



connecting  
markets

## **Developments at EEX and new initiatives**

**Information event for gas trading companies, 29<sup>th</sup> of March 2011**

Sirko Beidatsch, EEX AG

Review: Developments of the gas market at EEX

Control energy trading and gas exchange

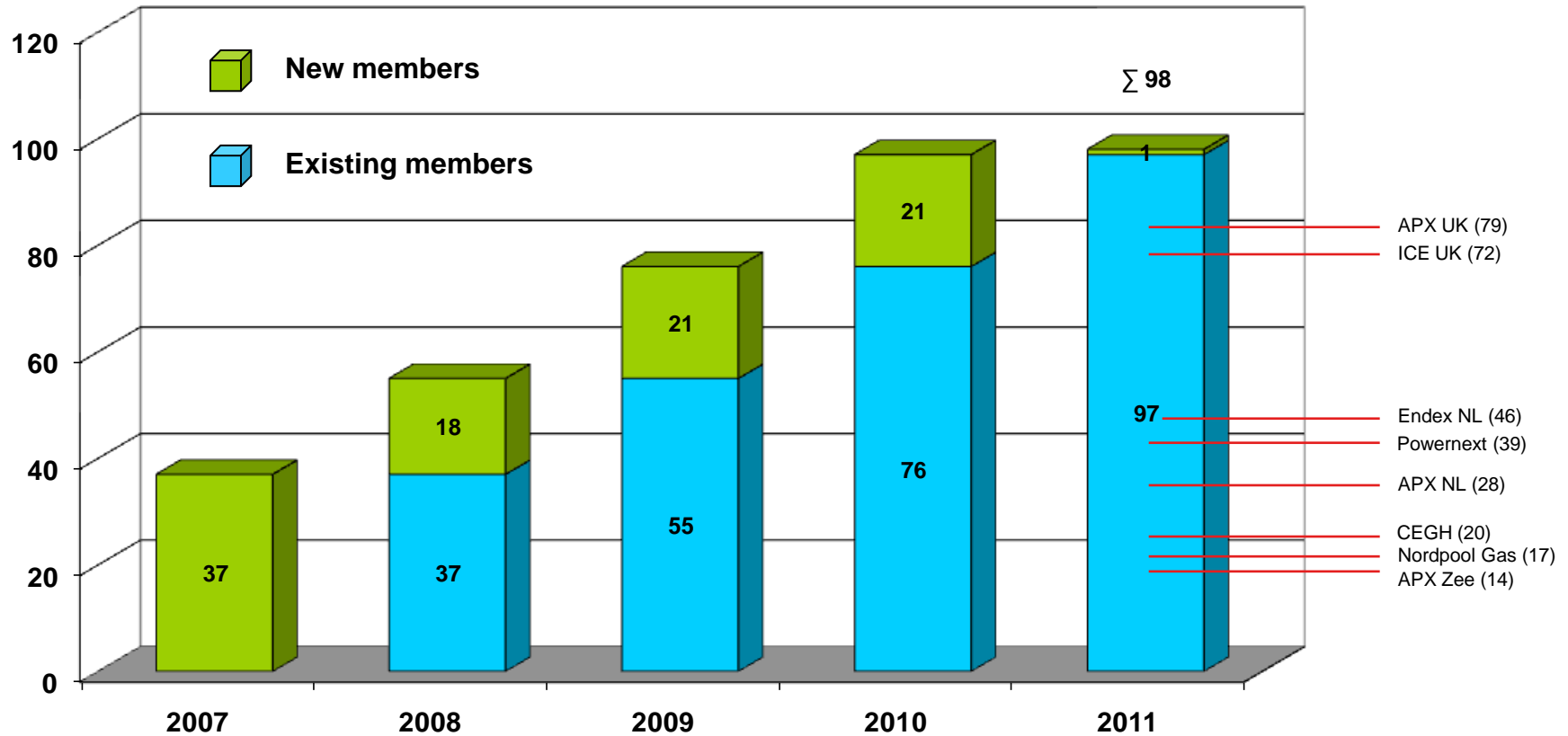
Introduction of 24/7 trading at EEX

Exchange market area TTF: Gas trading via EEX

EGIX – Reference price for the European gas economy

# Number of gas member at EEX

Increase of trading participants at the EEX gas market





# EEX member for natural gas trading

## NetConnect Germany

advanced energy trading GmbH  
 Barclays Bank PLC  
 BG International Limited  
 CEZ a.s.  
 DREWAG Stadtwerke Dresden GmbH  
 Edison S.P.A.  
 Energie AG Oberösterreich Trading GmbH  
 ENOVOS Luxembourg S.A.  
 Gas Natural SDG S.A.  
 KORLEA INVEST, a.s.  
 Lumius spol s.r.o.  
 NetConnect Germany GmbH & Co. KG  
 Nomura Energy Marketing Limited  
 Salzburg AG für Energie, Verkehr & Telekommunikation  
 Sinergie Italiana SRL  
 Stadtwerke Flensburg GmbH  
 Stadtwerke Karlsruhe GmbH  
 Stadtwerke München GmbH

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## NCG + GASPOOL

24/7 Trading GmbH	KES Kommunale Energie- dienstleistungsgesellschaft
Alpiq Suisse S.A.	KOM Solution GmbH
Bayerngas Energy Trading GmbH	LichtBlick AG
BKW FMB Energie AG	Louis Dreyfus Energy Services
Braunschweiger Versorgungs-AG	Macquarie Bank Limited
Centrica Energie GmbH	Mercuria Energy Trading S.A.
Danske Commodities A/S	Morgan Stanley & Co. International Limited
DB Energie GmbH	natGAS Aktiengesellschaft
Deutsche Bank AG	Noble Clean Fuels Ltd.
DONG Energy Germany AG	Optimization Engineers GmbH
DONG Naturgas A/S	Österreichische Elektrizitätswirtschafts-AG
e&t Energie Handelsgesellschaft m.b.H.	PCC Energie GmbH
E.ON Energy Trading AG	Pfalzwerke AG
EconGas GmbH	PGNiG ENERGIA SA
EDF Trading Limited	RheinEnergie Trading GmbH
EHA Energie-Handelsgesellschaft	RWE Supply & Trading GmbH
Electrabel S.A.	RWEST Switzerland S.A.
EnBW Trading GmbH	Shell Energy Europe Limited
Energi Danmark A/S	Spectron Energy Services
EnergieFinanz GmbH	Stadtwerke Hannover AG
Energiehandelsgesellschaft West mbH	Stadtwerke Leipzig GmbH
Energieunion AG	Stadtwerke Viernheim GmbH
Energy & More Energiebroker	Statkraft Energi AS
ENOI S.p.A.	Statkraft Markets GmbH
ENLOGS Energy Logistics & Services GmbH	Südwestdeutsche Stromhandels GmbH
Enovos Deutschland AG	SYNECO Trading GmbH
ENSO Energie Sachsen Ost AG	Technische Werke Ludwigshafen am Rhein AG
envia Mitteldeutsche Energie AG	The Royal Bank of Scotland plc.
EWE AG	Total Gas & Power Limited
Gasag Berliner Gaswerke AG	Trianel European Energy Trading
Gaselys S.A.	Tullet Prebon (Securities) Limited
Gazprom Marketing & Trading Limited	UBS AG
Getec Energie AG	Vattenfall Energy Trading Netherlands N.V.
GFI Securities Limited	Vattenfall Trading Services
Gunvor International B.V.	VEMEX s.r.o.
ICAP Energy A/S	Vitol S.A.
J.P. Morgan Securities Ltd.	VNG Verbundnetz Gas AG
	WINGAS GmbH

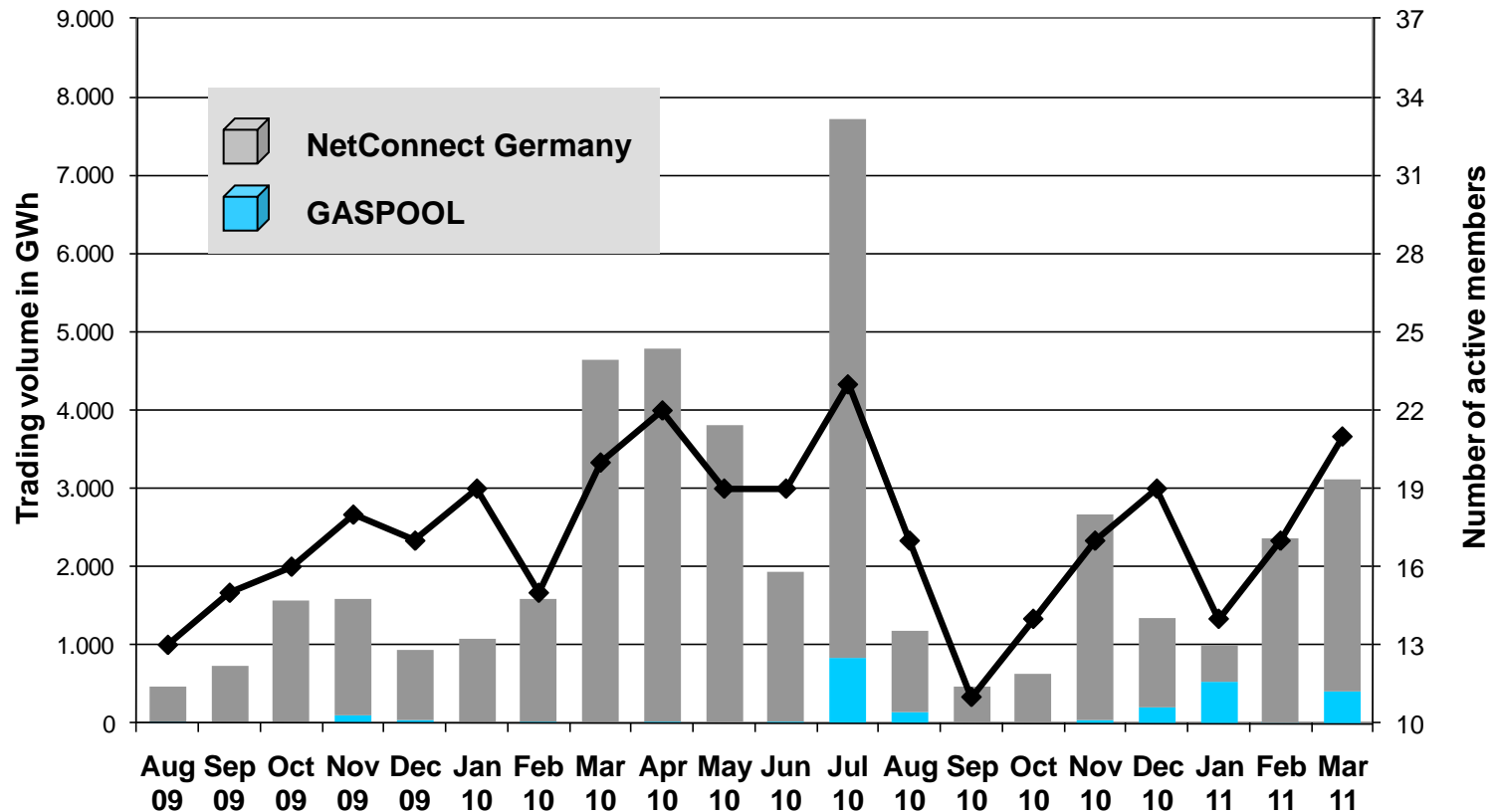
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## GASPOOL

Becomac GmbH  
 GASPOOL Balancing Services GmbH  
 Innovative Energy GmbH  
 Stadtwerke Uelzen GmbH  
 SWB Vertrieb Bremen GmbH

