



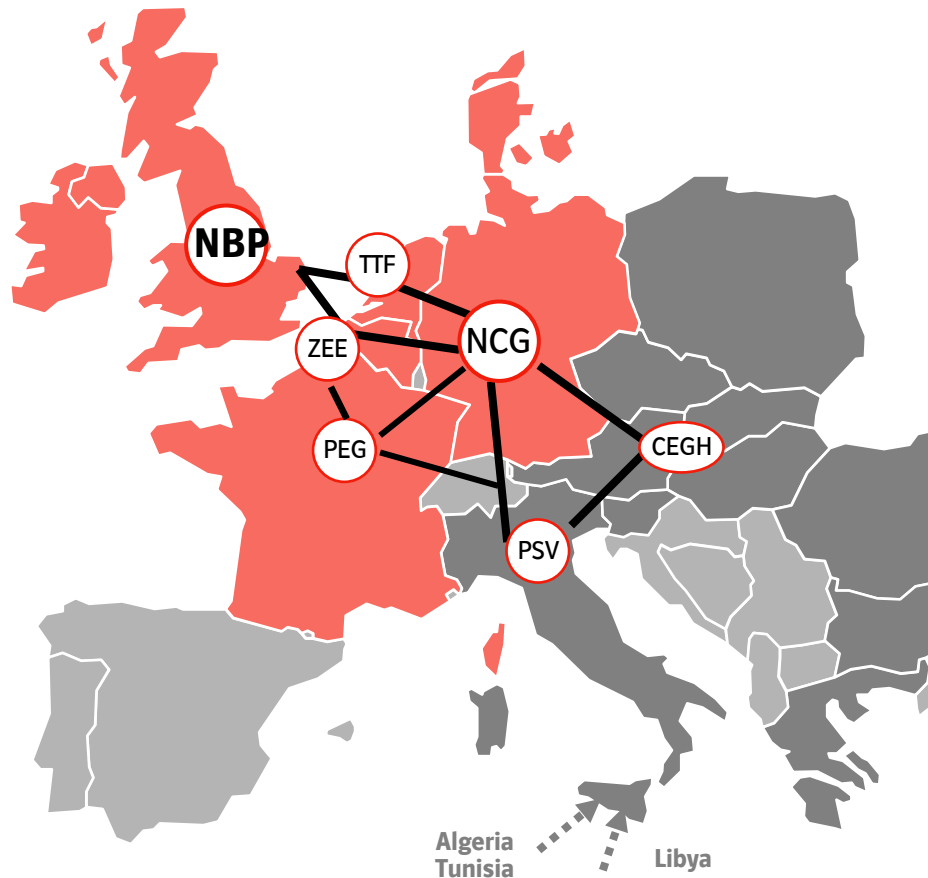
Flame 2009 Strategy & Practice Session  
Stream B - Trading & Pricing

"Exploring Challenges &  
Opportunities Along The Road  
Towards Pan European Gas Trading"

Dr. Ingolf Hoven, Director of Gas & Oil Trading, 11 March 2009

**Gas trading is possible across  
regional gas hubs in Europe,  
but there is a room for improvement**

# Starting points for our road towards effective pan European gas trading



## Indicators for a functioning gas hub

1. Trading via broker screens and via exchanges
2. Transparent and reliable bid/ ask quotations for all relevant products and tightness of spread
3. Balancing market; exchange based
4. Market depth; high volume traded/ churn of relevant products

