

# Global Gas Production Networks: the role of Liquefied Natural Gas in UK gas security

Gavin Bridge

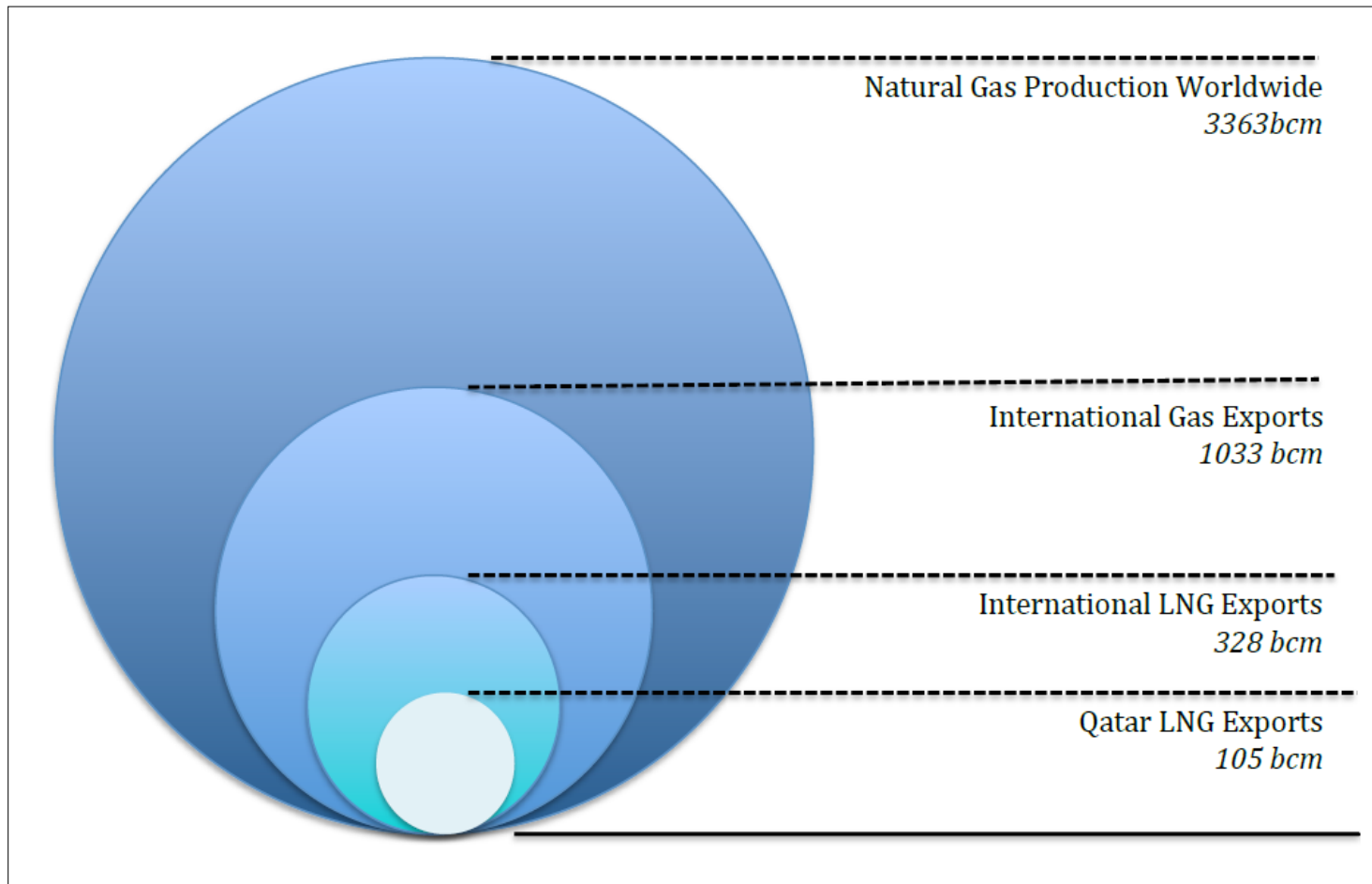
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BIEE Conference, Oxford 17.9.14