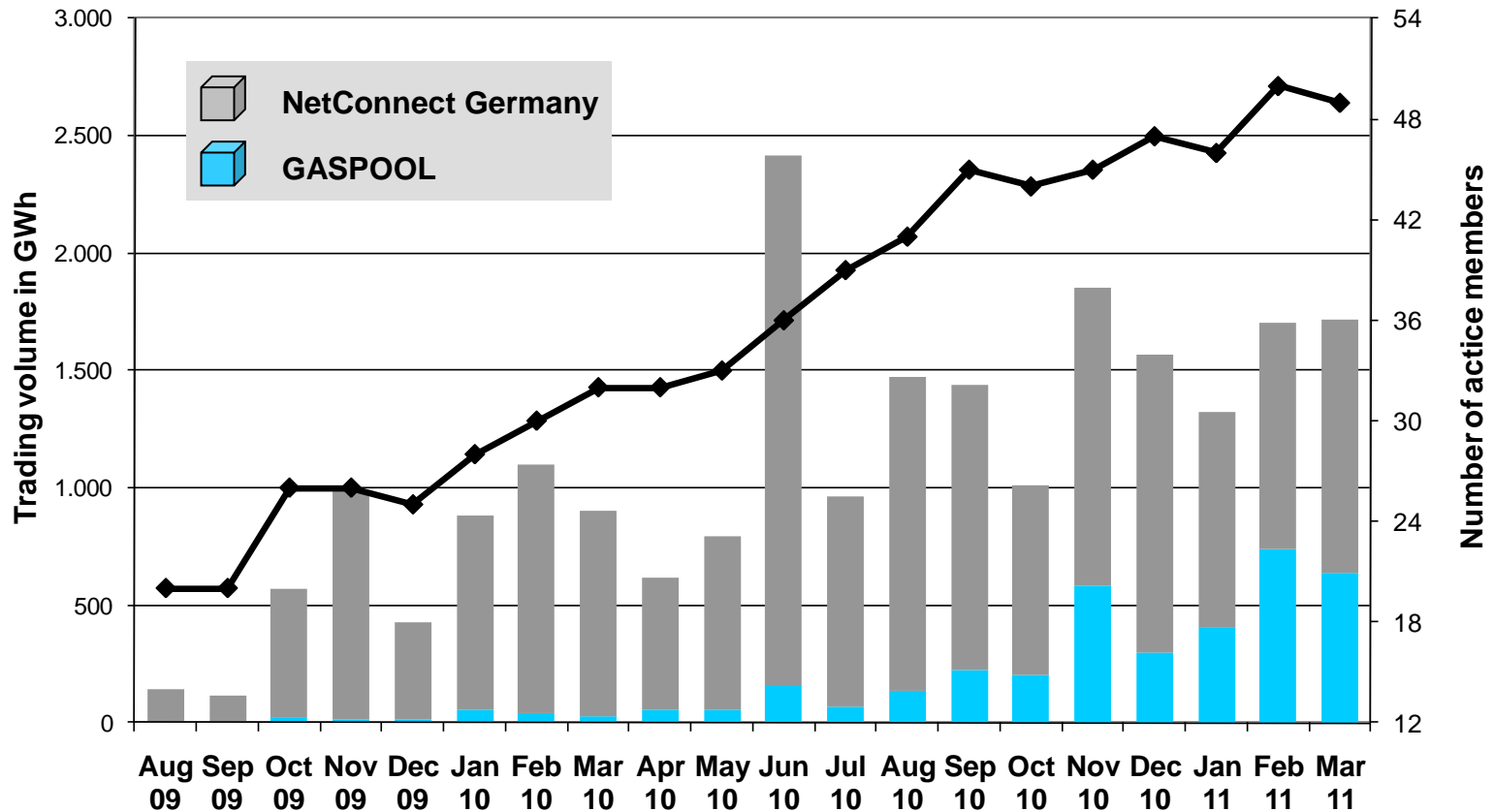
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## Developments in the derivatives market gas



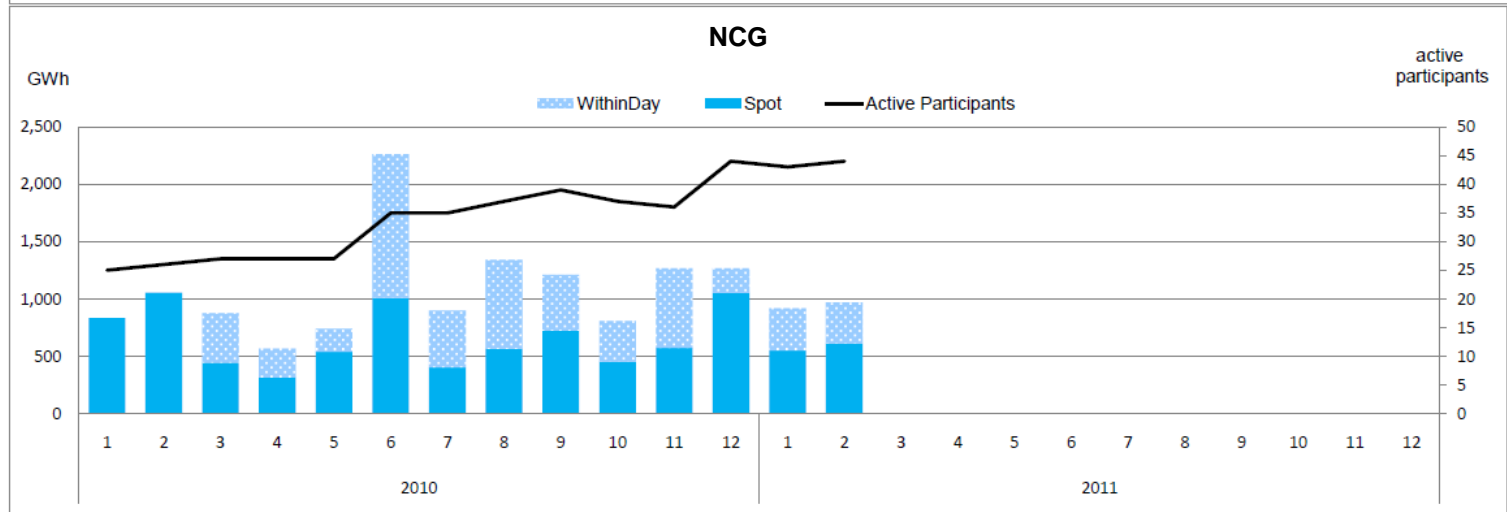
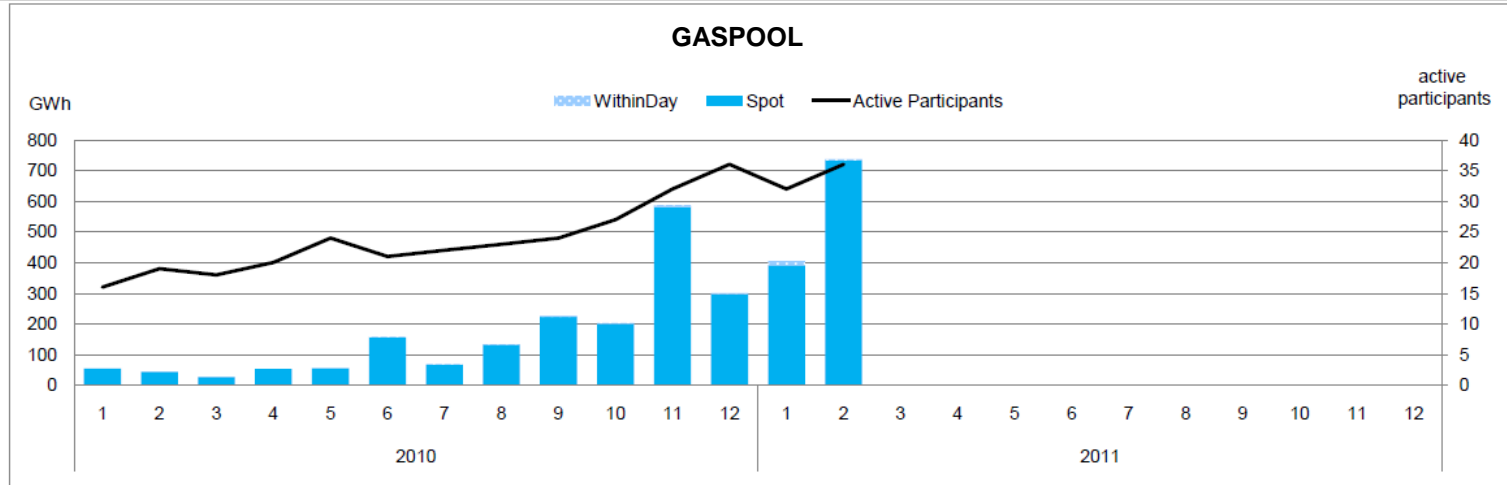
- Trading volume are small with strong fluctuation all the year
- Market area GASPOOL was traded sporadic

## Developments in the spot market gas



- Fast-growing number of active EEX members
- Traded volumes at GASPOOL catch up quickly

