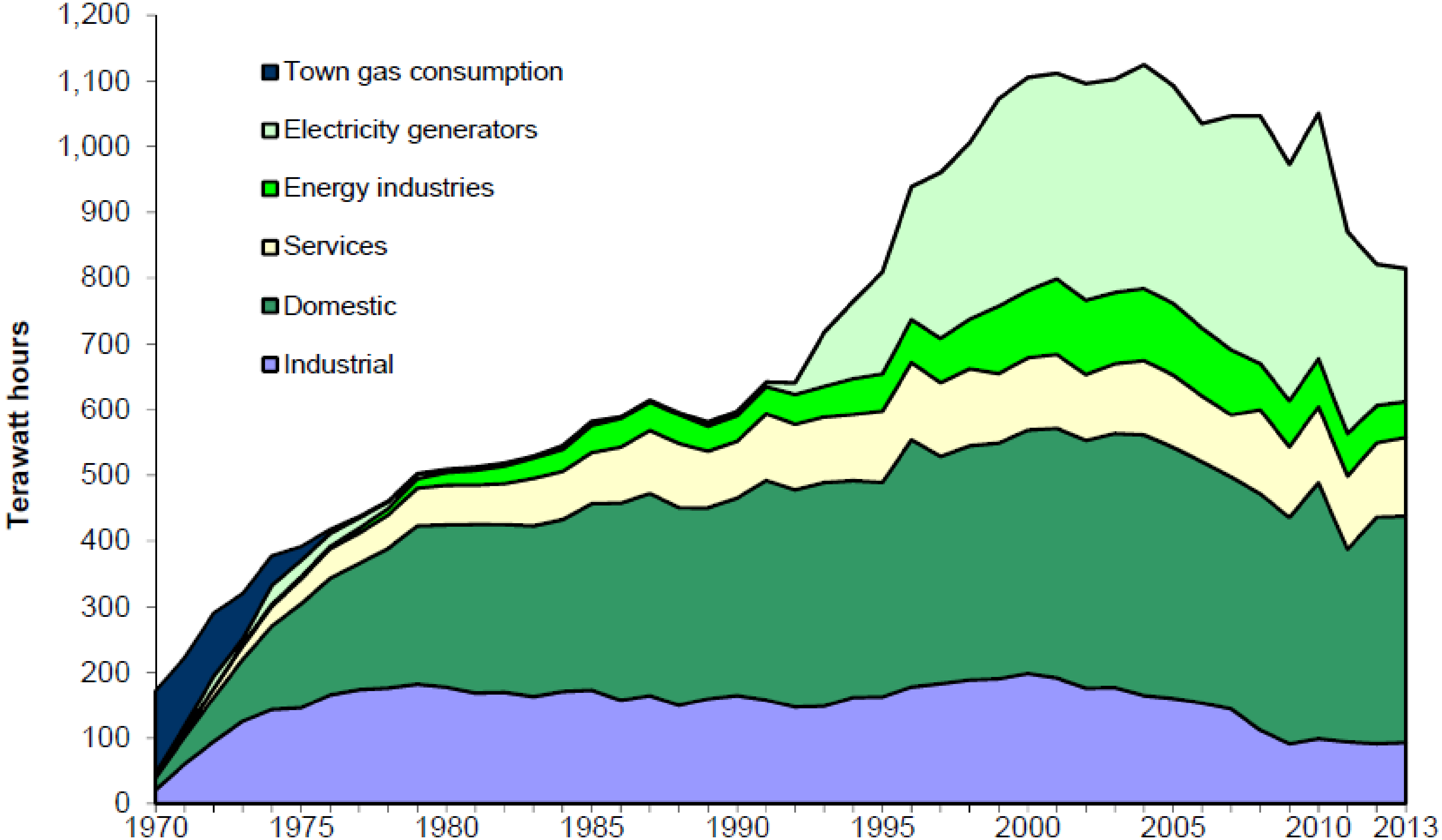
Monthly Gas Demand in North and Central Europe October-June 2013-14 vs 2012-13



