

Development of Gas Hubs in Europe



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Gas HUB ?

A GAS HUB is a “point” (**virtual or physical HUB**) where gas trading is facilitated by an operator (**Hub Operator**)

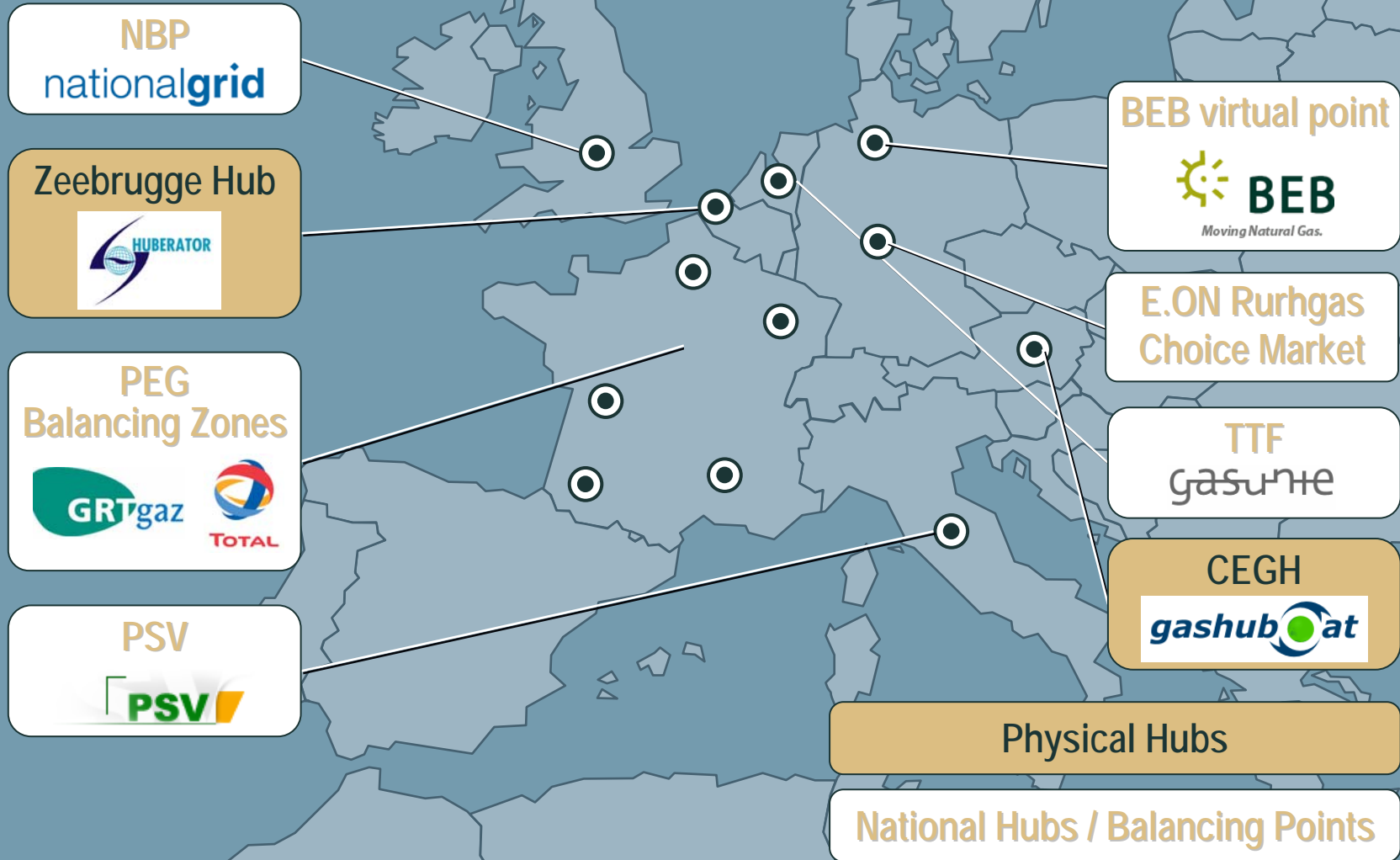
- Basically, the Hub Operator organizes the exchanges: receives & treats the trading notifications (**nominations**) of the parties:
 - » Dispatching, Matching, Confirmation, Monitoring, Reporting Services...