## Natural Gas Spot



Review: Developments of the gas market at EEX

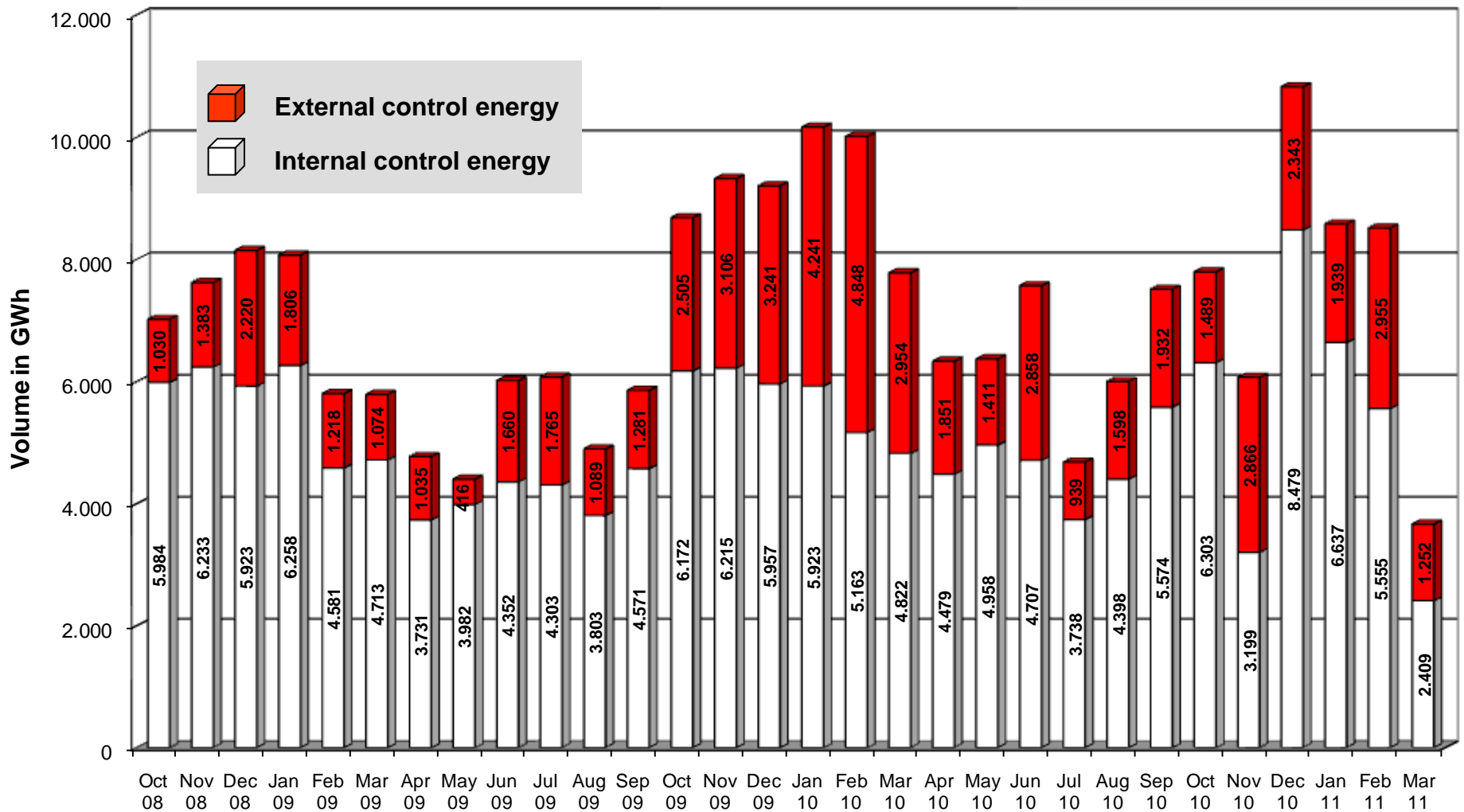
Control energy trading and gas exchange

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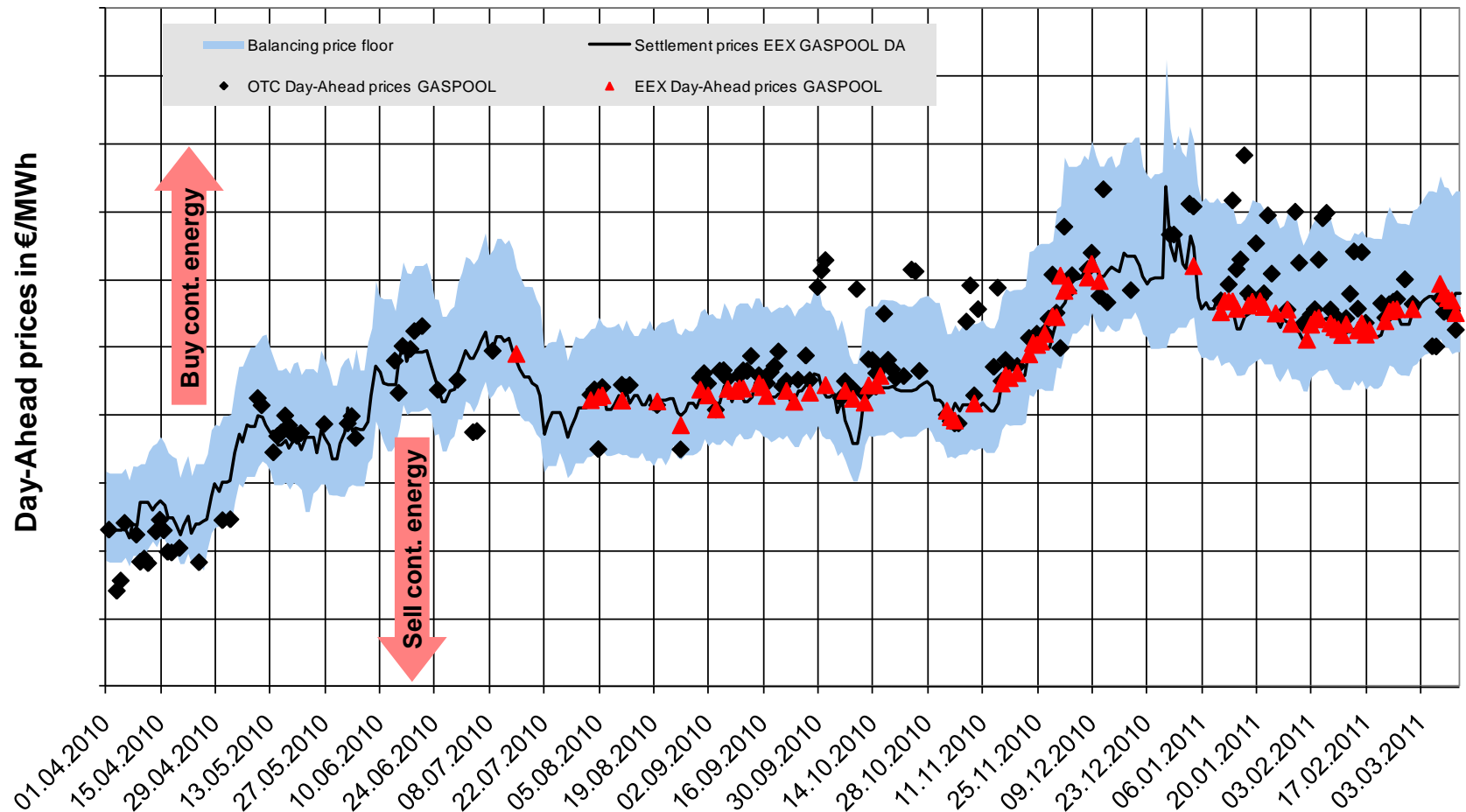
Exchange market area TTF: Gas trading via EEX

EGIX – Reference price for the European gas economy

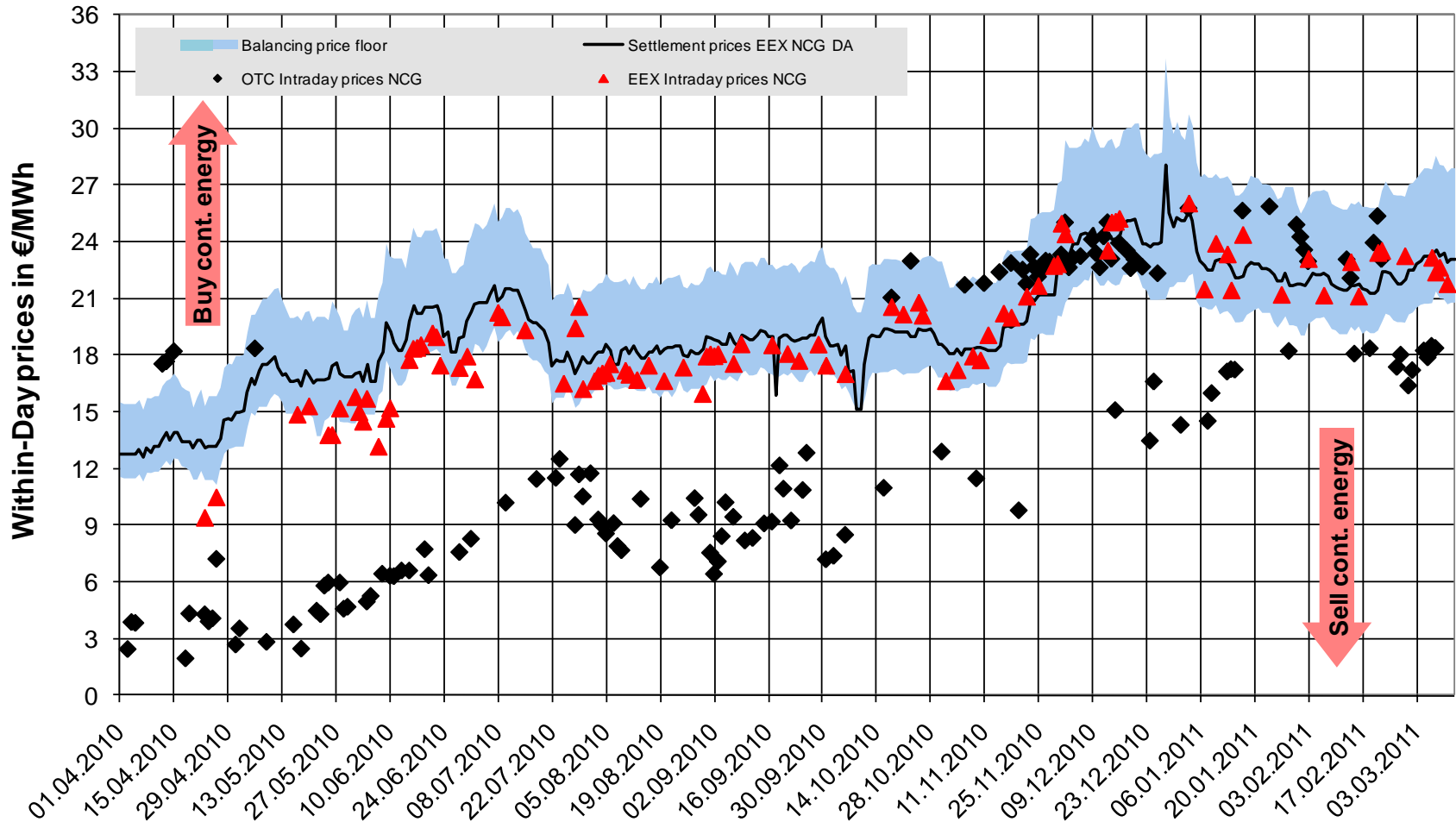
## Usage of control energy by NCG und GASPOOL



## Control and balancing energy prices for Day-Ahead trading GASPOOL since April 2010



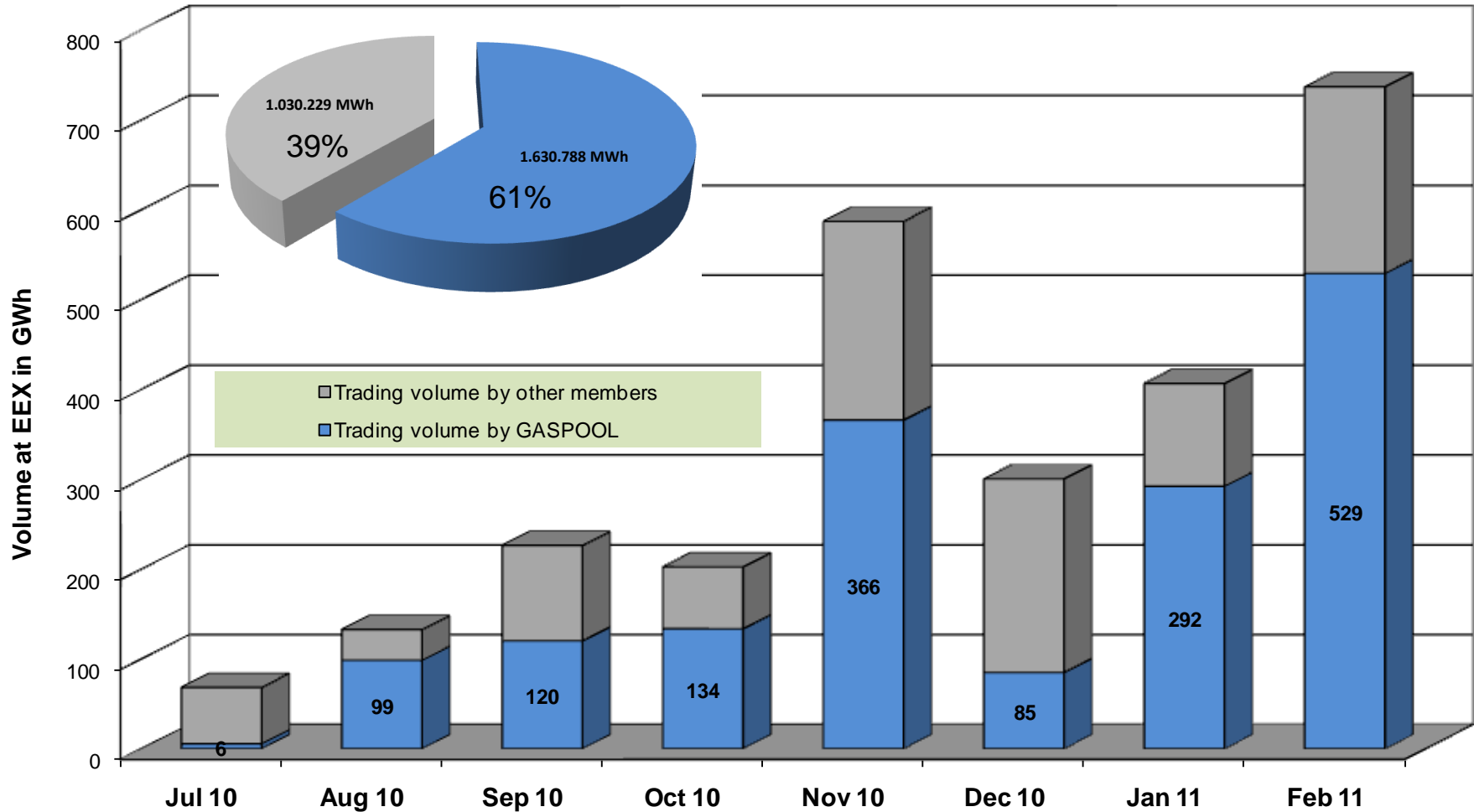
## Control and balancing energy prices for intraday trading NCG summer 10