European gas demand disaster means any crisis will be less acute

UK Gas Demand 1970-2013

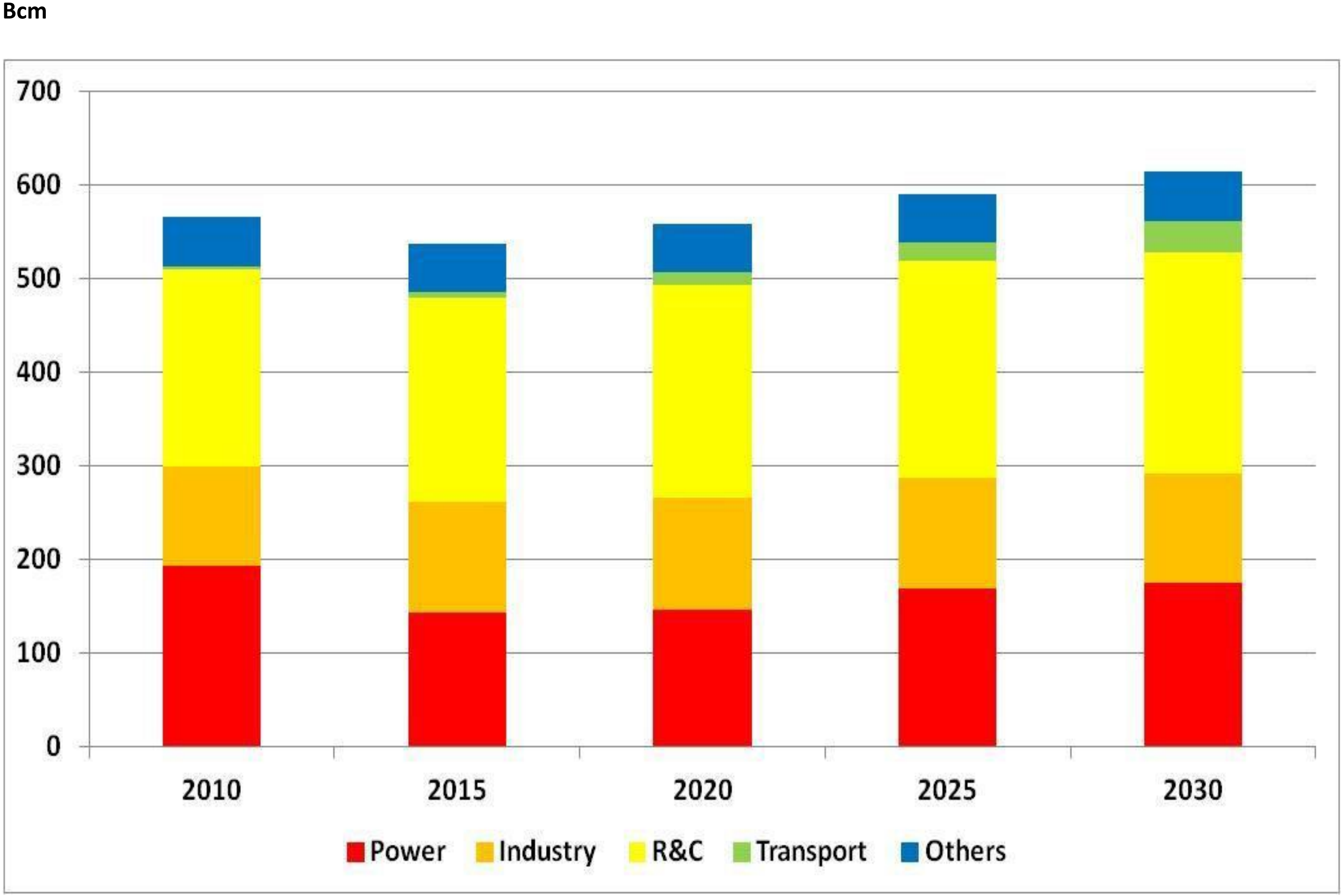
Source: Digest of UK Energy Statistics 2014, Figure 4.1.2, p.233