⇒ Interest for players:

- Hub Operator Services: facilitator, independent
- Set of standard rules & contracts
- Liquidity concentrated at this point: easier to find a counterparty and to adapt its trading position
- Transparency tool: price, volume information

More Gas Trading Hubs in Europe

From 5 years ago ... to now



Physical Hub ? Notional Hub ?

“Physical” Hub

- Gas is exchanged at precise physical location
 - e.g. a flange or a place where several pipelines connects to each other
- Eligible gas for trading: gas passing at this location
- Physical players:
 - Gas is delivered/offtaken to/from this location by physical players
- Pure traders:
 - Pure traders buy & sell at this location, they never move the gas to/from the Hub

“Notional” Hub

- Gas is Exchange in a zone (a part of a gas network)
- e.g. national or regional gas network
- Eligible gas for trading = Entry paid gas = gas that entered the zone
- Physical players:
 - Gas is imported/exported/sold to end consumers (which are within the zone) to/from this zone by physical players
- Pure traders:
 - Pure traders never import/export gas to/from the Zone

Screen trading on Hubs ?

Typically, the Hub operator does not actively put the parties into contact:

- Usually, trades are concluded bilaterally between parties (OTC)
- In some case, screen trading (**Gas Exchange**) is also offered on the Hub
 - » Parties put anonymous bid/offer on a screen
 - » Transaction are automatically concluded through the screen: the operator of the Exchange is “**central counter party**” => full anonymity

The screenshot displays the EnEx trading platform interface. The main window shows the 'ZEE Market (p/Therm)' table with columns for Deal, Hub, Term, Bid Qty, Bid Price, Offer Price, Offer Qty, and Last. A modal window titled 'Create Zeebrugge Hub - Bid' is open, allowing users to enter contract details.

| Deal | Hub | Term | Bid Qty | Bid Price | Offer Price | Offer Qty | Last |
|------|-----|-----------------------|---------|-----------|-------------|-----------|-------|
| ZH | ZH | 27 May | 50,000 | 20.33 | 20.98 | 10,000 | |
| ZH | ZH | 28 May | | 61.05 | 9.9128 | 10,2298 | 12.21 |
| ZH | ZH | 30 May | 4,000 | 16.85 | 17.98 | 40,000 | |
| ZH | ZH | 27 May 04 - 28 May 04 | 30,000 | 19.68 | 19.99 | 20,000 | |
| ZH | ZH | 29 May 04 - 30 May 04 | 10,000 | 17.01 | 17.89 | 50,000 | |
| ZH | ZH | 31 May 04 - 04 Jun 04 | | 12.21 | 8.2940 | 8.7231 | 61.05 |
| | | | | | 22.94 | 10,000 | |
| | | | | | 11.1855 | 12.21 | |

Create Zeebrugge Hub - Bid

Location: Market Hub (ZH), Trading Point (ZH)