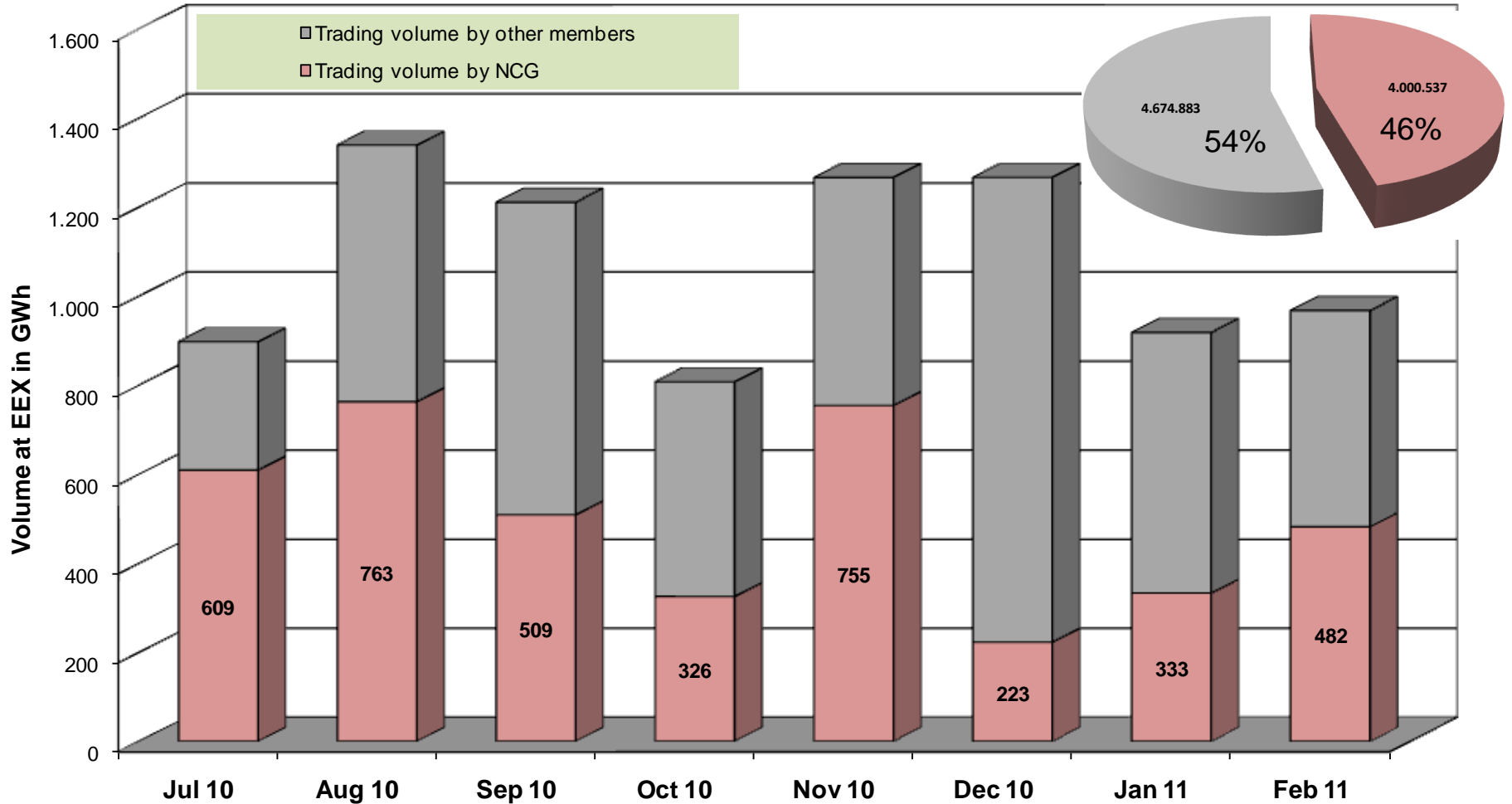


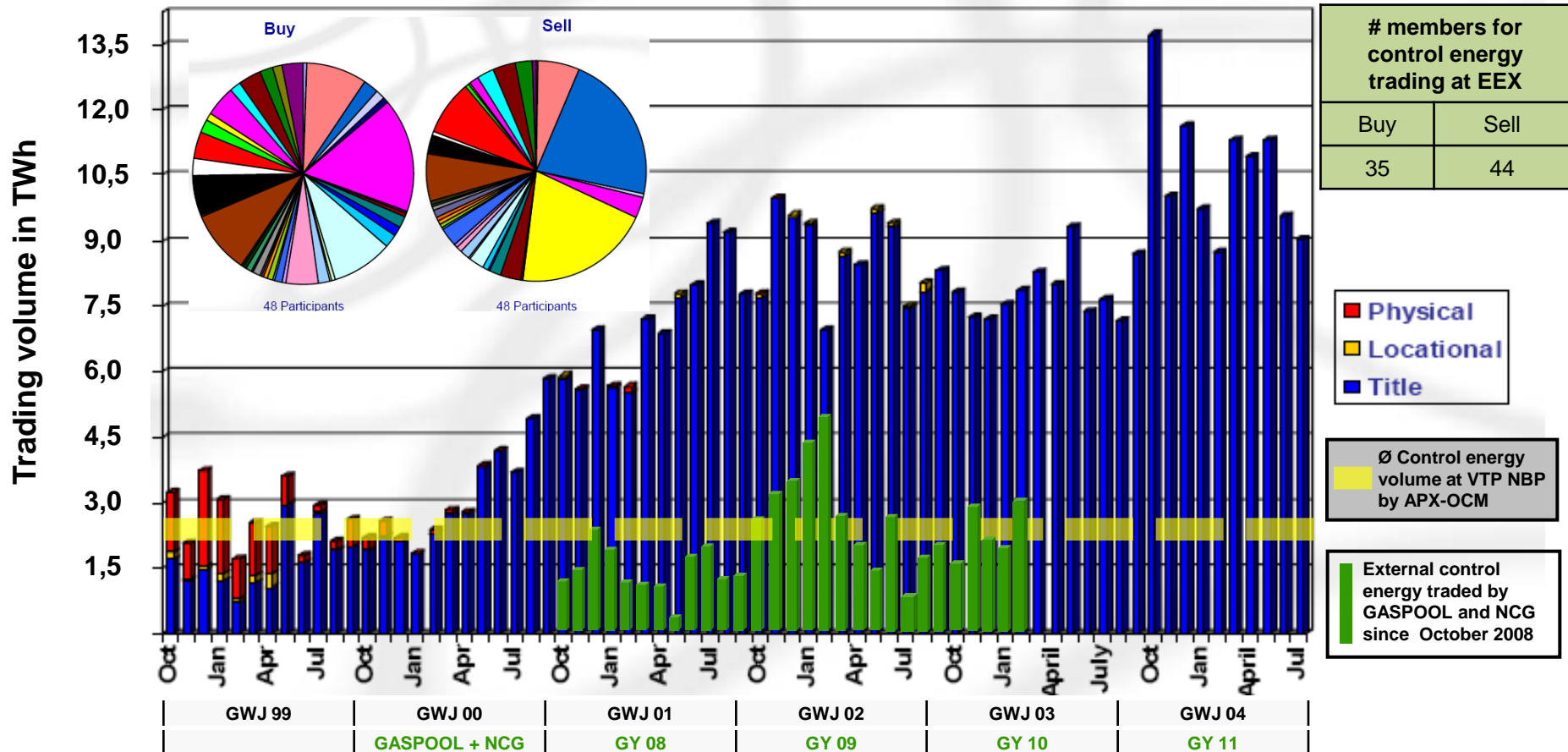
# Importance of MAO GASPOOL for EEX

Trade volume by GASPOOL in the market area GASPOOL since July 2010



Trade volume by NCG in the market area NCG since July 2010





Start OCM in Okt. 1999

▪ Minimum lot size : 4.000 therm/d ca. 5 MWh/h

Review: Developments of the gas market at EEX

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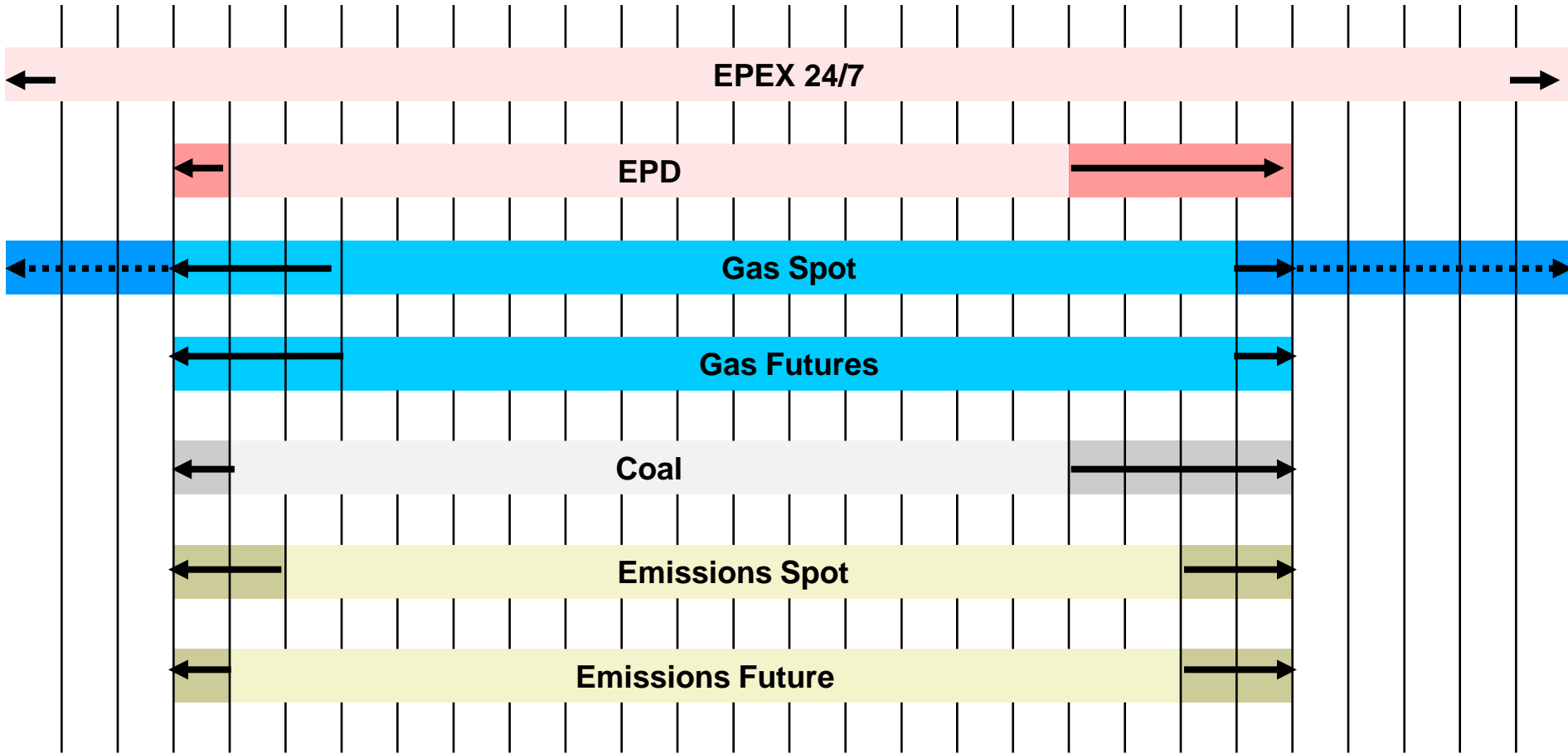
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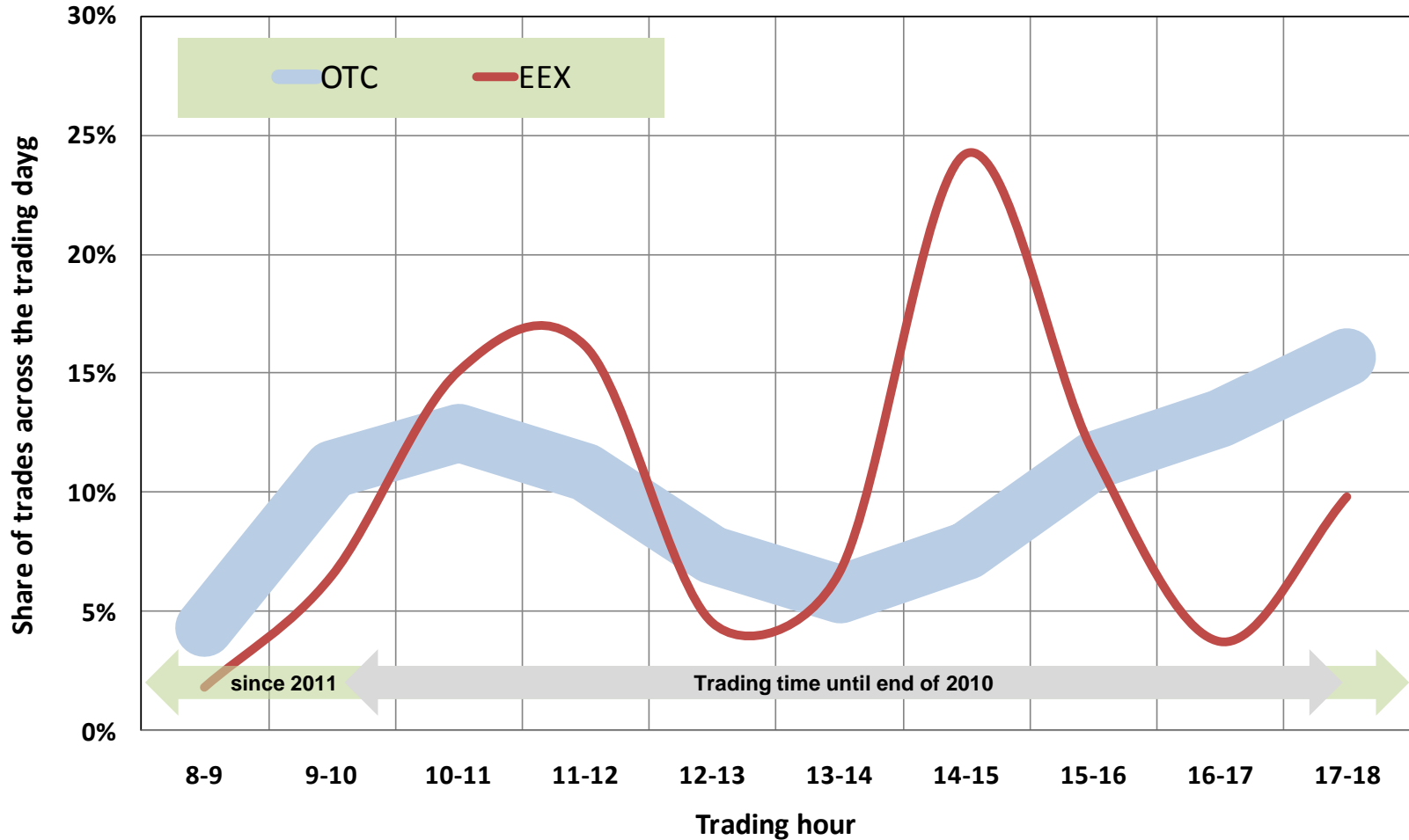


