



LNG & Gas Hubs

Ane de Ariño (October 2010)

- Relation between LNG and gas hubs -

1 LNG weight on gas markets

2 Gas Hubs depth and liquidity

3 Price linkage

4 Conclusions

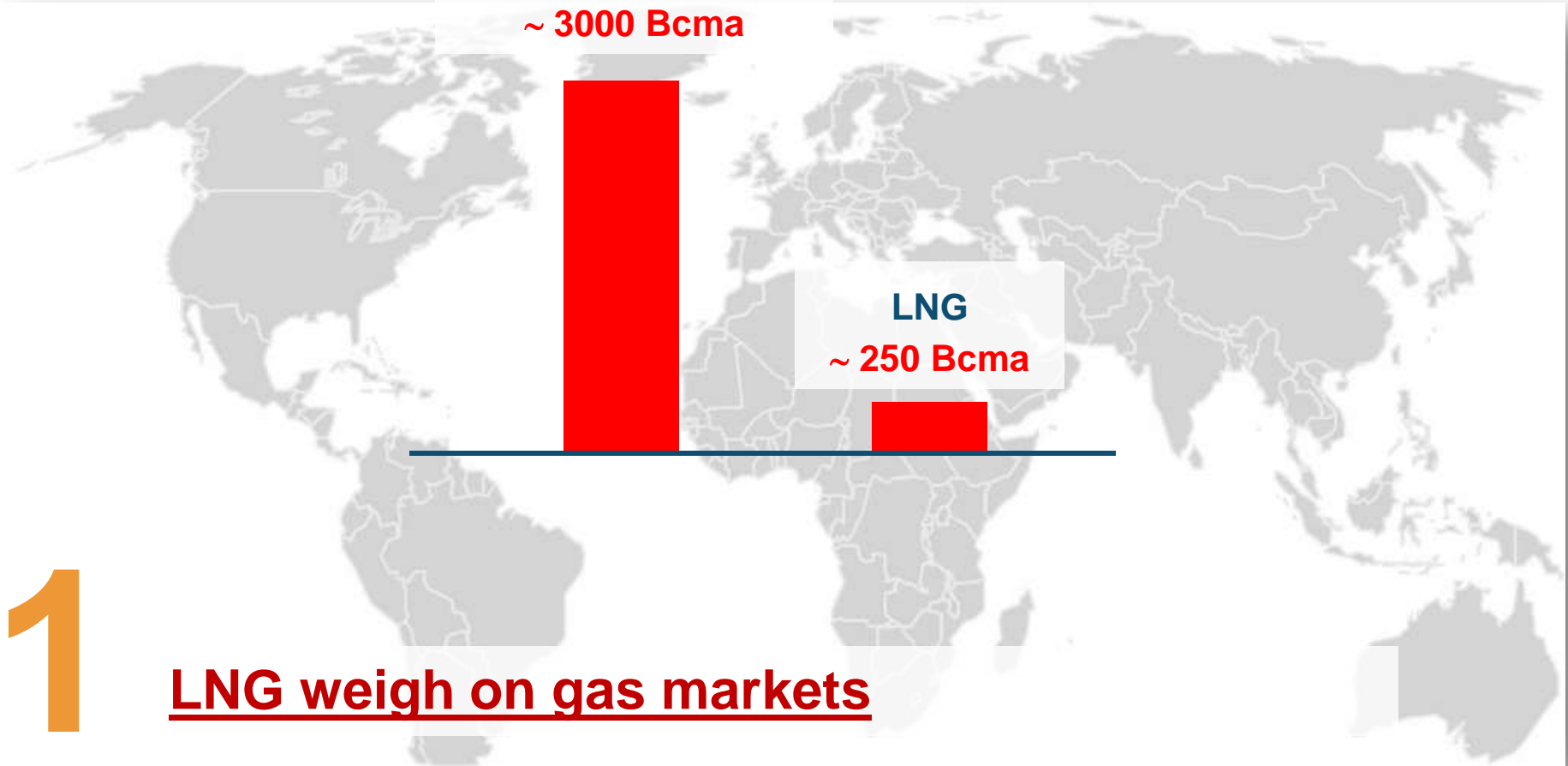
World gas demand

~ 3000 Bcma

LNG
~ 250 Bcma

1

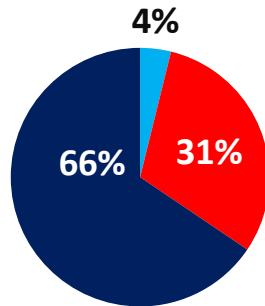
LNG weigh on gas markets



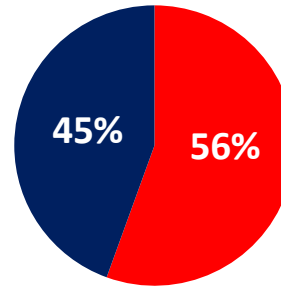
Asia

LNG 2009 =
152 Bcma

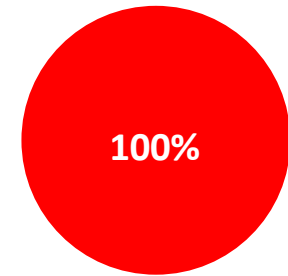
- Pipeline
- LNG
- Indig. production



Asia Pacific = 500 Bcma



Asian LNG consuming
countries = 275 Bcma
(Japan, S.Corea, Taiwan, India
and China)



Asian LNG consolidated
markets = 130 Bcma
(Japan S.Corea & Taiwan)

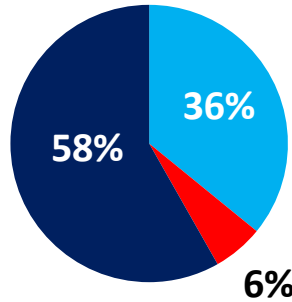
- ▶ Biggest LNG consuming region.
- ▶ 1/3 of the gas demand covered by LNG.
- ▶ Main LNG consuming countries 100% dependency on LNG.