Contract Terms: Price (p/Therm), Euro/MWh

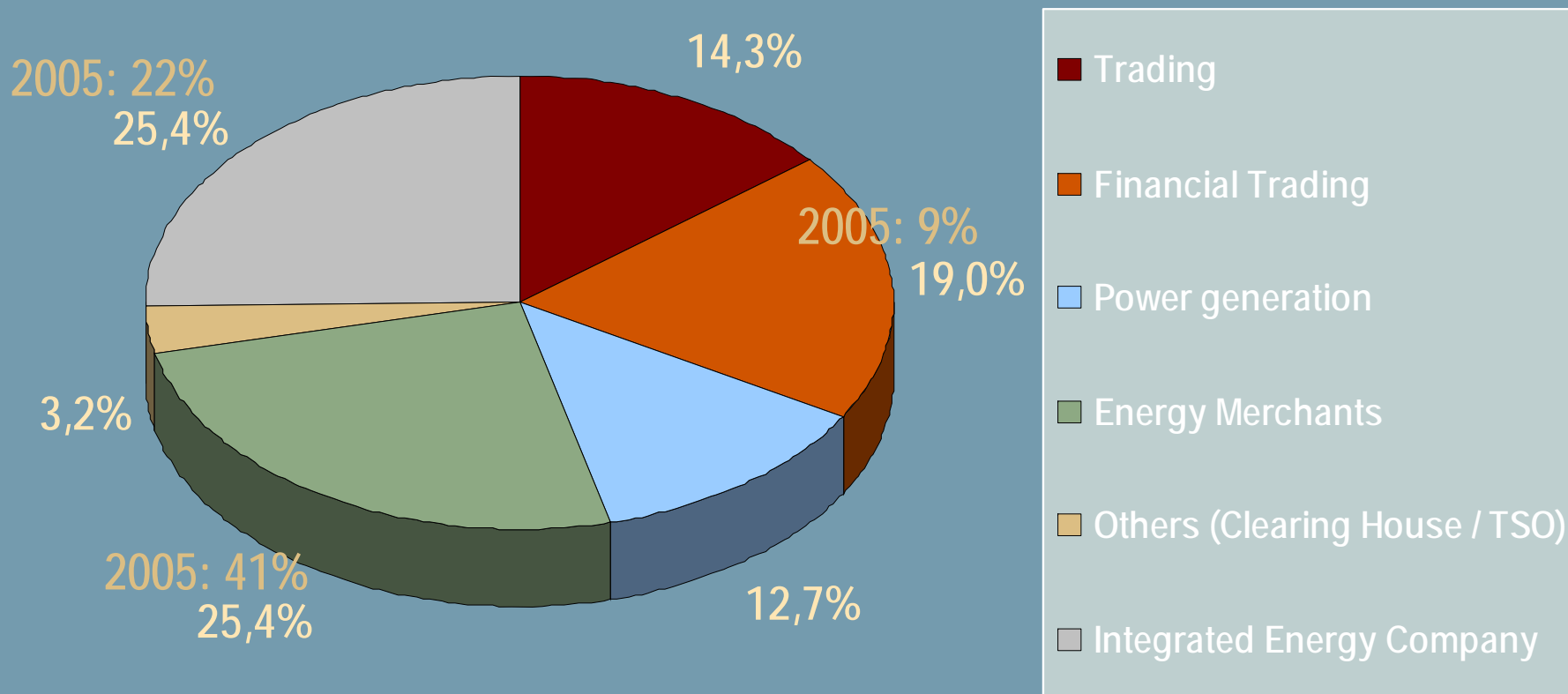
Quantity: Allow Partial Trade

Duration: Term (27 May)