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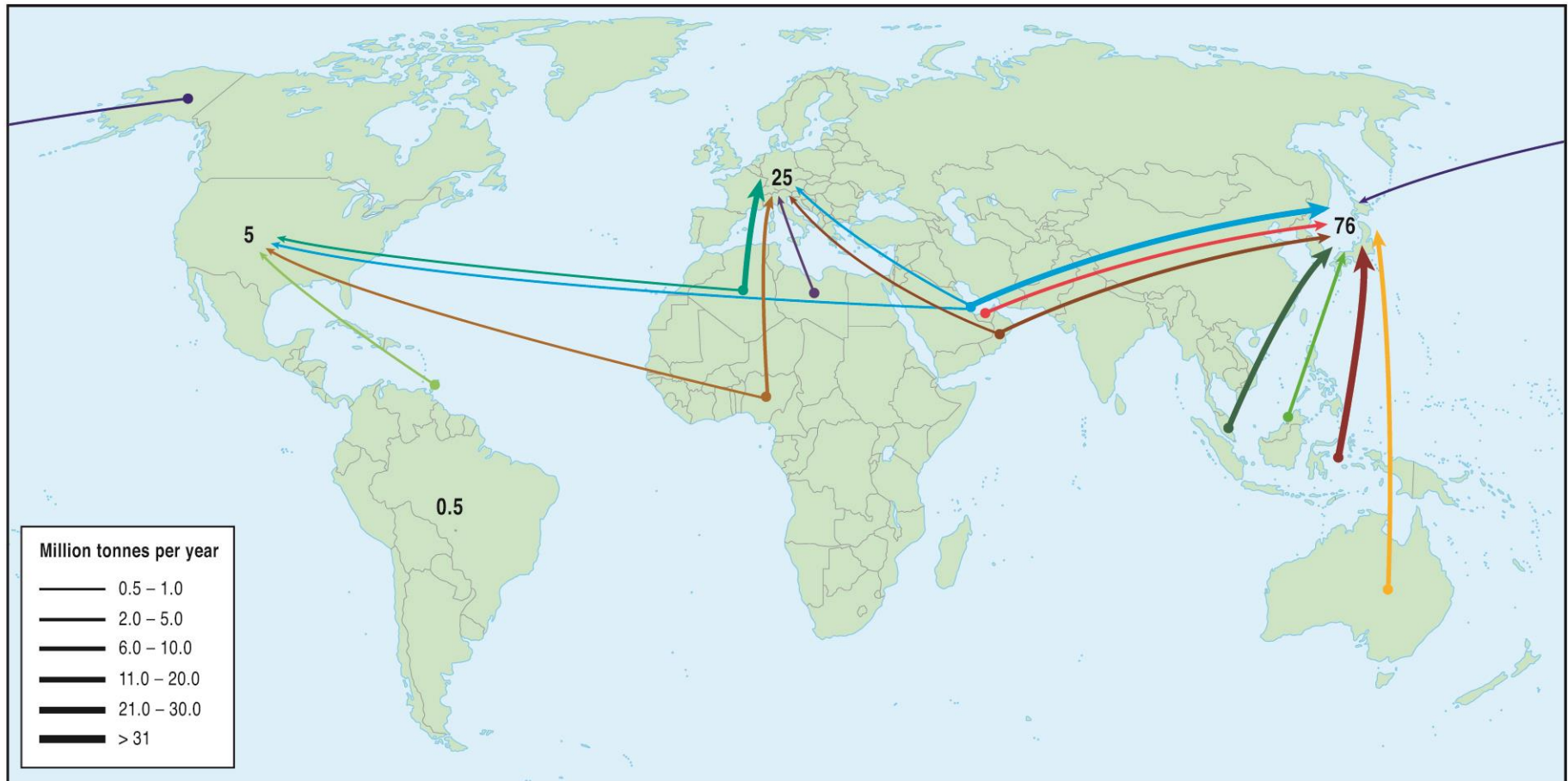
# Global Gas Production, Exports and LNG