- ▶ Long term “ToP” contracts.
- ▶ Price → Oil indexation (floor and ceiling)
- ▶ No HUB, but new spot price reference (JKM)

...security of supply
its the main driver

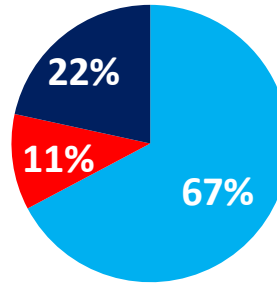
Europe

LNG 2009 =
60 Bcma

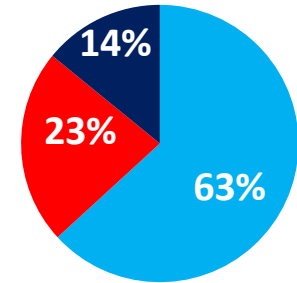
- Pipeline
- LNG
- Indig. production



Eurasia = 1060 Bcma



EU 27 = 540 Bcma



LNG Europe = 275 Bcma

(France, Spain, UK, Belgium, Italy, Turkey, Greece and Portugal)

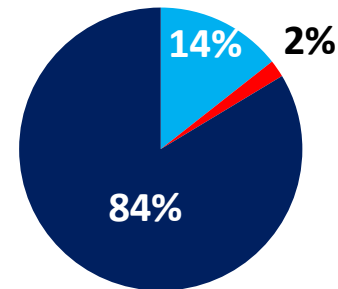
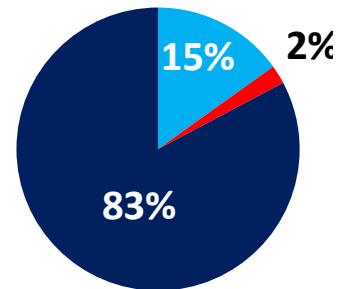
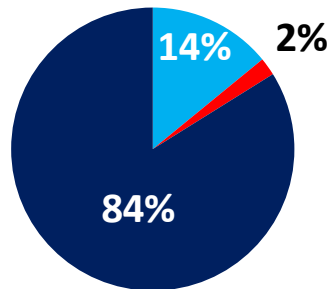
- ▶ Declining indigenous production and high dependency on Russian imports
- ▶ Clearly differentiated markets:
 - **Northwestern** (Deregulated + interconnections + Hubs)
 - **Southern** (Less deregulated + non developed Hubs + poorly interconnected)