Gas demand in 2013 was below the level of 1996

The Future up to 2020

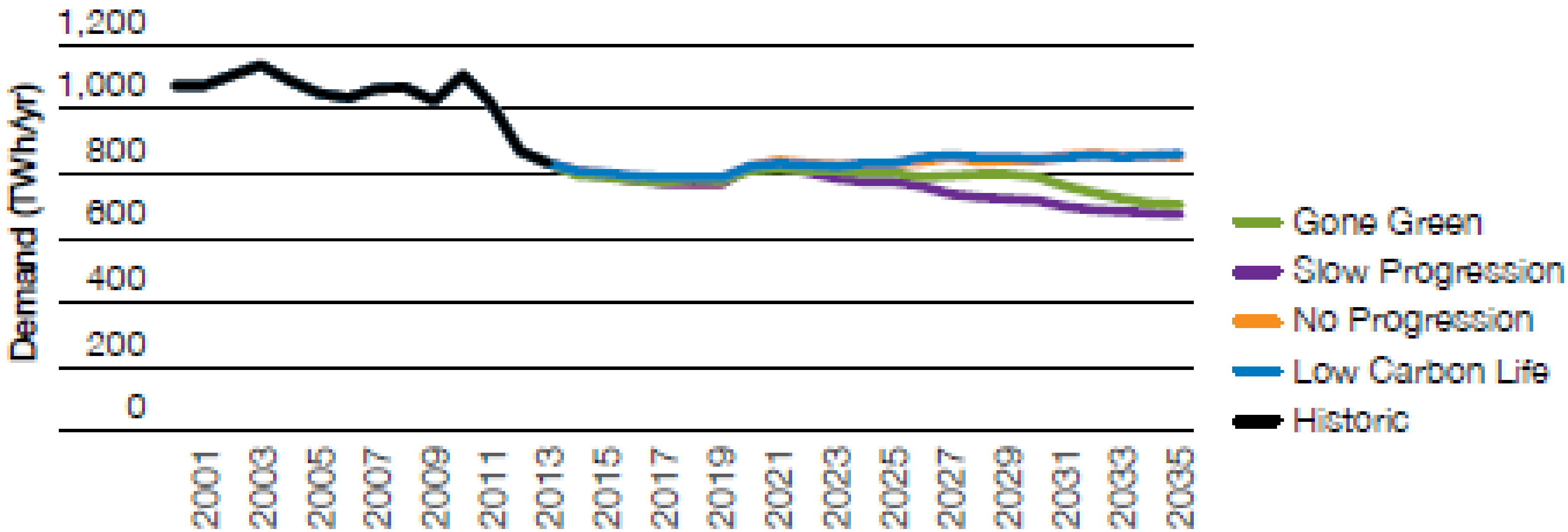
Europe Gas Demand: currently at lowest levels for 20 years; very slow recovery projected



Source: Honore' OIES (2014)