Source: figure by author, data from BP (2013)

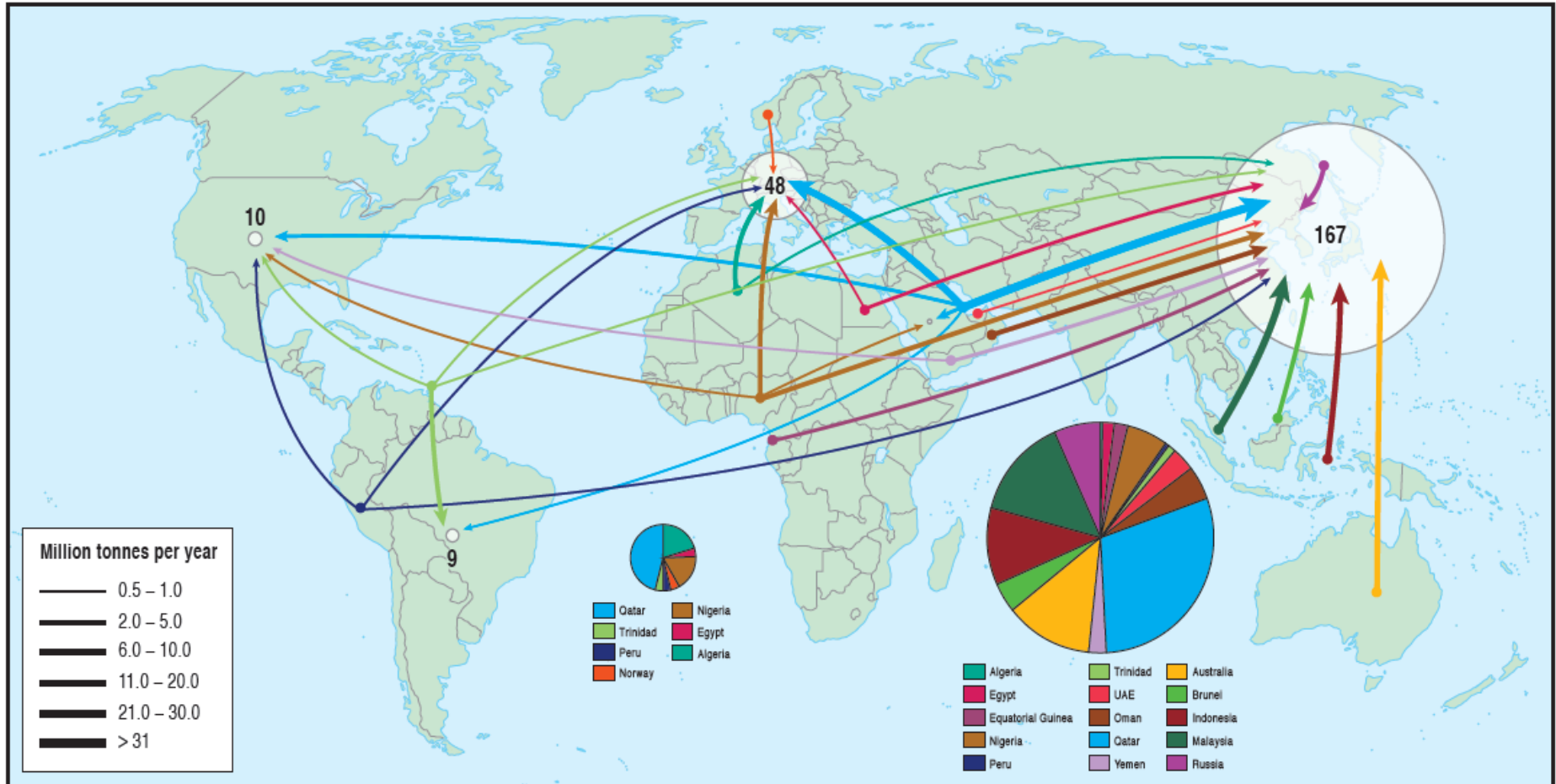
# Expansion of LNG trade

## Worldwide LNG Trade, 2002



Source: data from IGU 2002; flows < 0.5 MTPA not shown

# Worldwide LNG Trade, 2012



Source: data from IGU 2012; flows < 0.5 MTPA not shown

# From flows to networks

an economic geography approach

- Global Production Networks (GPN)
  - value creation, transformation, and capture via geographically dispersed economic activity
- an actor-centred approach (actors-in-relations)
  - focus on state-firm and inter-firm relations through which flows are organised
  - co-ordination, control, partnership, bargaining
- network as an ‘organisational platform’

# Towards an LNG production network

Network Practices (e.g. contract terms, quality standards)