...coexistence of Long Term "TOP" contracts with increasing spot LNG and pipeline supplies

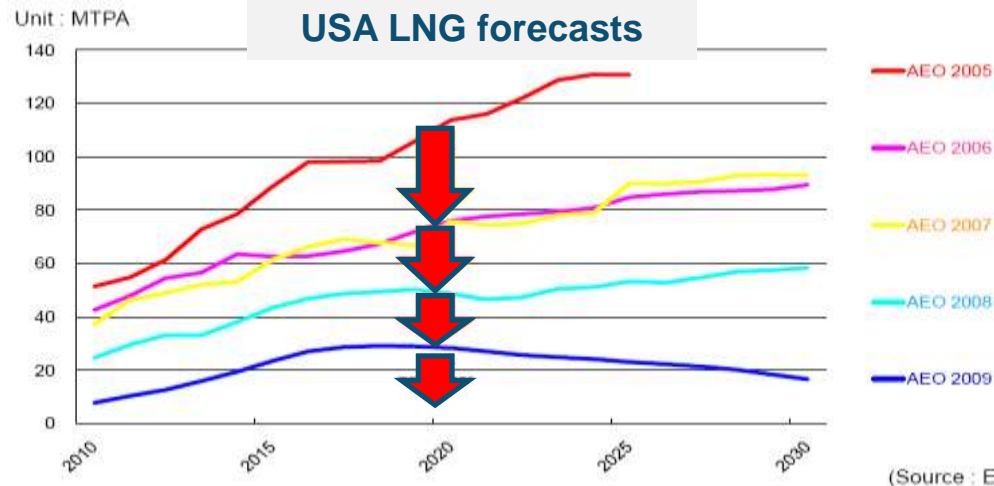
America

LNG 2009 = 20 Bcma

- Pipeline
- LNG
- Indig. production



- ▶ USA: Biggest gas market with low dependency on imports
- ▶ Boost in unconventional gas production
- ▶ Unutilized new regasification capacity
- ▶ High liquidity in gas Hubs → Prices respond quickly to changing domestic supply and demand balances



...LNG demand forecast decreasing year by year

World gas demand
~ 3000 Bcma

**Physical gas
traded in Hubs***
~ 700 Bcma

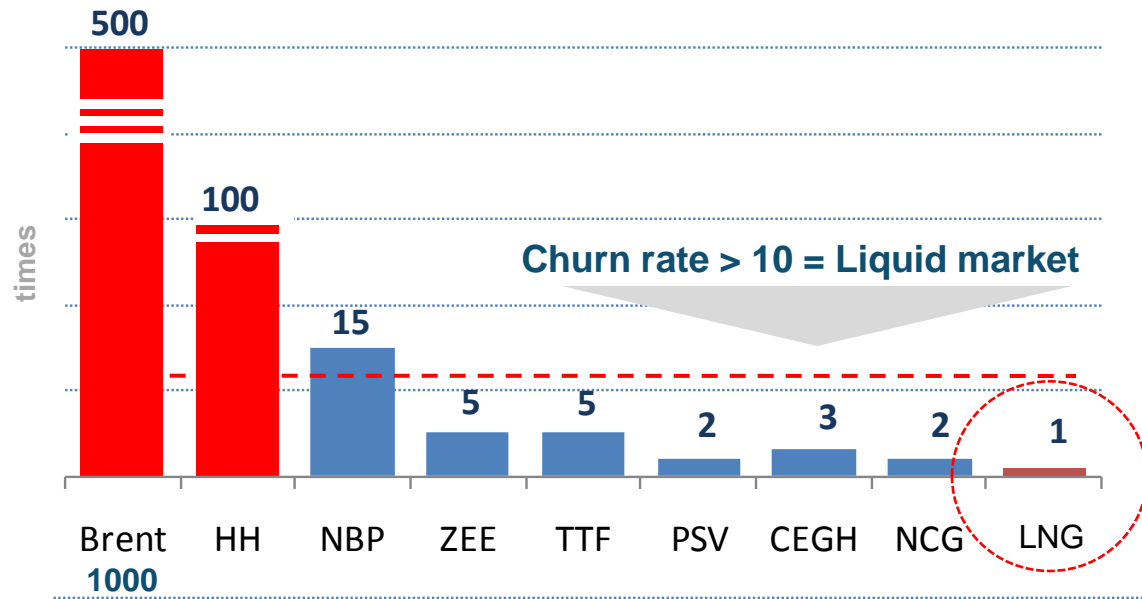
** Stream estimation, assuming
most of US physical gas trade*