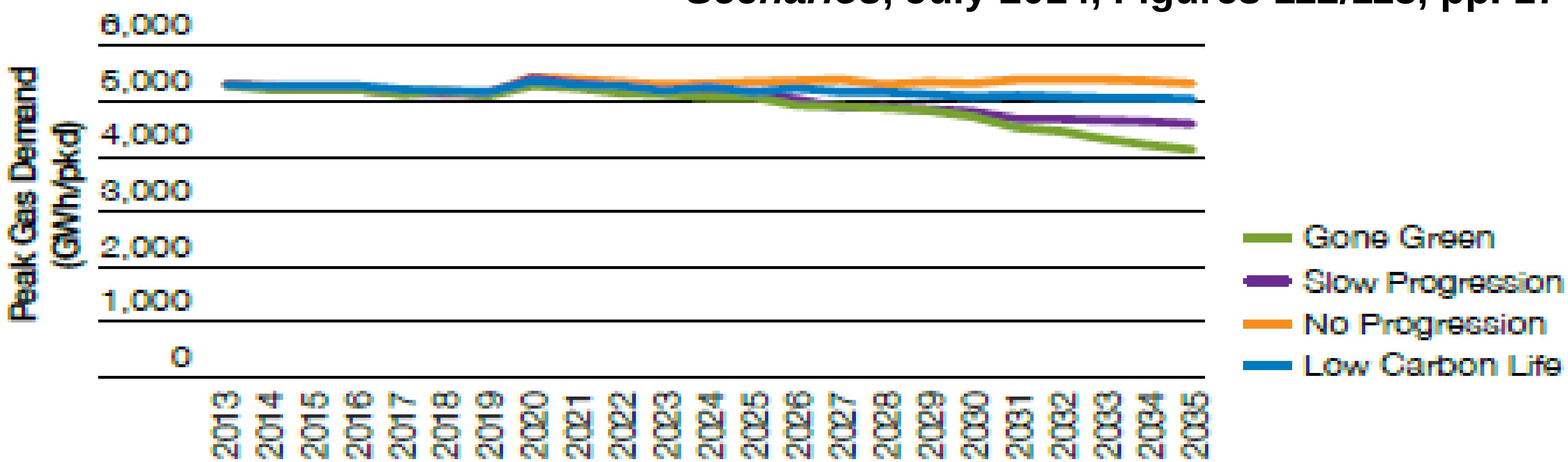
National Grid UK Gas Demand Scenarios: fairly flat to 2035

TOTAL GAS DEMAND



PEAK GAS DEMAND

Source: National Grid, *UK Future Energy Scenarios*, July 2014, Figures 112/113, pp. 174-5