# Trading hours for gas since January 2011

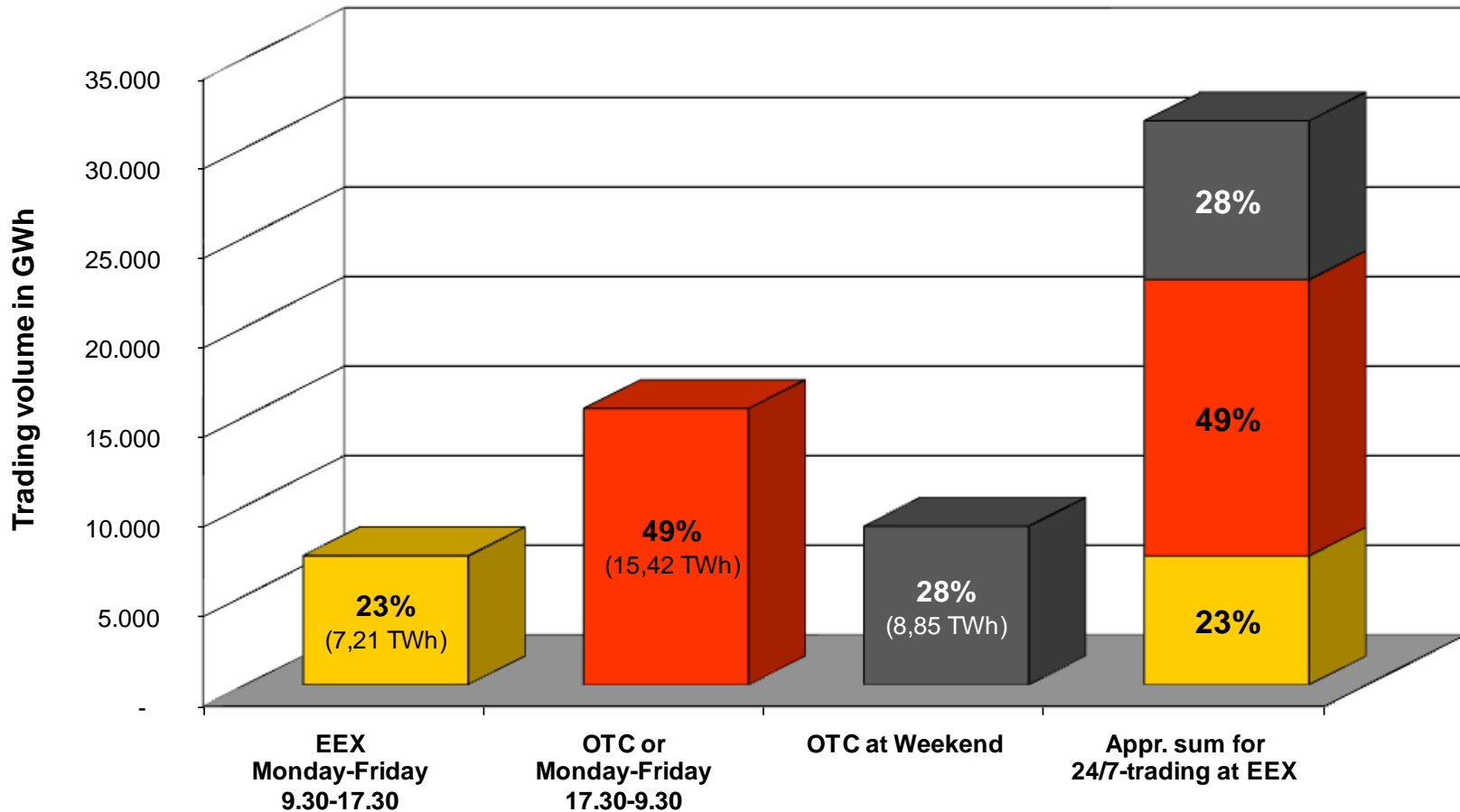
7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00



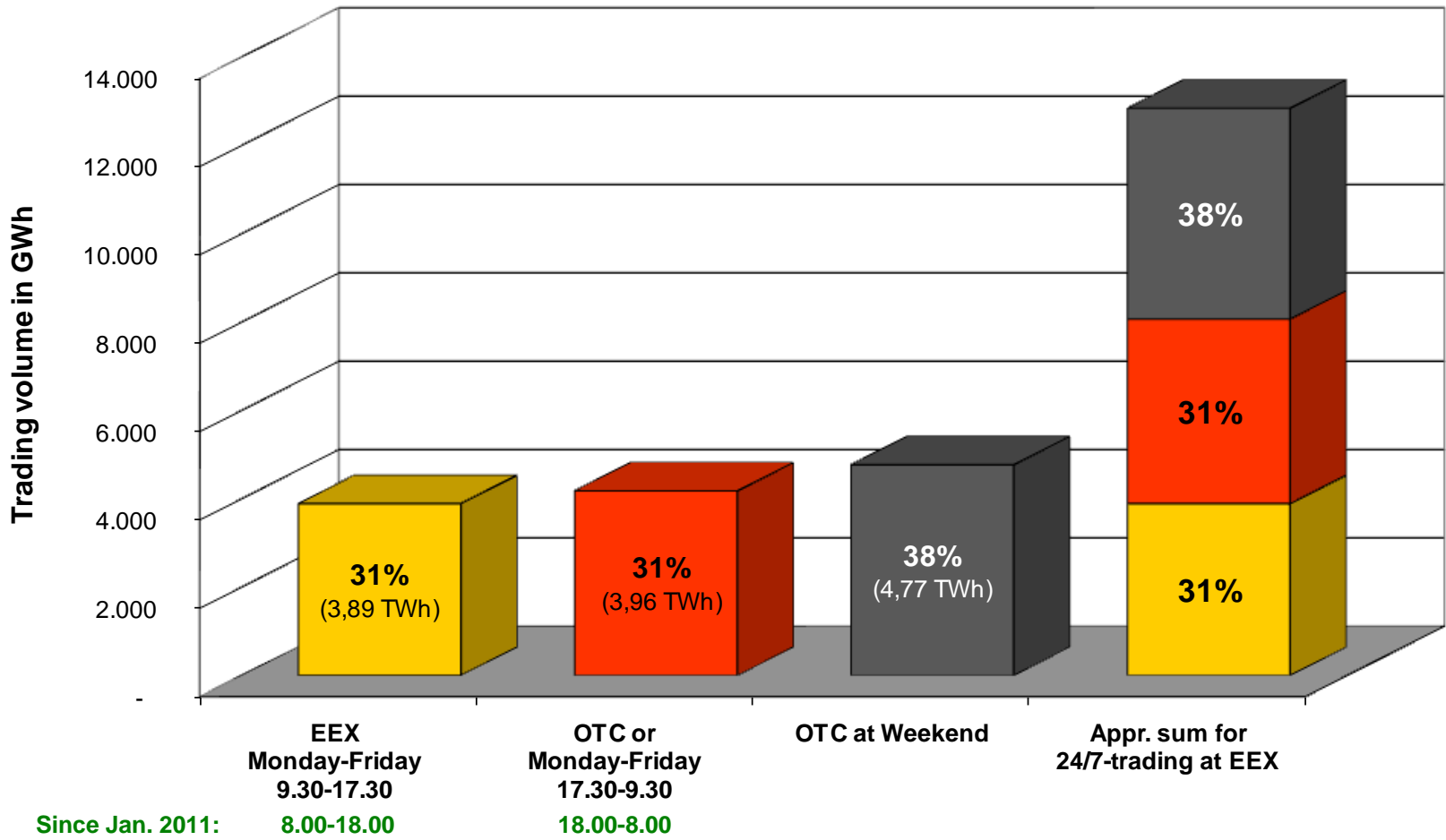
Trading activities across the day at EEX and in the OTC-market

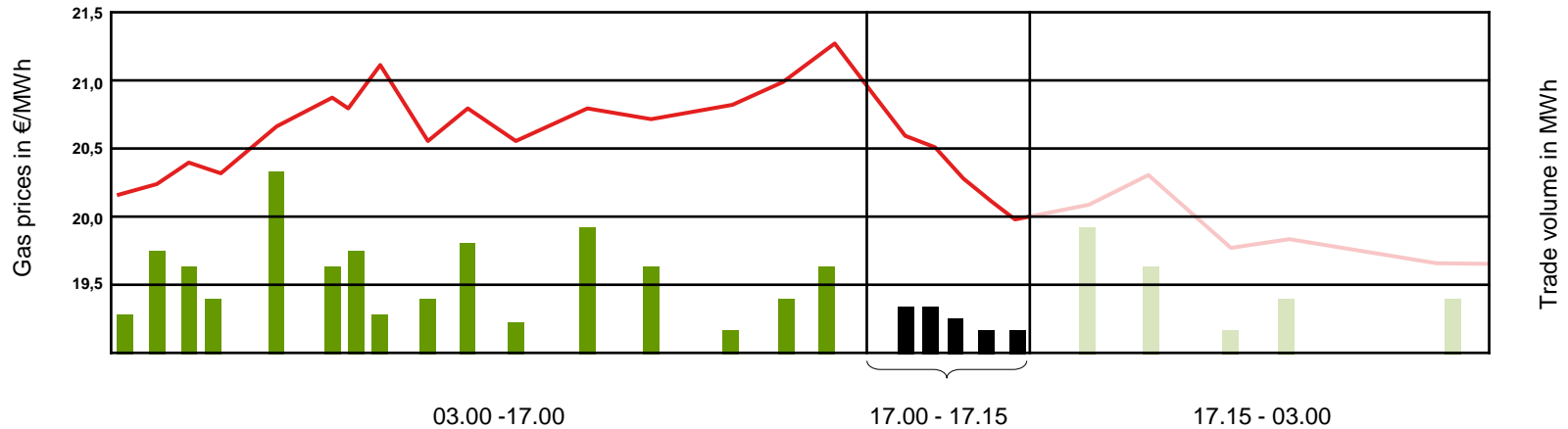


External control energy volume zoned by trading periods in GY 09/10

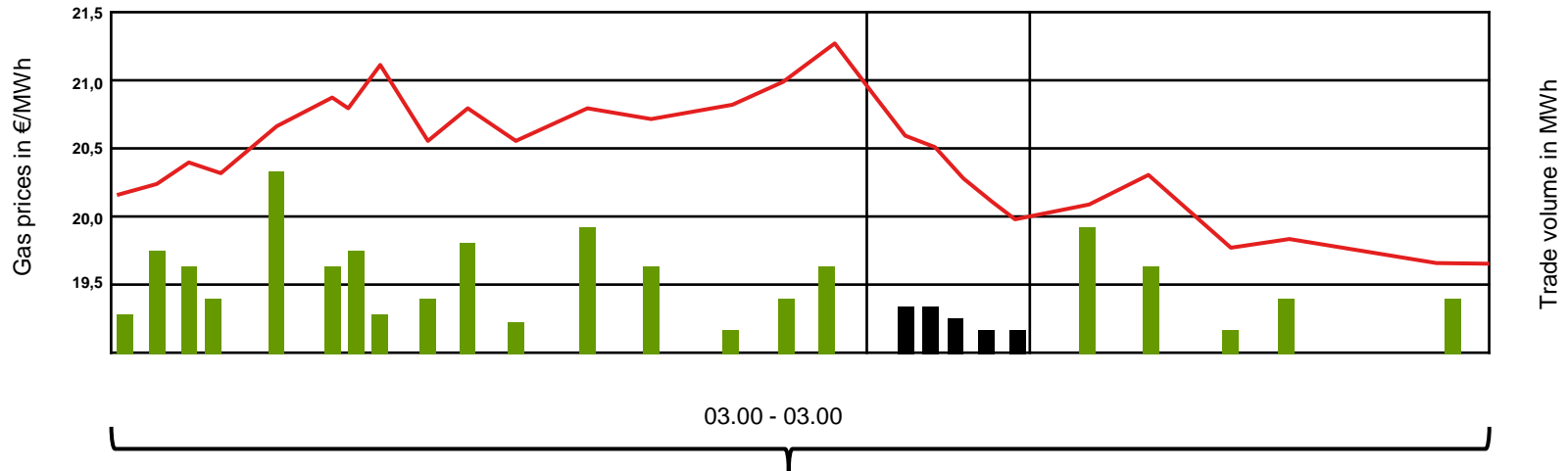


External control energy volume zoned by periods since October 2010





- Existing EEX-settlement prices generates only small reference in the market
  - Settlement prices for the next delivery day were calculated to a time point in a settlement window between 17.00-17.15 at the end of trading day
  - Trading members criticise, that settlement prices do not reflect the price development or trading behaviour across the whole trading day
  - Some trades at the end of the trading day could distort the settlement price