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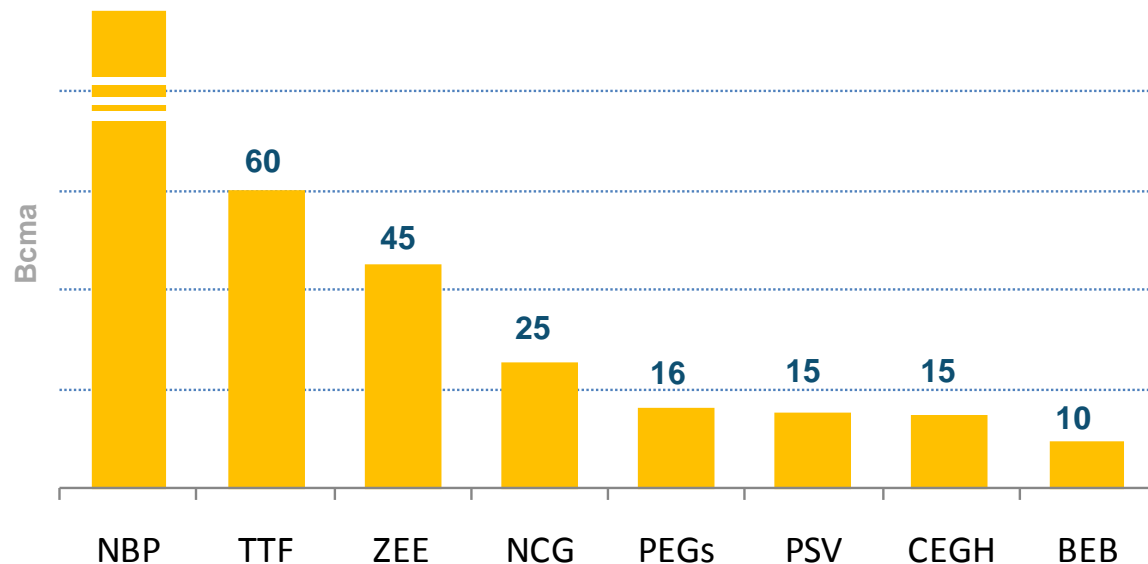
Gas Hubs