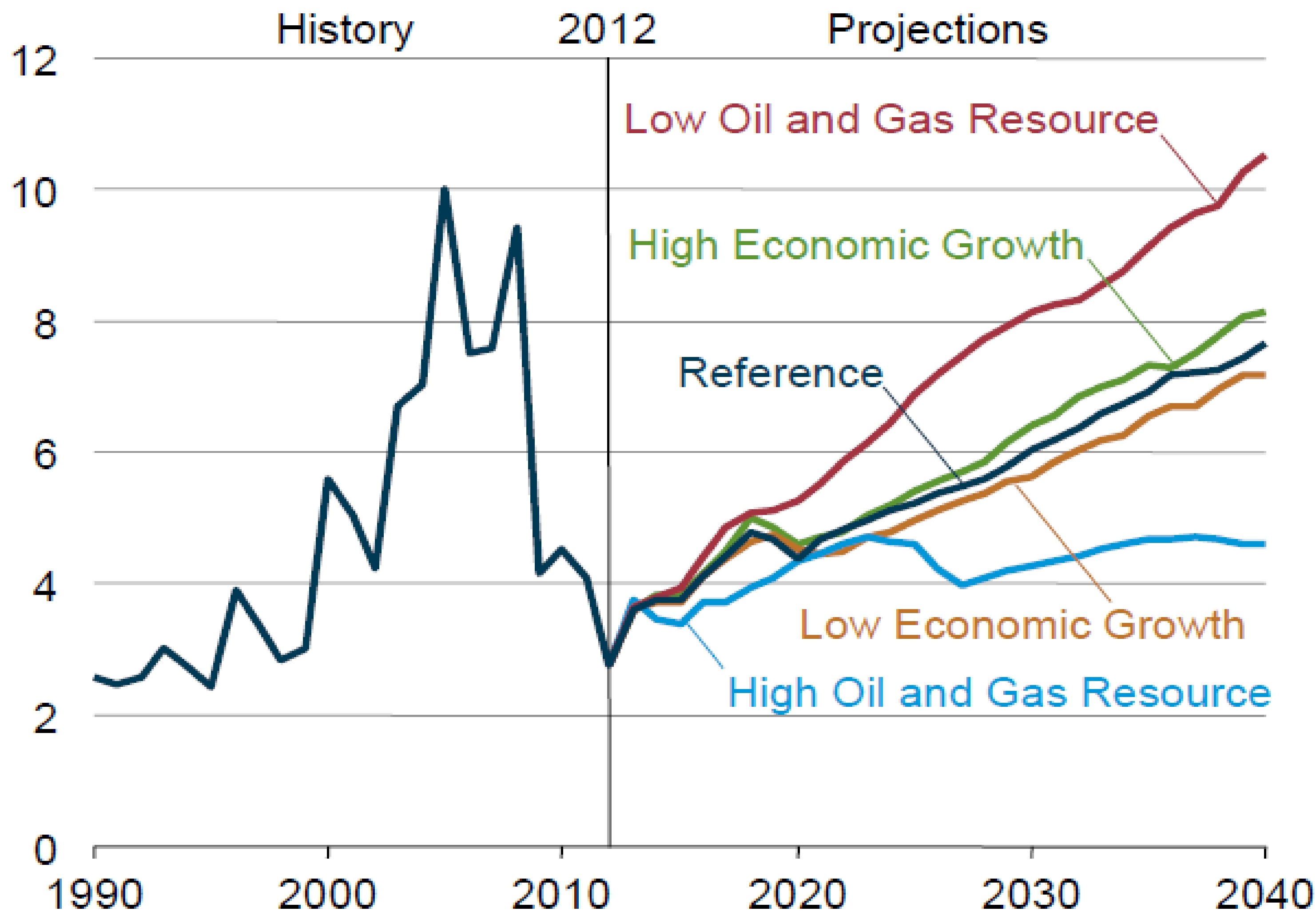


LNG Availability for Europe

- There is a huge number of new LNG projects – US and non-US - due to start exporting from 2015 onwards
- Europe has ~200 Bcm/year of regasification capacity
- The main variables which will determine how much is available for Europe will be:
  - Asian, especially Chinese, gas demand
  - North American gas prices – and therefore viability of LNG export projects
  - Willingness of European buyers to compete internationally with Asian, Middle Eastern and South American buyers

NW and Southern Europe have substantial LNG import capacity; actual imports will increasingly depend on price competition with Russian pipeline gas