# Market Depth / Liquidity

## Heren liquidity rating

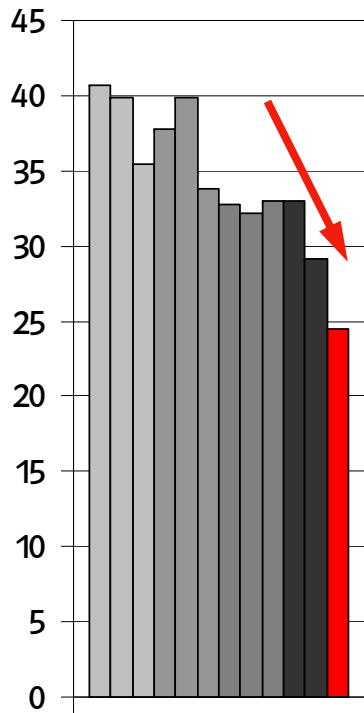
Liquidity of the NBP hub	
Within-day <EUR 0.5/MWh spread*	1
Day-ahead <EUR 0.5/MWh spread*	1
Month-ahead <EUR 0.5/MWh spread*	1
Next quarter <EUR 0.5/MWh spread*	1
Next season <EUR 0.5/MWh spread*	1
Two seasons ahead <EUR 0.5/MWh spread*	1
Two years ahead <EUR 0.5/MWh spread*	1
Three years ahead <EUR 0.5/MWh spread*	1
Within-day <EUR 0.3/MWh spread*	1
Day-ahead <EUR 0.3/MWh spread*	1
Month-ahead <EUR 0.3/MWh spread*	1
Next quarter <EUR 0.3/MWh spread*	1
Next season <EUR 0.3/MWh spread*	1
Two seasons ahead <EUR 0.3/MWh spread*	1
Two years ahead <EUR 0.3/MWh spread*	1
Three years ahead <EUR 0.3/MWh spread*	0
Exchange-based balancing market	1
Brokers widely used	1
Independent daily price quotes published	1
Active futures exchange	1
<b>Total</b>	<b>19</b>
<i>*Typically available every day to all interested counterparties</i>	

## Traded volumes – which volumes?

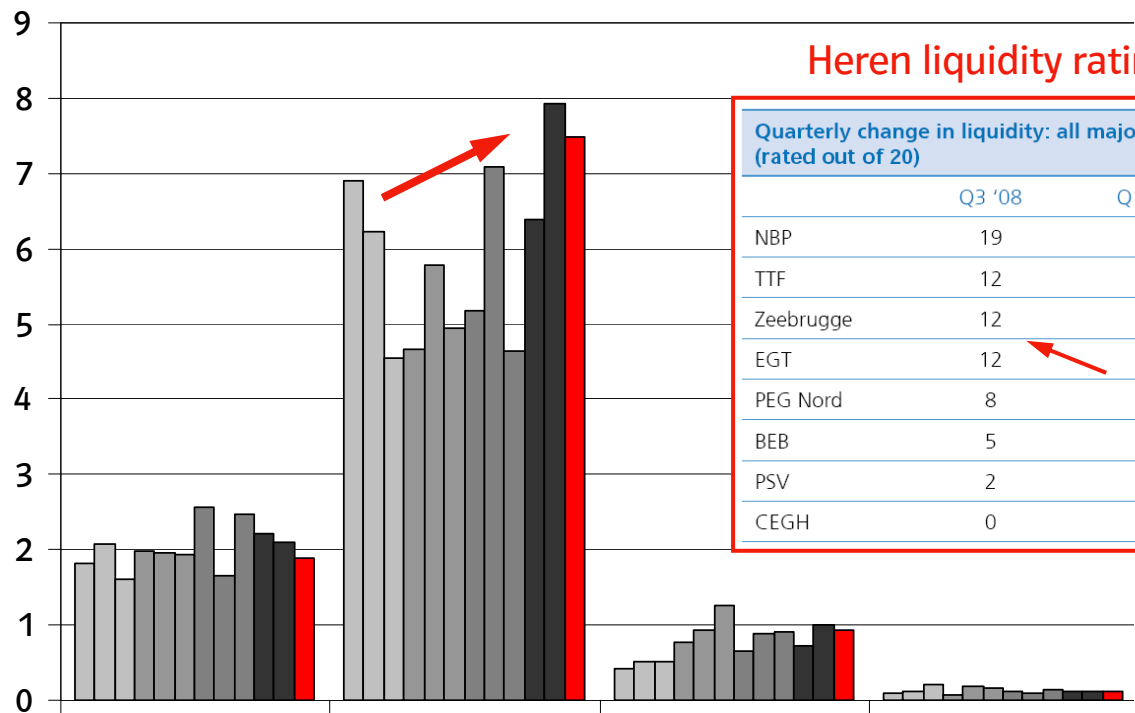
- Volumes traded via broker screens and exchanges = 80/ 90% of trade volume (standard products)
- or
- Volumes published by TSO
  - Broker/ exchange volumes show all trades done on a day/ month with delivery/ settlement that day/ month or later; currently broker volumes are not published => recommended
  - TSO volumes show all nominated/ delivered volumes of the respective month, i.e. standard products, LTC. TSO' s using different methodologies (gross, net volumes etc.) apple and pear problem