there's still a long way to reach relevant liquidity in European gas Hubs

Churn rate



Traded volumes in Gas Hubs in Europe

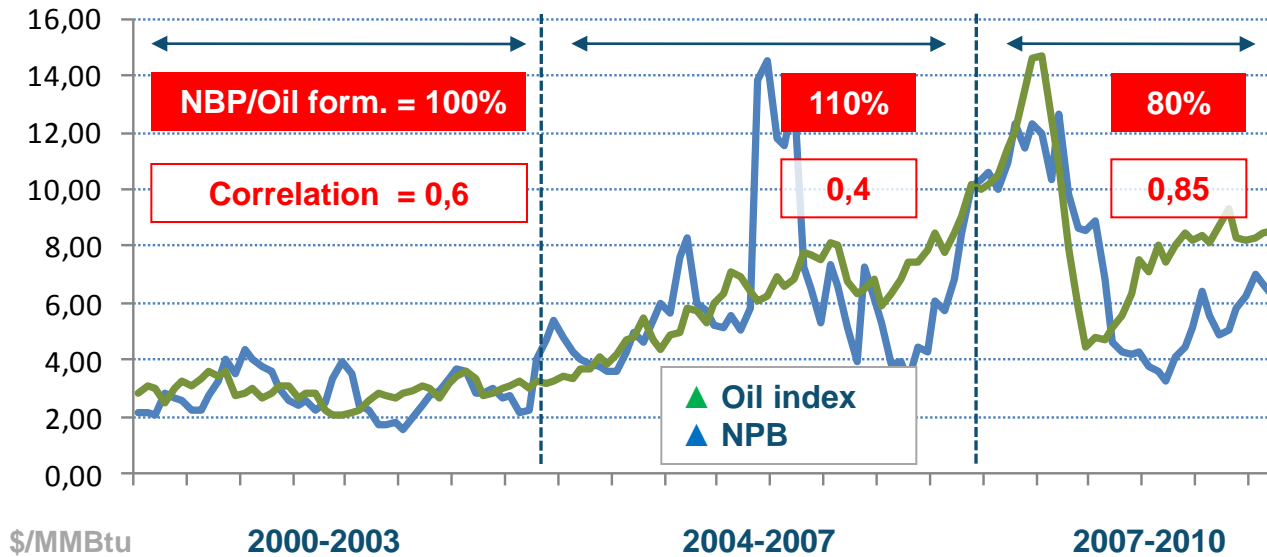




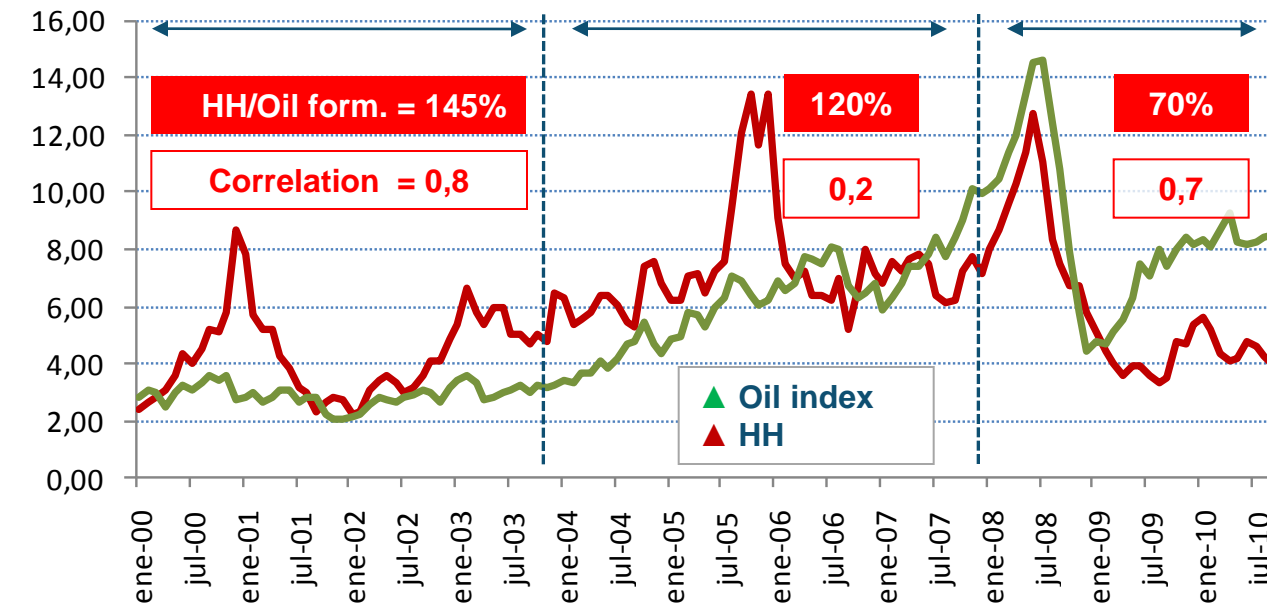
3

Price linkage

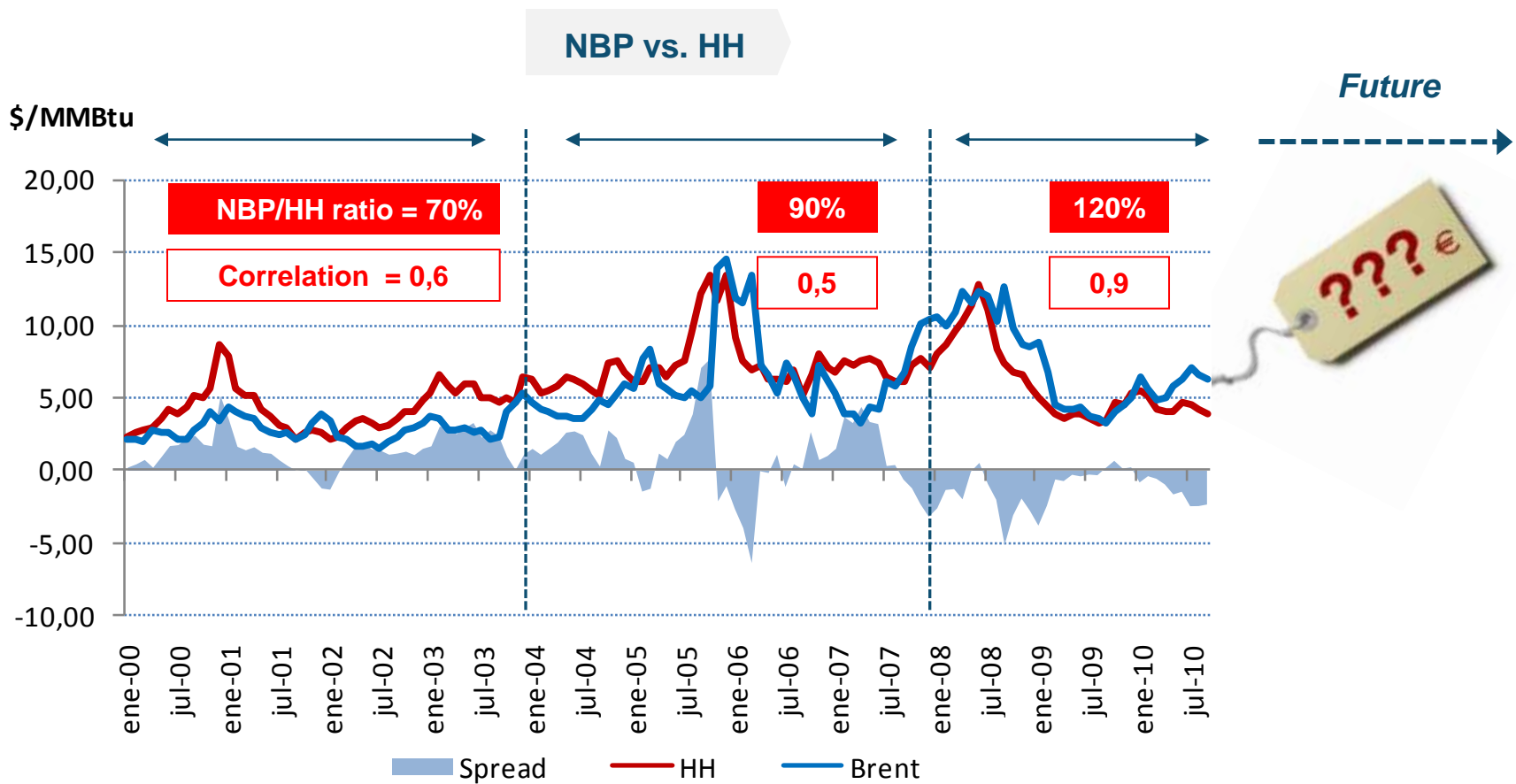