Firm A

Firm B

Upstream

Liquefaction

LNG  
shipping

Regasification

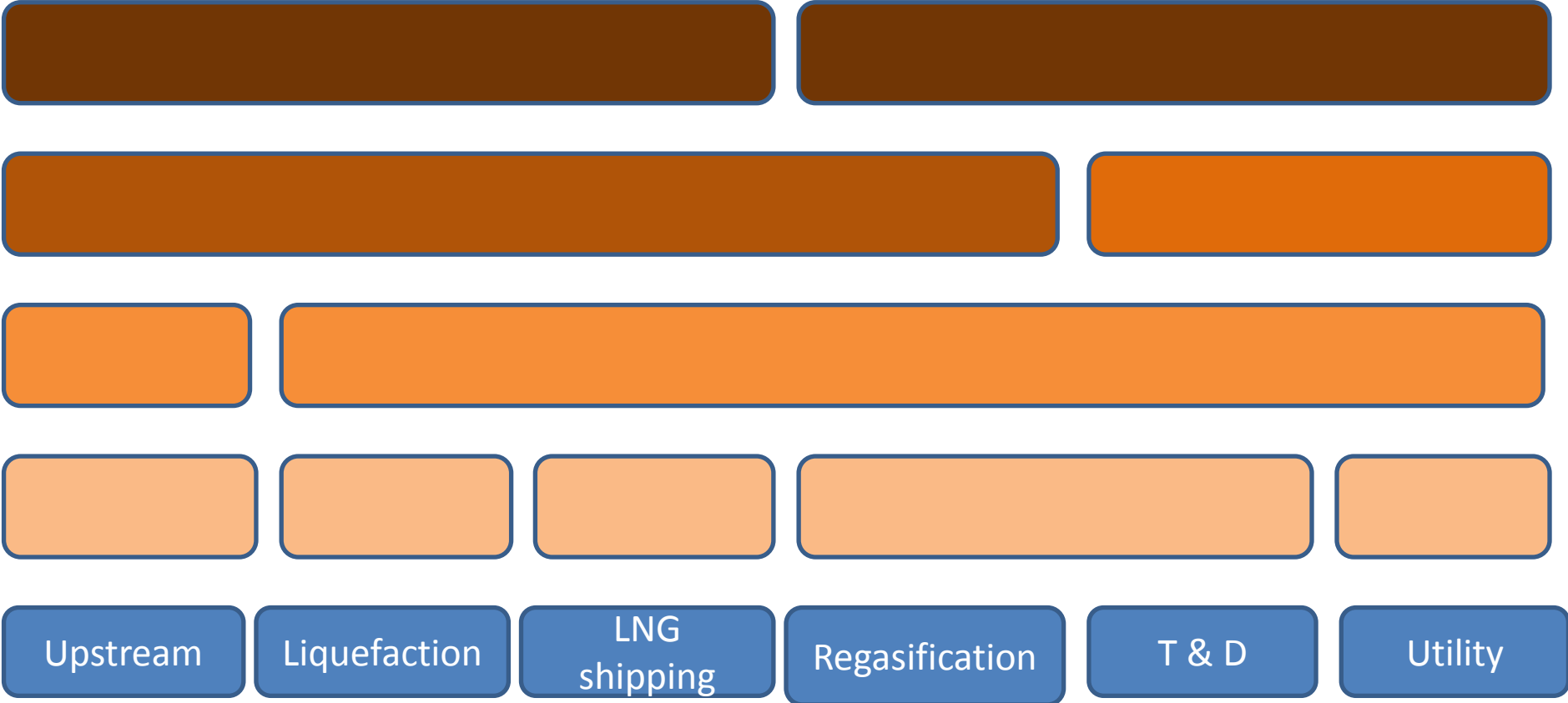
T & D

Utility

Territory 1

Territory 2

# Diversification of organisational models

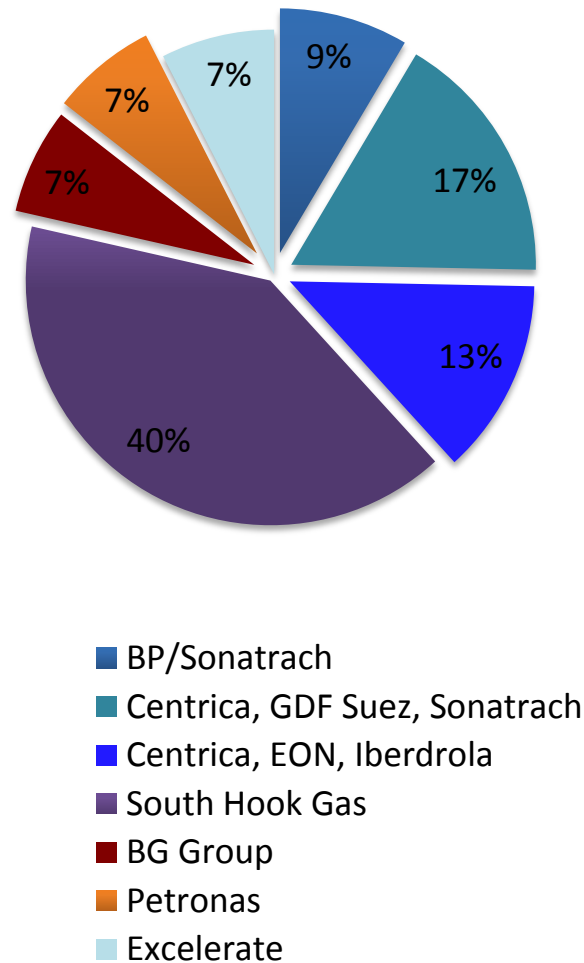


forward/backward integration; vertical disintegration; horizontal integration

# UK LNG import capacity

liberalised market, low LNG dependency

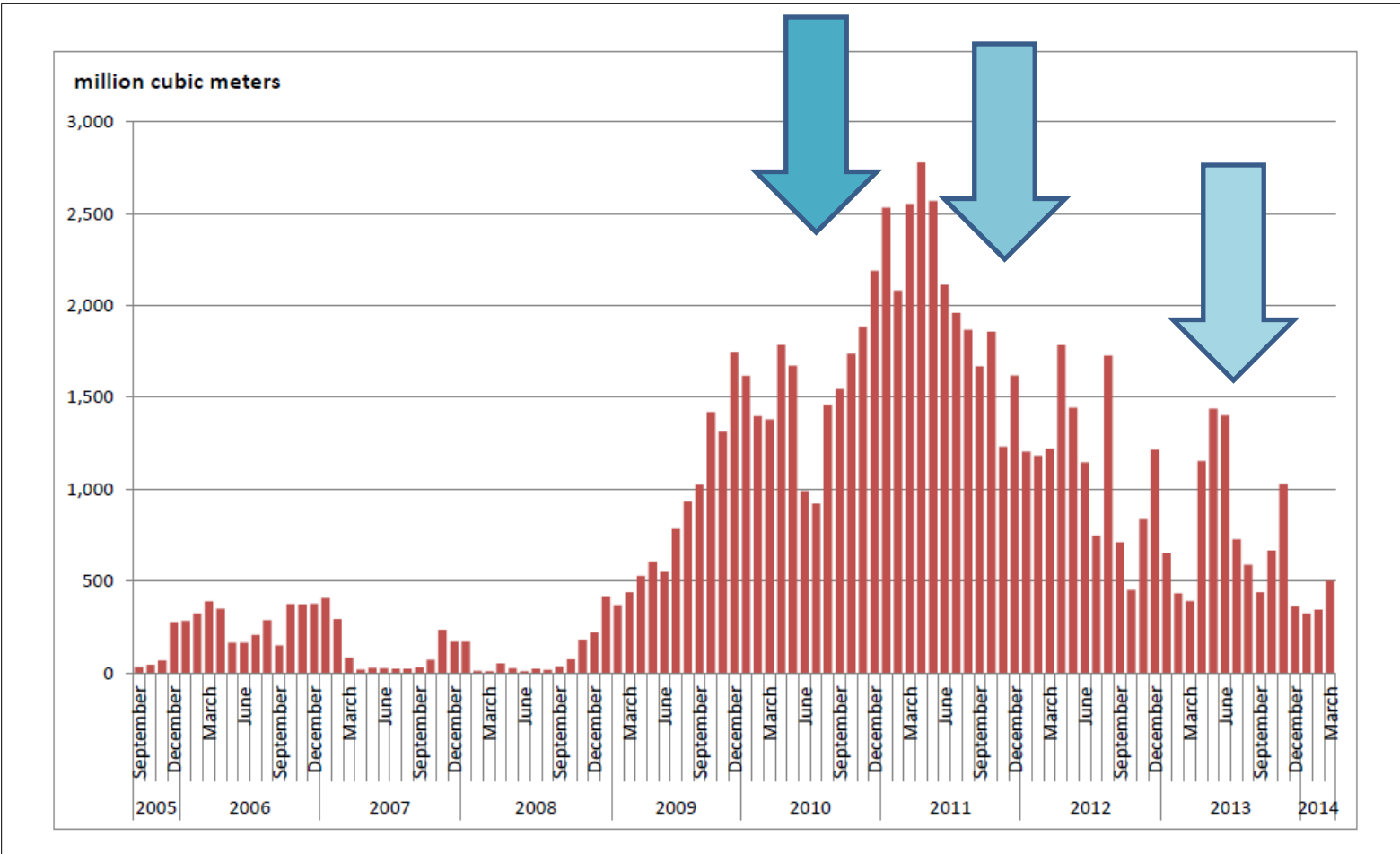
- 3 active terminals, different structures
- South Hook Gas, Milford Haven
  - vertically-integrated chain
  - market access for Qatargas II
- National Grid, Grain
  - access sold on commercial terms
  - extension of market-access infrastructure by NTSO
- Dragon, Milford haven
  - market-access for Petronas and BG





# UK LNG Imports, 2005 to 2014

Source: data from DECC (2014)



# Conclusions

- ‘Global gas market’ via LNG has proven premature
  - increase in connectivity of regional markets
  - new uncertainties and vulnerabilities
- LNG repositions UK with respect to international gas trade
  - supply diversification
  - physical security via investment in import capacity
  - however, price divergence and flexible terms mean that, in a tight market, LNG moves away from UK
- GPN approach highlights organisational networks (vs. flows)
  - UK LNG import capacity embedded in different organisational structures
  - price primary driver, but network structures influence whether/when/how much LNG flows to UK

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