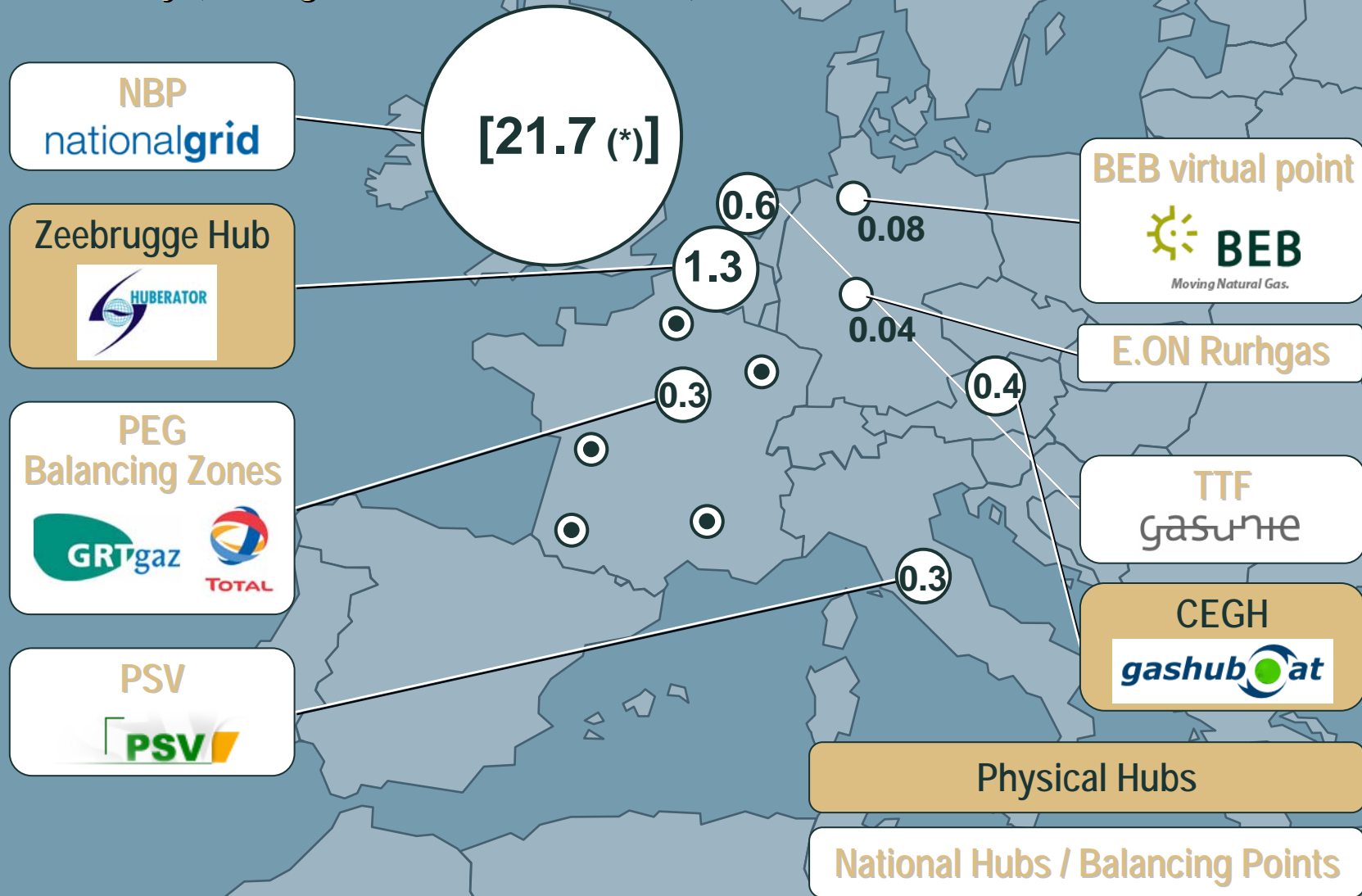
Expiry Date: Nomination Deadline, End of Day, 10 Minutes, Fill or Kill

Value (exc. VAT): Password: [] [Post] [Hold] [Close]