**NBP vs.
Oil index**



**HH vs.
Oil index**



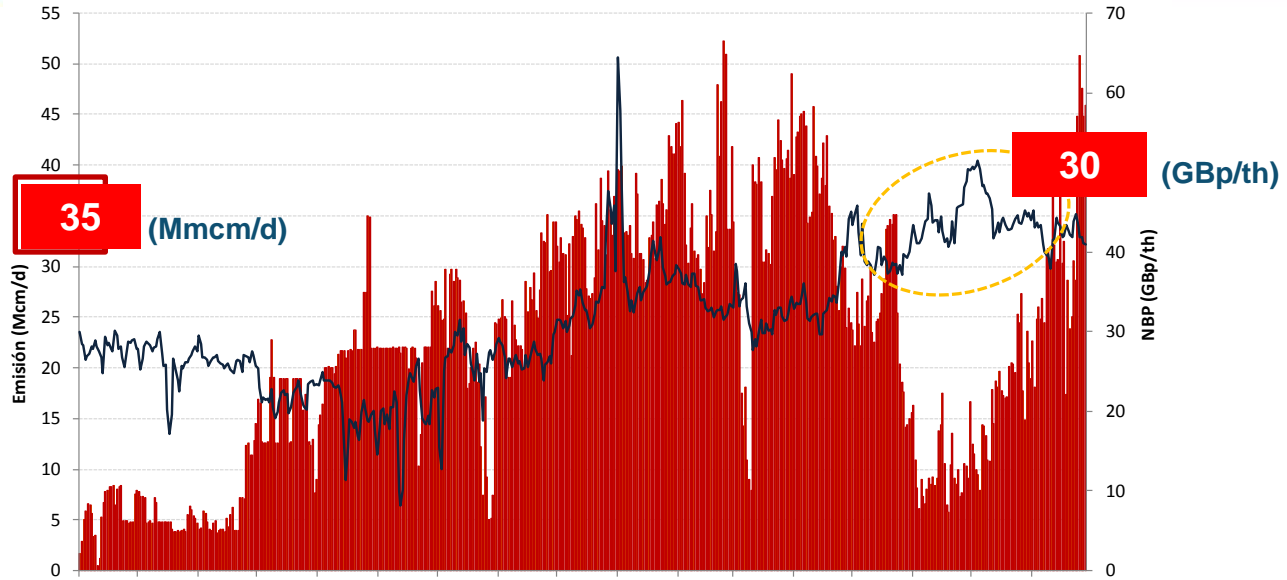
loss of US LNG attractive in favour of European hubs