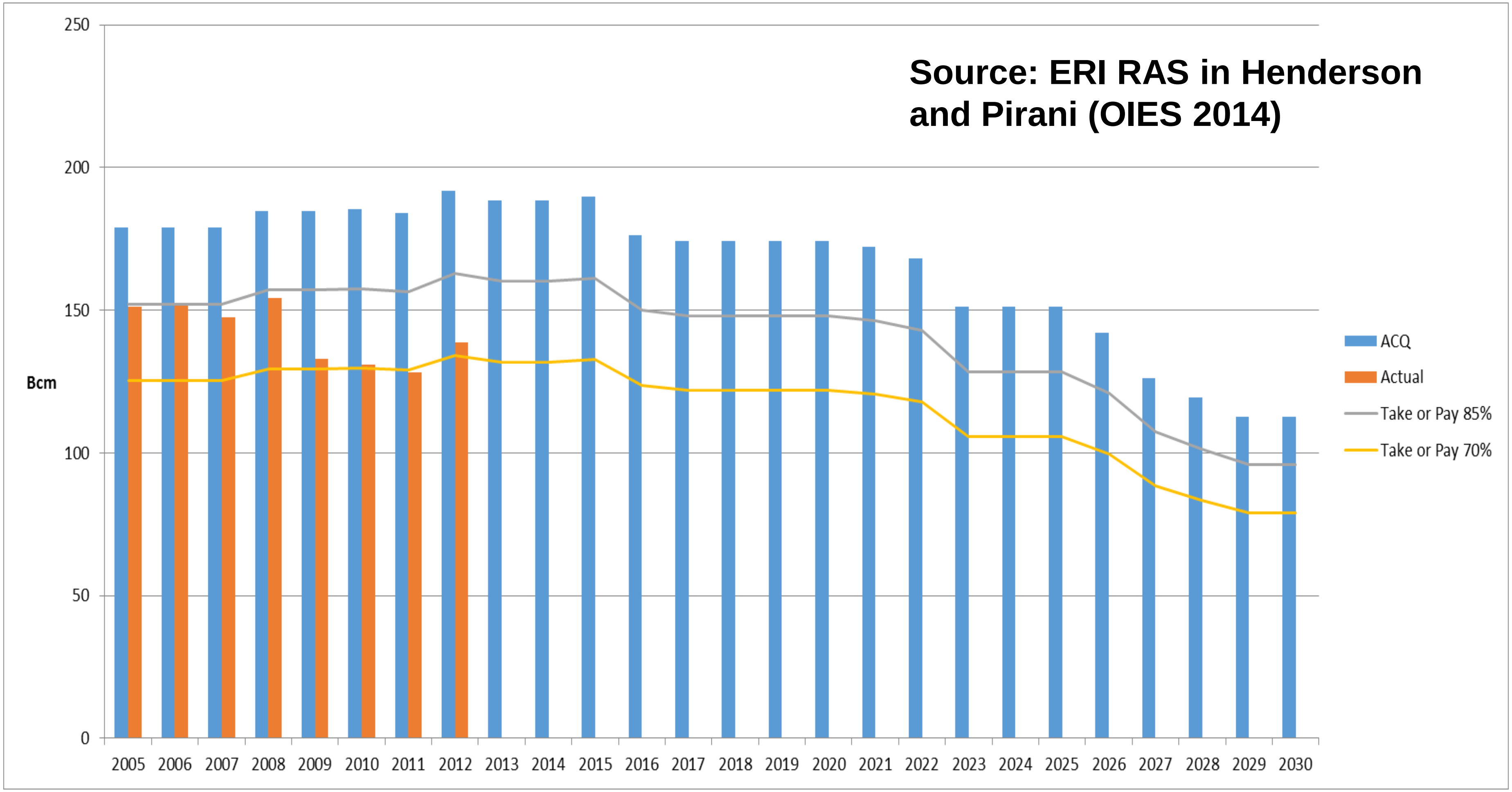
Annual Average Henry Hub Spot Prices 1990-2040 (2012 $MMbtu)



Source: Annual Energy Outlook 2014, Figure MT41, p.MT 22

OXFORD INSTITUTE FOR ENERGY STUDIES Natural Gas Research Programme

Gazprom's long term take or pay contracts with European customers to 2030



Even at 70% ToP, Gazprom's average annual sales exceed 100 Bcm/year until the mid-2020s

Conclusions

- British gas market development has to be viewed through the lens of a European – and an increasingly global – gas market
- This requires very much more complex analysis than previously and means that…
- British supply/demand trends have a much less important on medium/long term trends than external events, in particular:
  - Russia/Ukraine problems
  - global LNG supply/demand trends
- Stagnant demand and increasing LNG supply are likely to keep prices down post-2015 but a Russia/Ukraine crisis this winter could create a difficult situation during January-March 2015

THE OXFORD INSTITUTE FOR ENERGY STUDIES

A RECOGNIZED INDEPENDENT CENTRE OF THE UNIVERSITY OF OXFORD

THANK YOU

UNIVERSITY OF OXFORD

OIES Natural Gas Research Programme

WE ARE:

- **A gas research programme at a Recognised Independent Research Centre of Oxford University, specialising in fossil fuel research**
- **Probably the only European academic research group focussed on natural gas.**

WE PRODUCE: independent research on national and international gas issues

WE ARE FUNDED BY: sponsorship by 20 companies and governments in gas producing and consuming countries

WE ARE NOT:

- **consultants, sellers of exclusive, high price business reports**

Research referred to in this presentation can be downloaded without charge from our website: http://www.oxfordenergy.org/gas-programme/