# Liquidity Development: 2008 Monthly broker screen volumes of European gas hubs

TWh/trading day



NBP



ZH

TTF

EGT / NCG

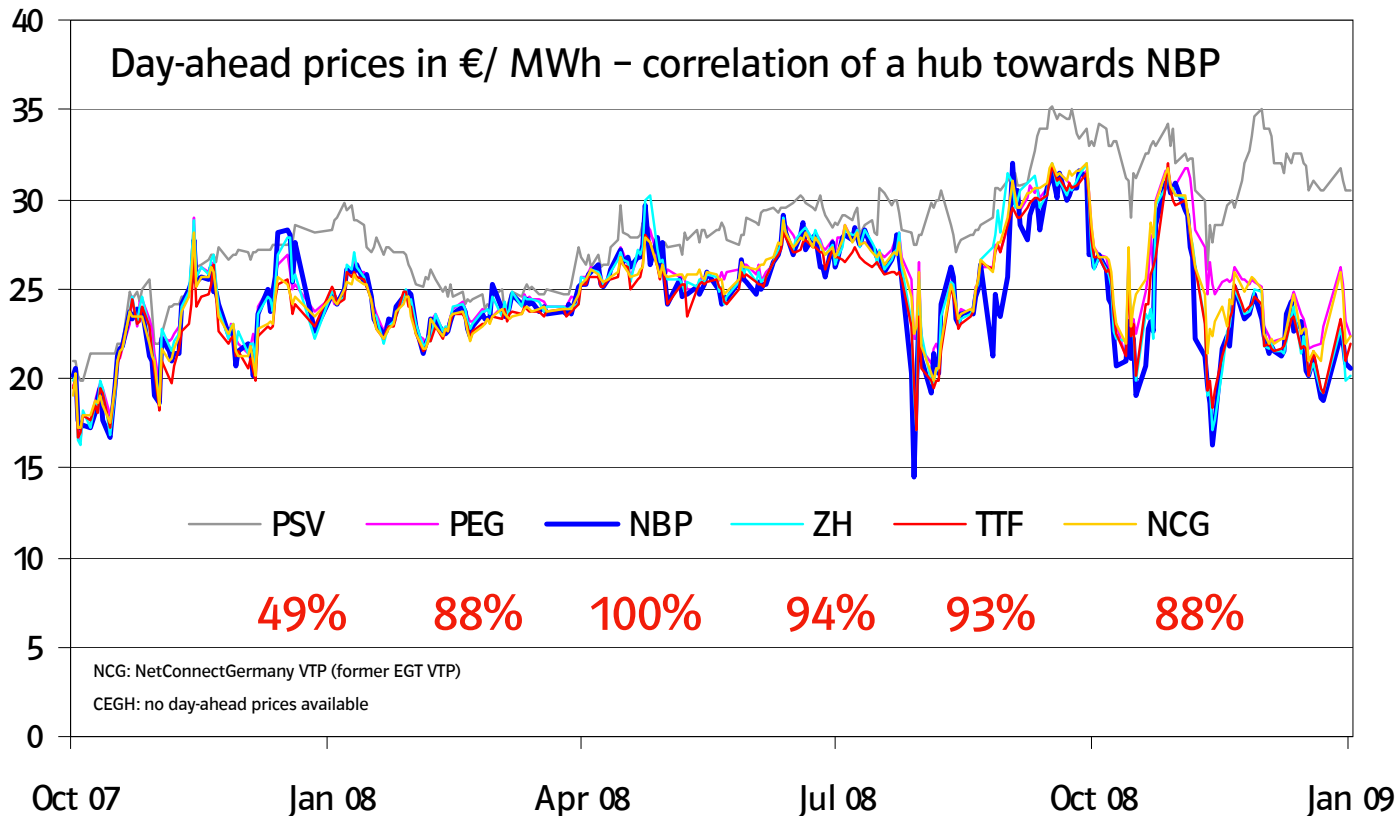
BEB / GUD

## Heren liquidity rating

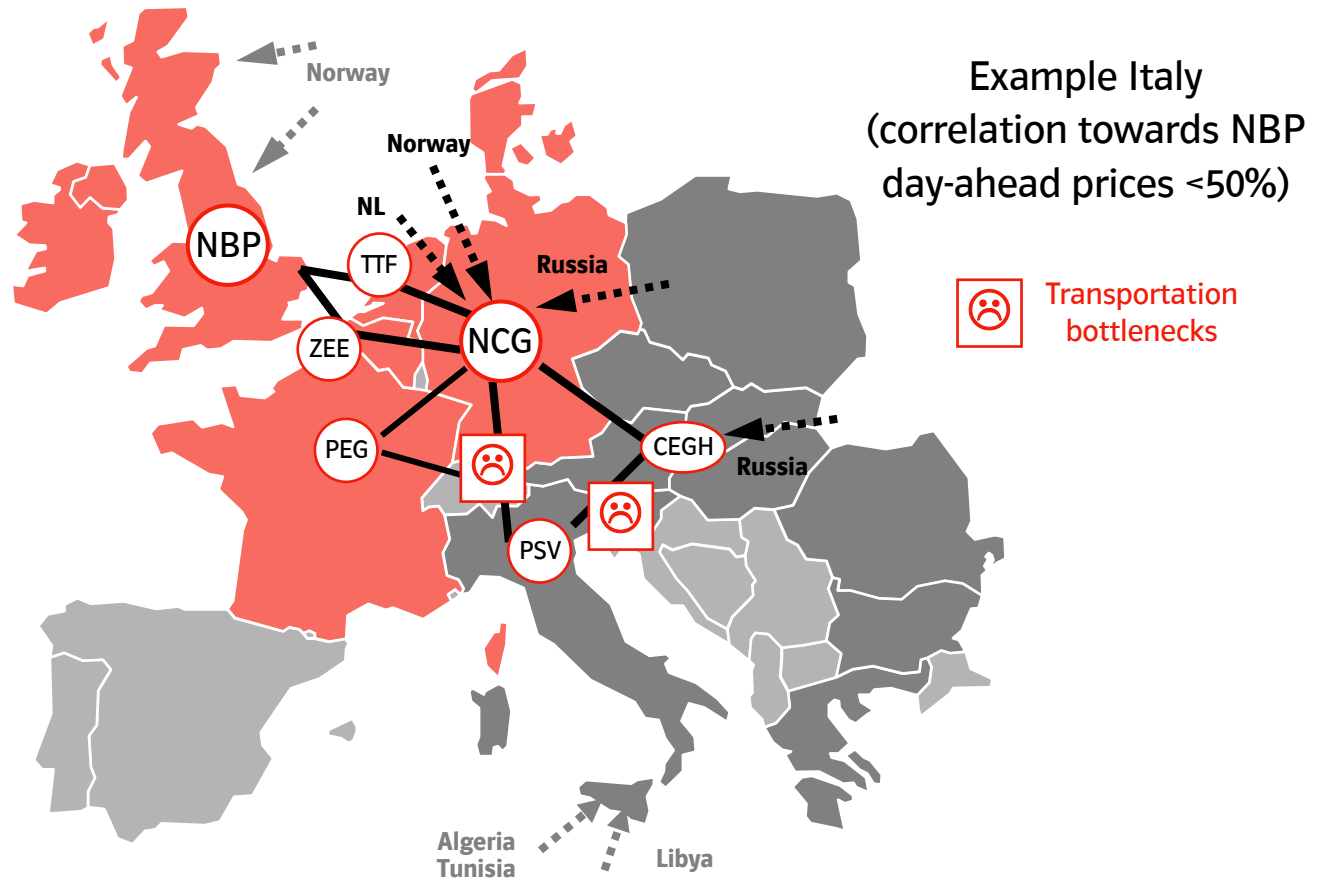
Quarterly change in liquidity: all major hubs (rated out of 20)

	Q3 '08	Q1 '08
NBP	19	19
TTF	12	14
Zeebrugge	12	12
EGT	12	11
PEG Nord	8	7
BEB	5	7
PSV	2	0
CEGH	0	0

# Price correlation as an indicator of a functioning Pan European gas trading



High correlation of European Hub spot prices is a good indication of a functioning market, but still room for improvement