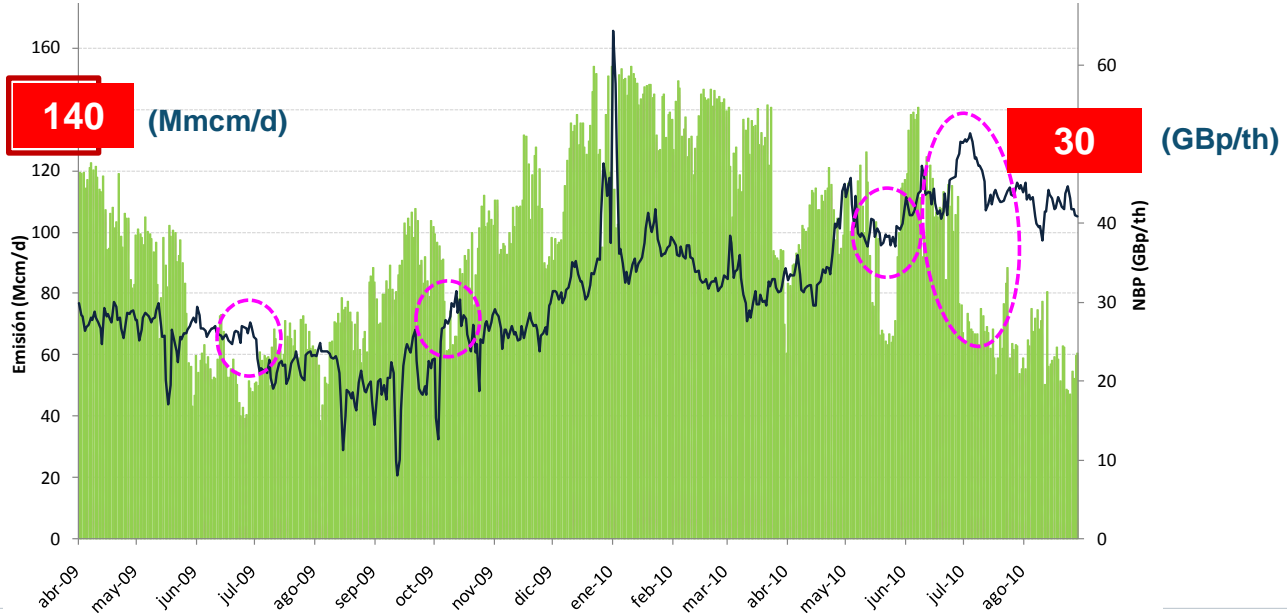
... will European Hubs be able to maintain this spread to HH in the long term?

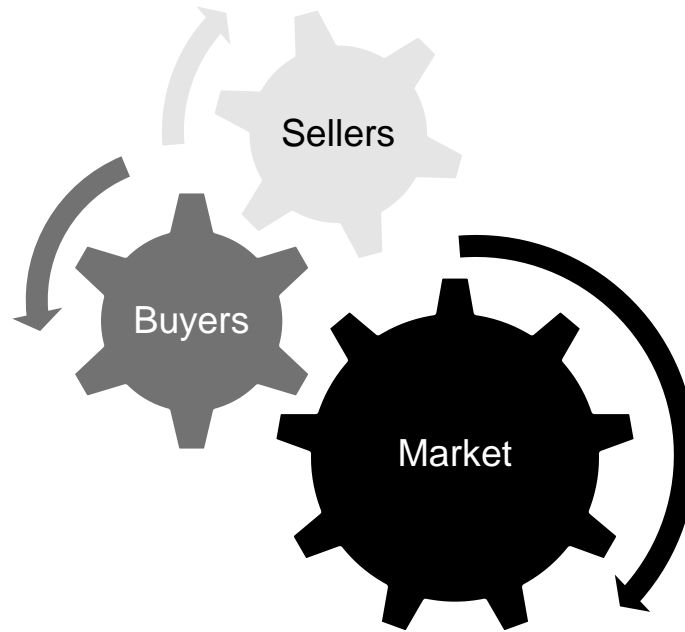
we've seen some effect on NBP prices from S. Hook output, but still very limited.

South Hook
(Qatar) → UK
vs.
NBP



Norway → UK
vs.
NBP





4

Conclusions

4 Conclusions

- ▶ In our view, the question today is more how much the hubs have effect on LNG trade than the opposite
- ▶ In a market where increased flexibility and uncommitted LNG contributes in a 20-30% of the total LNG trade, gas Hub prices are one of the key elements that can attract flexible LNG around the world.
- ▶ LNG short term pricing is driven by the forces of supply and demand of different regions, and it is increasingly disconnected from long-term contracts prices
- ▶ Neither the markets nor the suppliers are driving the industry towards full “commoditization”, nonetheless, some convergence of LNG pricing may occur.
- ▶ We still have a long way to reach a level of total “globalization”, comparable to oil markets... .. but are we in the process of slowly and gradually breaking away LNG Oil indexation to some LNG Gas Price?

Thank you

gracias

شكراً

mercy

谢谢

grazie

ありがとう

obrigado

σας ευχαριστούμε

danke

당신을 감사하십시오

dank u

ВЫ

take a look at www.streamrgn.com