- New EEX-Daily reference price generates higher reference in the market
  - All trades regardless of trading time will be considered for the source based volume weighted determination
  - Some trades at the of the trading could not distort the reference price
  - Price development and behaviour across the whole trading will be considered
  - Settlement of trades with customers with lower price risks then before
  - Support the gas business for continuous trading
  - Publication at approx. 10.00 am on the delivery day

$$\text{Daily reference price} = \frac{\sum_{trades} P \times V}{\sum_{trades} V}$$

Review: Developments of the gas market at EEX

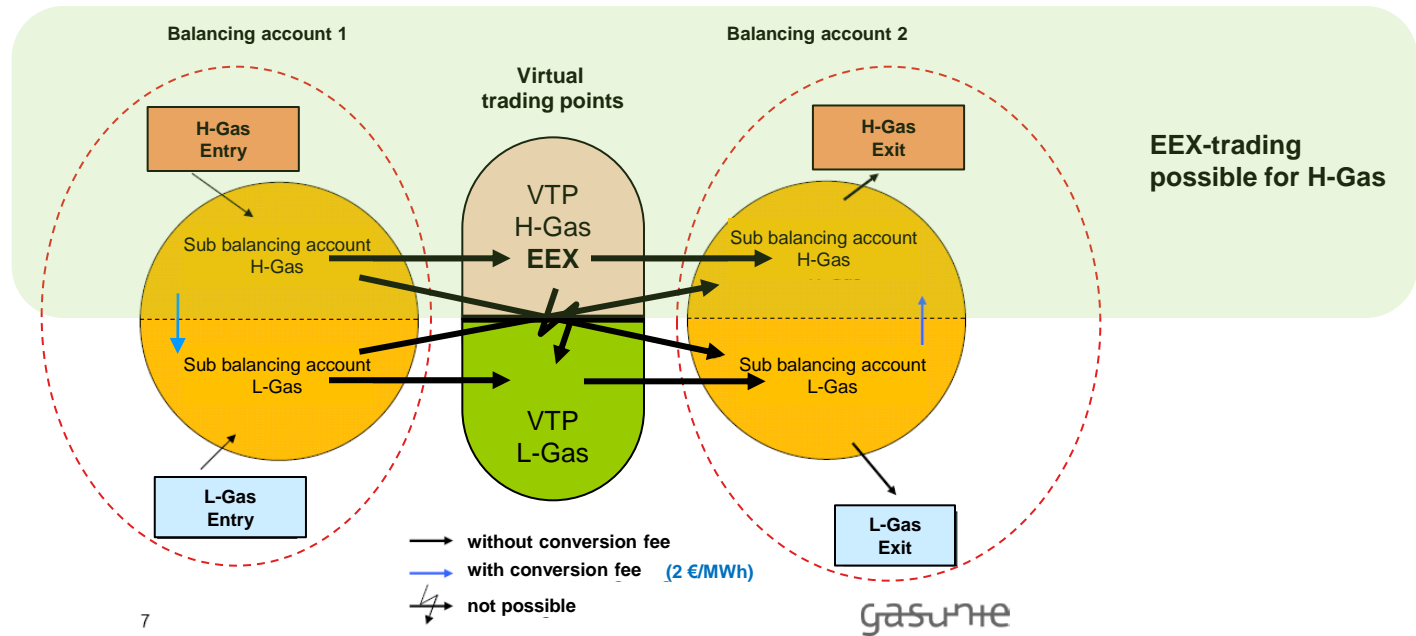
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## Exchange trading in spite of conversion fee



\* Source: Presentation of Gasunie Deutschland for integration of H- und L-Gas market areas; modified by EEX  
[http://www.bundesnetzagentur.de/cae/servlet/contentblob/160482/publicationFile/8692/Praesentation\\_GUD.pdf](http://www.bundesnetzagentur.de/cae/servlet/contentblob/160482/publicationFile/8692/Praesentation_GUD.pdf)

- Exchange trading in the sub balancing account for H-Gas
  - In principle exchange trading also possible for L-Gas market participants
  - L-Gas-trader has to pay a conversion fee (2 €/MWh) upon the exchange price
  - Without conversion fee or with introduction of a conversion socialisation, also L-Gas exchange trading will be possible → one market price for one market area

## TTF

### EEX + TTF registered (not member at APX Gas NL)

24/7 Trading GmbH	Macquarie Bank Limited
Accord energy Limited	Mercuria Energy Trading S.A.
Alpiq Ltd.	Morgan Stanley & Co. International Limited
Barclays Bank PLC	natGAS Aktiengesellschaft
BG International Limited	Noble Clean Fuels Ltd.
BNP Paribas	Poweo SA
Braunschweiger Versorgungs-AG & CO. KG	RWE Supply & Trading GmbH
Citygroup Global Markets Limited	Stadtwerke Hannover AG
Crédit Agricole Corporate and Investment Bank, London Branch	Stadtwerke Leipzig GmbH
Credit Suisse International	Statkraft Markets GmbH
EconGas GmbH	The Royal Bank of Scotland plc.
EGL AG	Total Gas & Power Limited
Enel Trade S.p.A.	Trianel GmbH
EnBW Trading GmbH	Vattenfall Trading Services GmbH
ENOI S.p.A.	VNG Verbundnetz Gas AG
Hess Energy Power & Gas Company (UK) Ltd.	WINGAS GmbH
J.P. Morgan Securities Ltd.	

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### EEX + APX Gas NL (member at EEX and APX Gas NL)

Alpiq Suisse S.A.
BP Gas Marketing Ltd
ConocoPhillips UK Ltd
Danske Commodities A/S
Delta Energy BV
DONG Naturgas A/S
E.ON Energy Trading AG
EDF Trading Limited
Electrabel S.A.
Eneco Energy Trade BV
Gaselys S.A.
Gazprom Marketing & Trading Limited
Gunvor International B.V., Geneva Branch
KI Energy Trading GmbH
Merrill Lynch Commodities (Europe) Ltd
RheinEnergie Trading GmbH
RWEST Switzerland S.A.
RWE Supply & Trading Netherlands BV
Vattenfall Energy Trading Netherlands N.V.
Vitol S.A.

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### APX Gas NL+ TTF registered (not member at EEX )

Eni UK Ltd
Exxon Mobil Gas Marketing Europe Ltd
Gas Transport Services BV
GasTerra BV
Lampiris S.A
Statoil ASA

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### TTF registered (not member at EEX or APX Gas NL)

A.P. Moller - Maersk A/S
Cargill International SA
CE Gas Marketing & Trading GmbH
Constellation energy Commodities Group, Inc.
Distrigas N.V.
E.ON Benelux
E.ON Ruhrgas AG
ENI SpA
Gaz de France
Glencore Energy UK Ltd.
Goldgas GmbH
HNG Midt-Nord Handel A/S
J Aron & Co
RWE Energy Nederland N.V.
Scottish & Southern Energy Supply Limited
Statoil Gas Trading Ltd.

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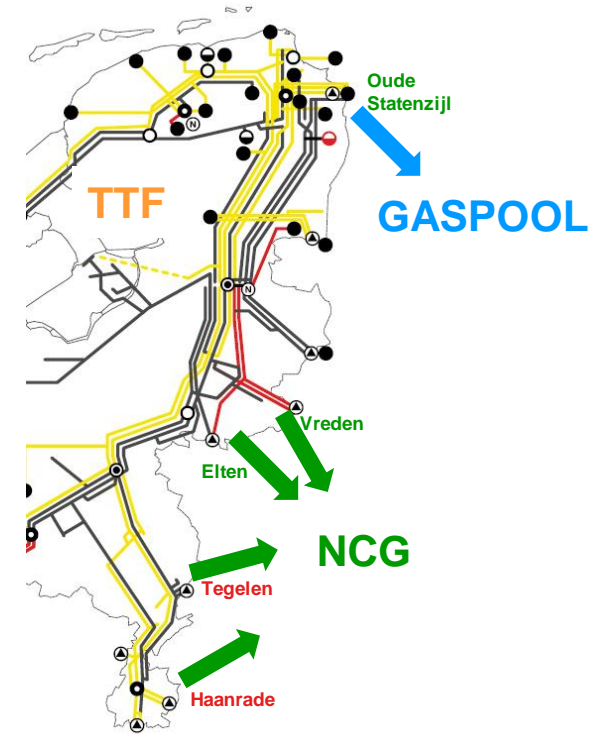
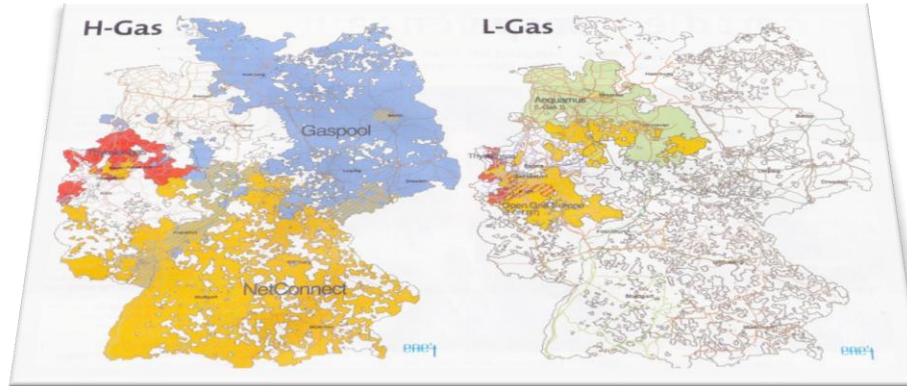


# Trading TTF via EEX-GV Screen

Workbook 1.1

	NCG					GASPOOL					TTF				
	Qty	Bid	Ask	Qty	Last	Qty	Bid	Ask	Qty	Last	Qty	Bid	Ask	Qty	Last
WD	10	23,20	25,00	120	23,20	60	23,00			23,00					
	120	23,00													
DA															
W/END	60	23,90	24,15	30	24,15			24,10	30	24,10					
	60	23,80	24,20	60				24,30	120						
			24,25	60											
Apr-11	30	24,30	24,65	30											
	30	23,80	24,70	30											
			25,15	30											
May-11	30	24,80	25,30	30											
Jun-11															
Jul-11															
Aug-11															
Sep-11															
Oct-11															
Q211	30	24,65	25,30	30											
Q311	30	25,10	25,70	30											
Q411	30	27,60	28,30	30											
Q112	30	28,10	28,90	30											
Q212															
Q312															
Q412															
Sum 11	30	25,00	25,50	30											
	30	24,90	25,51	30											
	30	24,87	25,90	10											
Win 11	30	27,84	28,20	10	28,10										
Sum 12															
Win 12															
2012	10	27,05	27,40	30											
2013	30	27,10	27,75	30											
2014	30	27,20													

Power Gas Coal Emissions



## Exchange market areas with TTF



### NetConnect Germany (NCG):

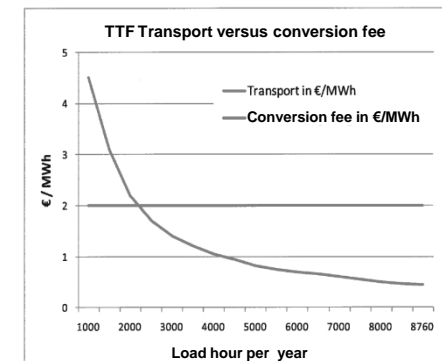
- Open Grid Europe GmbH
- Bayernets GmbH
- Eni Gas Transport Deutschland
- GRTgaz Deutschland GmbH
- GVS Netz GmbH
- Thyssengas GmbH (geplant in Q2/2011)