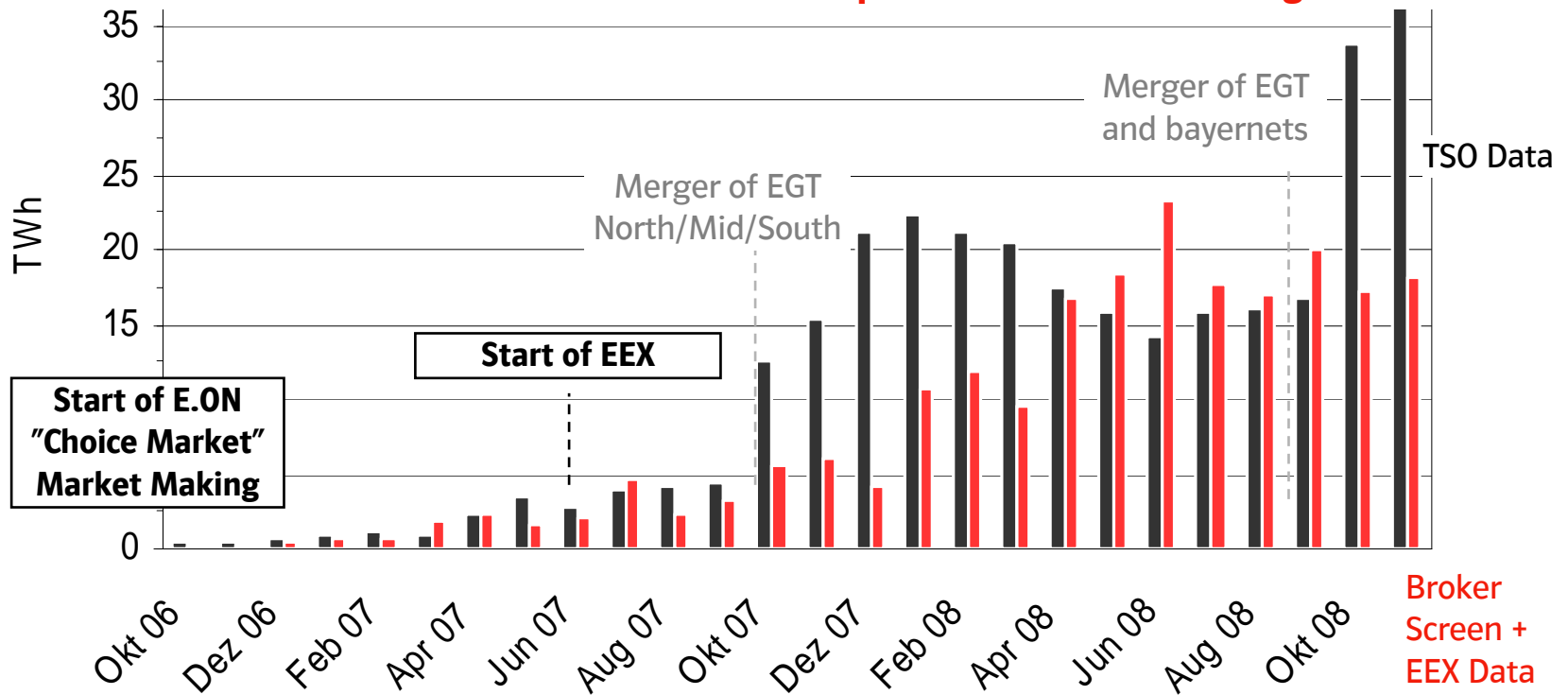
# Thoughts for our road towards effective pan European gas trading

We need more liquid regional gas hubs with

- A virtual trading point in an entry/exit system encompassing/connecting the regional downstream market – currently very different models across Europe
- Easy access to other markets/ hubs incl. merger of market areas – ERGEG, national regulator initiatives
- Easy access to upstream sources/ players
- Reliable Market makers quoting all relevant products with tight bid/ ask spread continuously – role for dominant players

# NCG hub – as a potential role model

**Virtual point and Entry/Exit model - connected to big downstream market and to other liquid hubs - market making**



## Our conclusion

**The successful development of the NCG hub in Germany offers a role model for other European gas hubs being in an early stage of development**

**Liquid hubs provide significant price signals for interconnection requirements**