Hub Member's Profile: example of Zeebrugge Hub

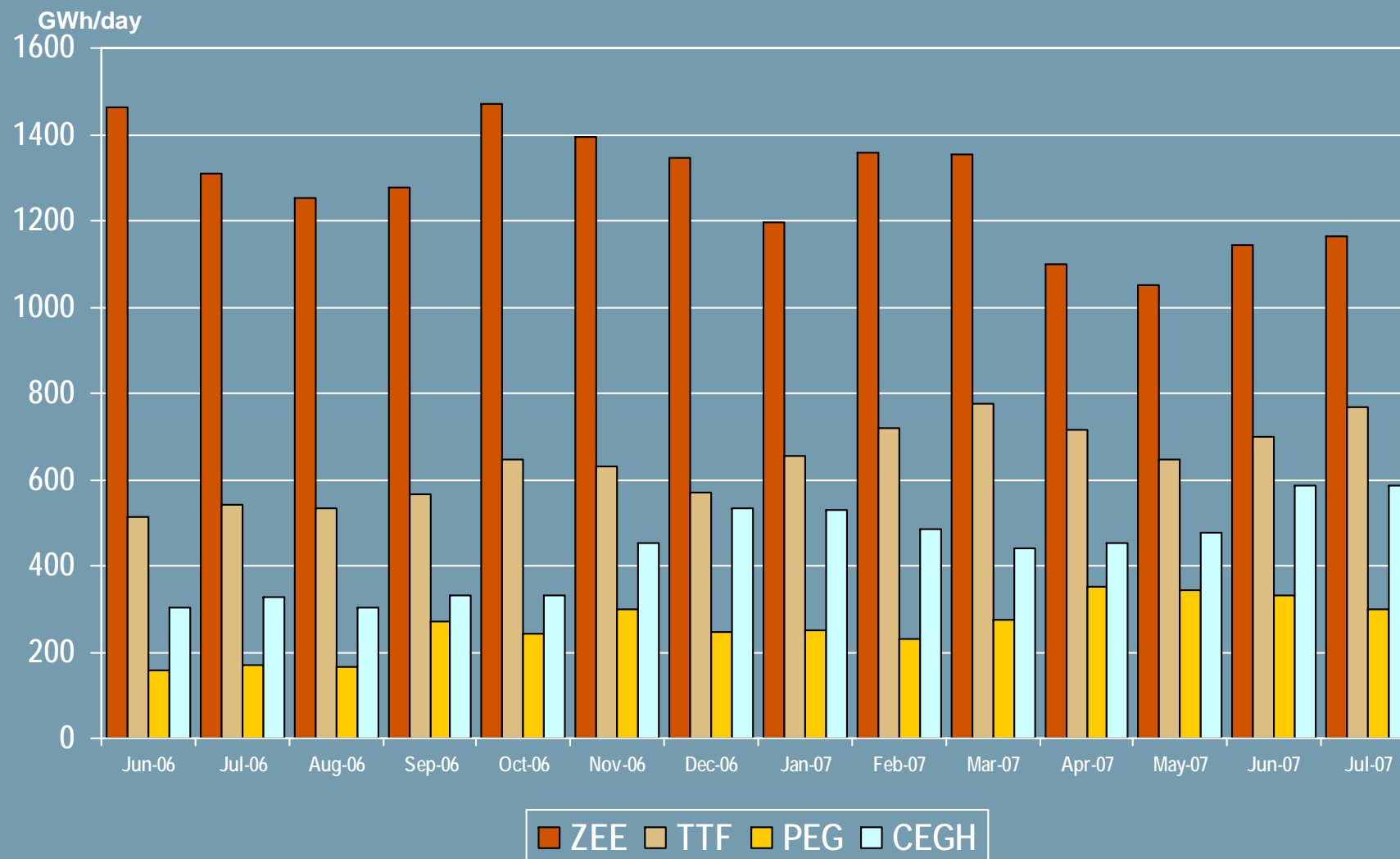


Trading volumes on continental Hubs in TWh/day (averages 06/2006 till 05/2007)



(*) gross traded volumes published for NBP are not directly comparable to net traded volumes published by other hubs

Trading volumes on main continental Hubs



Traded Products/Contracts on Hubs ?

- A Hub is a place where gas trading is facilitated.
- The market defines the “standard” products that are the most traded on the Hubs ...

Platts Zeebrugge Assessments, 11 July, 2007

| | p/th | change D-1 (p/th) | eur/GJ | eur/MWh |
|----------------|---------------|----------------------|-------------|---------------|
| Day-Ahead | 29.80 - 30.05 | 0.83 | 4.17 - 4.20 | 15.00 - 15.13 |
| Weekend | 28.10 - 28.30 | 1.30 | 3.93 - 3.96 | 14.15 - 14.25 |
| Working week+1 | 29.30 - 29.50 | 1.38 | 4.10 - 4.12 | 14.75 - 14.85 |
| Bal of month | 28.35 - 30.15 | 1.38 | 3.96 - 4.21 | 14.27 - 15.18 |
| Aug 07 | 29.60 - 29.80 | 2.00 | 4.14 - 4.17 | 14.90 - 15.00 |
| Sep 07 | 29.25 - 29.70 | 1.73 | 4.09 - 4.15 | 14.72 - 14.95 |
| Oct 07 | 31.75 - 32.03 | 1.57 | 4.44 - 4.48 | 15.98 - 16.12 |
| Q4 2007 | 39.25 - 39.55 | 1.23 | 5.49 - 5.53 | 19.76 - 19.91 |
| Q1 2008 | 47.75 - 48.25 | 0.73 | 6.68 - 6.75 | 24.04 - 24.29 |
| Q2 2008 | 33.30 - 34.35 | 0.20 | 4.66 - 4.80 | 16.76 - 17.29 |
| Summer 08 | 32.20 - 33.05 | 0.20 | 4.50 - 4.62 | 16.21 - 16.64 |
| Winter 08 | 45.85 - 46.50 | 0.28 | 6.41 - 6.50 | 23.08 - 23.41 |
| Summer 09 | 35.25 - 35.95 | 0.20 | 4.93 - 5.03 | 17.74 - 18.10 |
| Gas Year 2007 | 37.85 - 38.48 | 0.59 | 5.29 - 5.38 | 19.05 - 19.37 |



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