### GASPOOL:

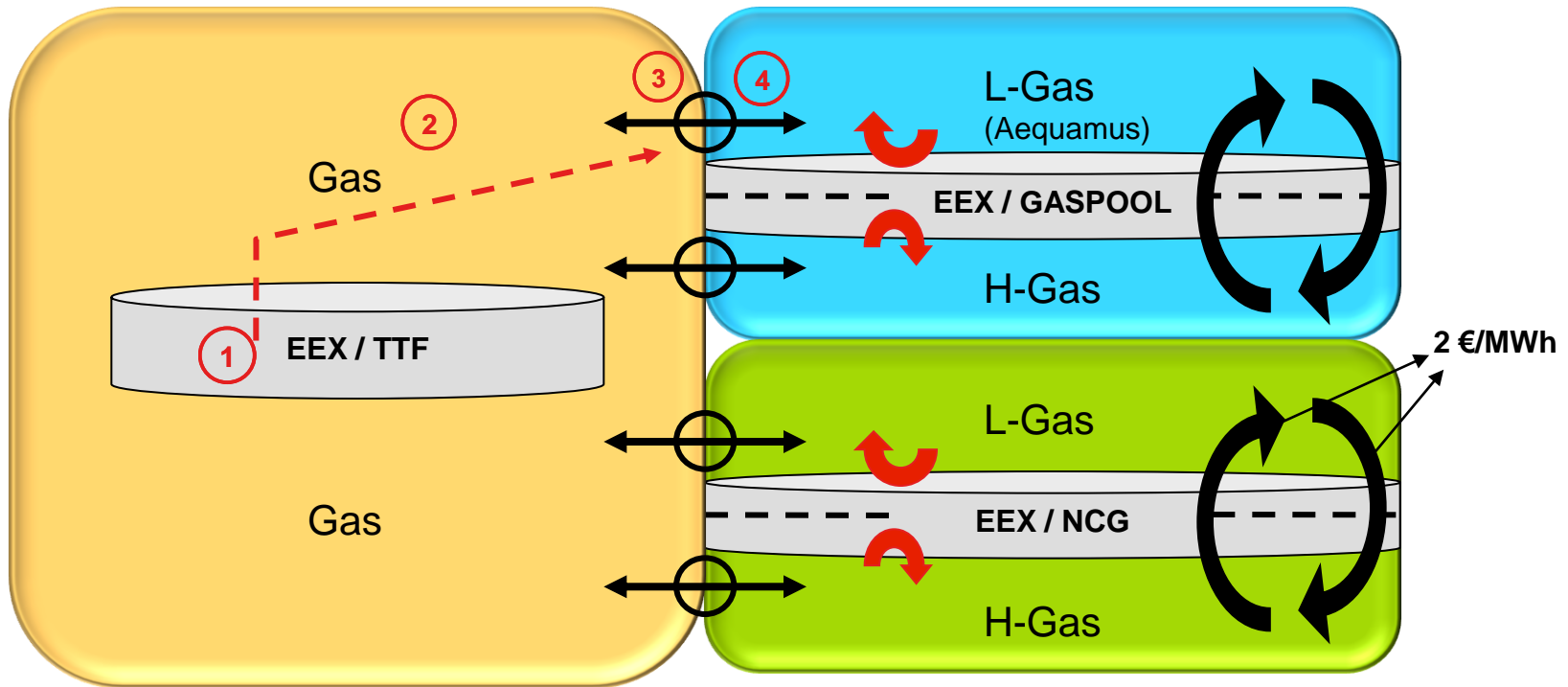
- Gasunie Deutschland
- Ontras – VNG Gastransport GmbH
- Wingas Transport GmbH & Co. KG

### Title Transfer Facility (TTF): (geplant in Q1/2011)

- Gas Transport Services B. V.

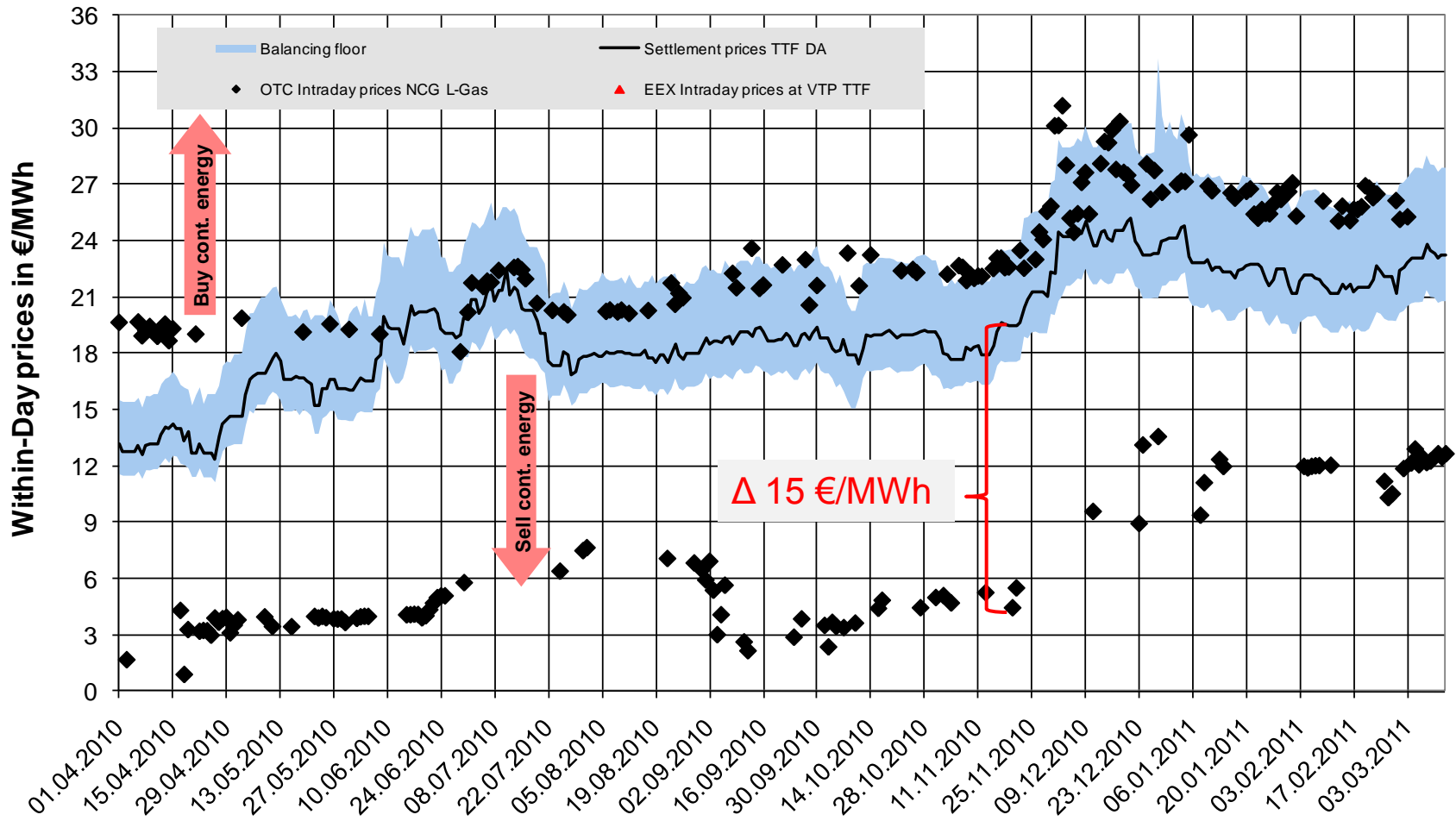


\* Source: Dr. Andreas Schmitt, RheinEnergie Trading GmbH, Köln



1. Trading for EEX-member at VTP TTF  
→ Anonymous trade to market prices with many companies without discrimination
2. Exchange member transports gas via GTS to dedicated cross border point between NL-D
3. Nomination of exit capacities at GTS with naming of wanted gas quality (L-Gas or H-Gas)
4. Nomination of entry capacities in the German market areas

Control and balancing energy prices for intraday trading NCG L-Gas since April 2010



Prospects in the existing L-Gas control energy market - Gas traders view				
<i>Sell control energy by NCG on 20<sup>th</sup> Nov. 2010</i>	Volume	Price in €/MWh	Transport costs (NCG→TTF)	Profit for gas trader
Sell by NCG	51.300 MWh	4,5 €/MWh		
Buy through gas trader	51.300 MWh	4,5 €/MWh		
Sell at VTP TTF by gas trader	51.300 MWh	19,46 €/MWh	2 €/MWh	$51.300 \times (19,46 - 4,5 - 2)$ = <b>664.848 €</b>

Prospects in the existing L-Gas control energy market - Market operators view (NCG)				
<i>Sell control energy by NCG on 20<sup>th</sup> Nov. 2010</i>	Volume	Price in €/MWh	Transport costs (NCG→TTF)	Increase of control energy account
Sell by NCG	51.300 MWh	4,5 €/MWh		
Buy due to GABi Gas	51.300 MWh	17,56 €/MWh		$51.300 \times (17,56 - 4,5)$ = <b>669.978 €</b>



# Releases for TTF trading at EEX



## CUSTOMER INFORMATION 2010-12-07

### Extension of EEX Gas trading

Dear trading participants,

We would like to inform you about plans for the further development of the EEX gas market, as presented in the last meeting of the Exchange Council this year on 2 December 2010 in Vienna.

For the year 2011 EEX has planned comprehensive measures in order to establish trading in natural gas as a second pillar on a lasting basis in addition to trading in power. With this step EEX will promote both European energy trading and, in particular, trading in natural gas in Germany. The Managing Directors Exchange, Dr. Hans-Bernd Menzel and Oliver Maibaum, explained the central aspects for the expansion of gas trading as follows:

- From January of next year, EEX will expand the trading hours on the Spot and Derivatives Market for Natural Gas on the exchange. As a result, transactions on the Spot and Derivatives Market of the exchange can be entered and OTC transactions can be registered on the Derivatives Market from 8:00 to 18:00 (CET).
- The question of in how far the prices established in the gas-to-gas competition will be accepted and used as reference prices for long-term delivery agreements is decisive for the future development of the liquidity of trading in natural gas. A new gas price index, which is scheduled to be launched at the end of January 2011, will provide a transparent representation of the market price for natural gas trading in Germany. This index is based on the trading transactions concluded in the respective current front month contracts on the exchange and is published and calculated by EEX for Germany, GASPOOL and NCG.
- Subject to regulatory approval, EEX will also offer the Spot Market with all its existing products for the Dutch TTF market area from March 2011. The GASPOOL and NCG market areas, which are connected to trading on EEX, already constitute central European trading hubs for natural gas today.
- In May 2011 EEX will introduce 24/7 trading on the Spot Market for Natural Gas. As a result, physical trading in natural gas for delivery in the three market areas (GASPOOL,

simply gas

simply gas



NetConnect  
Germany  
simply gas

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germany.de

### Press Release

Ratingen, 9 February 2011

NetConnect Germany intends to procure control energy via TTF

In future, NetConnect Germany will extend its control energy procurement to the Netherlands.

As of 1 April 2011, the company intends to buy and sell L-gas control energy at the TTF hub in the Netherlands in order to further diversify its control energy procurement. TTF (Title Transfer Facility) is, like the NCG virtual hub, a virtual trading point that is located in the network of Gas Transport Services (GTS), a Dutch transmission system operator and subsidiary of Gasunie. At TTF, there has been cross-quality trading in L-gas and H-gas since 1 July 2009.

"This step serves to widen our procurement market and thus our scope for obtaining control energy. Our customers will benefit from this," the Management of NetConnect Germany stated.

The groundwork for this step is being laid in gas trading at the EEX energy exchange. The measures to be taken in this respect are already at an advanced stage.

For the purpose of ensuring reliable network operation, control energy is procured by the market area manager to organise network control in the market area.

#### NetConnect Germany

NetConnect Germany offers a range of products and customer-friendly services for network operators and shippers across different market areas throughout Germany and handles the operational management of the market area cooperation between various partners. More than half of H-gas moved across Germany is shipped in NCG's market area, which stretches from the North Sea coast down to the Alps. NCG also provides services for the L-gas market area of Open Grid Europe GmbH.

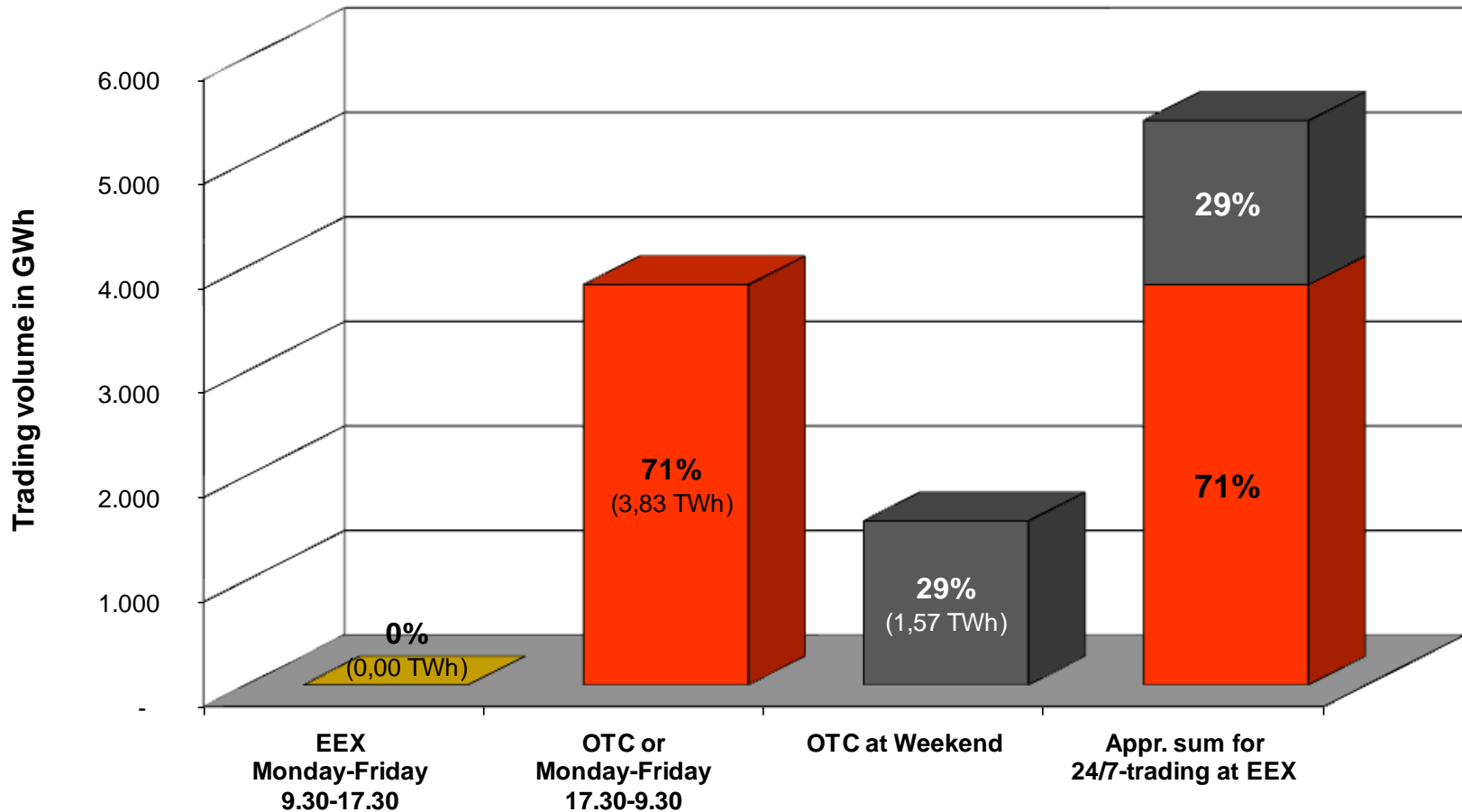
Registered Office Düsseldorf  
Düsseldorf District Court  
HRA 20201

Managing Directors:  
Torsten Frank  
Klaus Paninger

General Partner:  
NetConnect Germany  
Management GmbH

Registered Office Düsseldorf  
Düsseldorf District Court  
HRB 56556

External control energy volume L-Gas zoned by periods since Octob. 2010



## Following objectives should be reached

- Realisation of quality overlapping market areas as of 1<sup>st</sup> of April 2011
- Quick elimination of conversion fee or reduction to a conversion socialisation
  - Goal: Trading gas at German VTP regardless of gas quality
- Significant increase of number of “L-Gas” trading participants
- Anonymous control energy trade of “L-Gas” at the exchange to H-Gas prices
- Usage of L-Gas control energy at the favoured local CBP by MAO
- Minimisation / relay of gas flows promises through market mechanism
- Minimisation / relay of the expansion of technical conversion capacity

## Summary

- Control energy costs for MAO might be further reduced
- No needs for adjustment of GABi Gas regarding control energy trading L-Gas
- Market-driven alternative for introduction of a conversion socialisation

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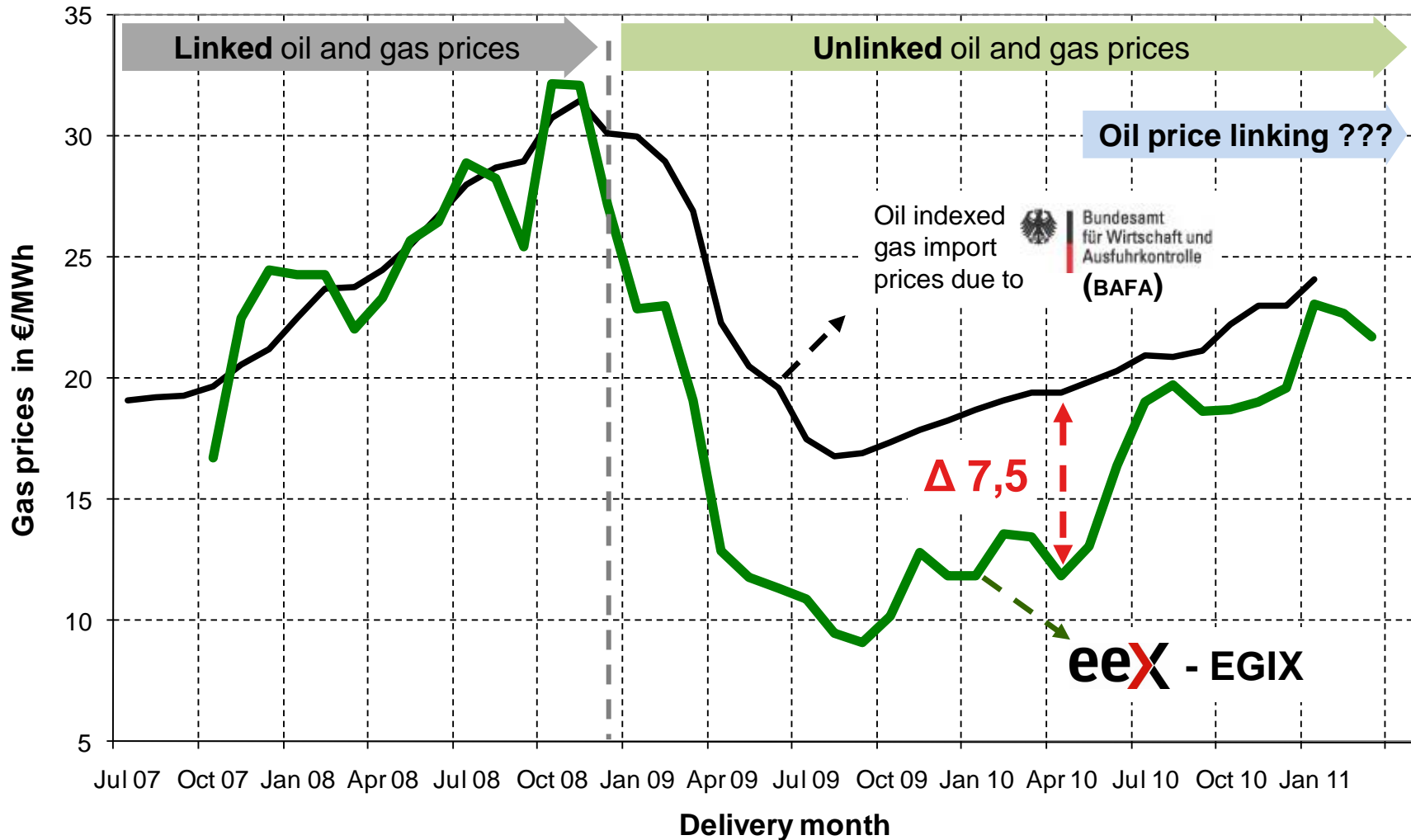
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1. Acceptance of the gas market in fair pricing processes
2. Number and heterogeneity of trading participants
3. Market surveillance
4. Independency of the market place
5. Simple and transparent calculation pattern
6. Compatibility to the gas market and adaptability in bilateral contracts
7. Benefits for several stakeholders / users

EGIX vs. published German oilindexed gas import prices



## Efficiency

- EGIX based on market prices for the front month contracts
- EGIX could replace or add monthly values of gas substitutes (e.g. oil) in gas contracts by maintenance of established price adjustment clauses
- EGIX could recover the fair sharing between price and volume risks along the several stages at the gas value chain (delivery chain)

## Transparency

- EGIX simplified the adjustment and standardization of existing gas contracts
- EGIX permits hedging of price and volume risks in gas supply contracts through exchange trading of EGIX relevant gas products

## Trust

- EGIX is based on exchange deals which are concluded at EEX on an anonymous, non-discriminatory basis under recognised market surveillance
- EGIX safeguards the prompt and free comprehensibility of gas price changes without costly research in other markets
- EGIX takes the "old gas world" into the "new gas world"

# Example: Calculation of EGIX Germany


- Determine of the first and last trading day for the front month Frontmonat
  - First trading day: Old front month only tradable as Balance-of-month (BOM)
  - Last trading day: Front month owns for the last time the whole contract size  
(second to the last exchange trading day before physical delivery)
- Daily EGIX-calculation to the end of trading
  1. Calculation of cross market area **volume weighted** Daily value, derived from trades in the front months of GASPOOL and NCG across the **whole** trading day
  2. Calculation of EGIX as **arithmetical** average of existing Daily values for the respective front months
  3. Last calculation of EGIX on the last trading day for the front month
- If no trades in both market areas are available, EEX will use as a substitute the settlement prices for the front months

$$\text{Daily value}_{\text{Germany}} = \frac{\sum_{\text{trades}_{\text{NCG+GASPOOL}}} P \times V}{\sum_{\text{trades}_{\text{NCG+GASPOOL}}} V} \quad \text{EGIX}_{\text{Germany}} = \frac{\sum_{\text{Daily value}_{\text{Germany}}}{n}}{n}$$

with n = number of index relevant exchange trading days for the dedicated front month

Trading Day	Front Contract	Germany		Germany
		Volume MWh	EGIX Day EUR/MWh	EGIX Month EUR/MWh
30.12.2010	Feb-2011	13440	24.52	24.52
03.01.2011	Feb-2011			
04.01.2011	Feb-2011			
05.01.2011	Feb-2011			
06.01.2011	Feb-2011			
07.01.2011	Feb-2011			
10.01.2011	Feb-2011			
11.01.2011	Feb-2011			
12.01.2011	Feb-2011			
13.01.2011	Feb-2011			
14.01.2011	Feb-2011			
17.01.2011	Feb-2011			
18.01.2011	Feb-2011			
19.01.2011	Feb-2011			
20.01.2011	Feb-2011			
21.01.2011	Feb-2011			
24.01.2011	Feb-2011			
25.01.2011	Feb-2011			
26.01.2011	Feb-2011			
27.01.2011	Feb-2011			
28.01.2011	Feb-2011			
<del>31.01.2011</del>	<del>Mar-2011</del>			

Trading Day	Front Contract	Germany		Germany
		Volume MWh	EGIX Day EUR/MWh	EGIX Month EUR/MWh
30.12.2010	Feb-2011	13440	24.52	24.52
03.01.2011	Feb-2011	0	24.38	24.45
04.01.2011	Feb-2011			
05.01.2011	Feb-2011			
06.01.2011	Feb-2011			
07.01.2011	Feb-2011			
10.01.2011	Feb-2011			
11.01.2011	Feb-2011			
12.01.2011	Feb-2011			
13.01.2011	Feb-2011			
14.01.2011	Feb-2011			
17.01.2011	Feb-2011			
18.01.2011	Feb-2011			
19.01.2011	Feb-2011			
20.01.2011	Feb-2011			
21.01.2011	Feb-2011			
24.01.2011	Feb-2011			
25.01.2011	Feb-2011			
26.01.2011	Feb-2011			
27.01.2011	Feb-2011			
28.01.2011	Feb-2011			
<del>31.01.2011</del>	<del>Mar-2011</del>			



Trading Day	Front Contract	Germany		Germany
		Volume MWh	EGIX Day EUR/MWh	EGIX Month EUR/MWh
30.12.2010	Feb-2011	13440	24.52	24.52
03.01.2011	Feb-2011	0	24.38	24.45
04.01.2011	Feb-2011	0	23.03	23.98
05.01.2011	Feb-2011	0	22.66	23.65
06.01.2011	Feb-2011	0	22.88	23.49
07.01.2011	Feb-2011	0	22.87	23.39
10.01.2011	Feb-2011	0	22.65	23.28
11.01.2011	Feb-2011	0	22.74	23.22
12.01.2011	Feb-2011	40320	23.08	23.20
13.01.2011	Feb-2011	0	22.79	23.16
14.01.2011	Feb-2011	20160	22.52	23.10
17.01.2011	Feb-2011	0	22.59	23.06
18.01.2011	Feb-2011	20160	22.73	23.03
19.01.2011	Feb-2011	0	22.67	23.01
20.01.2011	Feb-2011	40320	22.65	22.98
21.01.2011	Feb-2011	26880	22.41	22.95
24.01.2011	Feb-2011	20160	22.20	22.90
25.01.2011	Feb-2011	20160	21.75	22.84
26.01.2011	Feb-2011	20160	22.00	22.80
27.01.2011	Feb-2011	0	21.72	22.74
28.01.2011	Feb-2011	0	21.48	22.68
31.01.2011	Mar-2011	22290	21.09	21.09



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 **Now, it's time to discuss...**

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