



Liberalisation of European Energy Markets

Energizing the European Weather Market

Nov. 6 2008, Hilton Berlin

Agenda

- European gas market liberalisation – slow but straight forward
- Changes in Germany
 - Gas trading
 - Regulation
- Procurement strategies of municipal companies under price and demand risk

Three Gas Regional Energy Markets as an interim step to creating a single gas market in Europe.

South-West



North-West

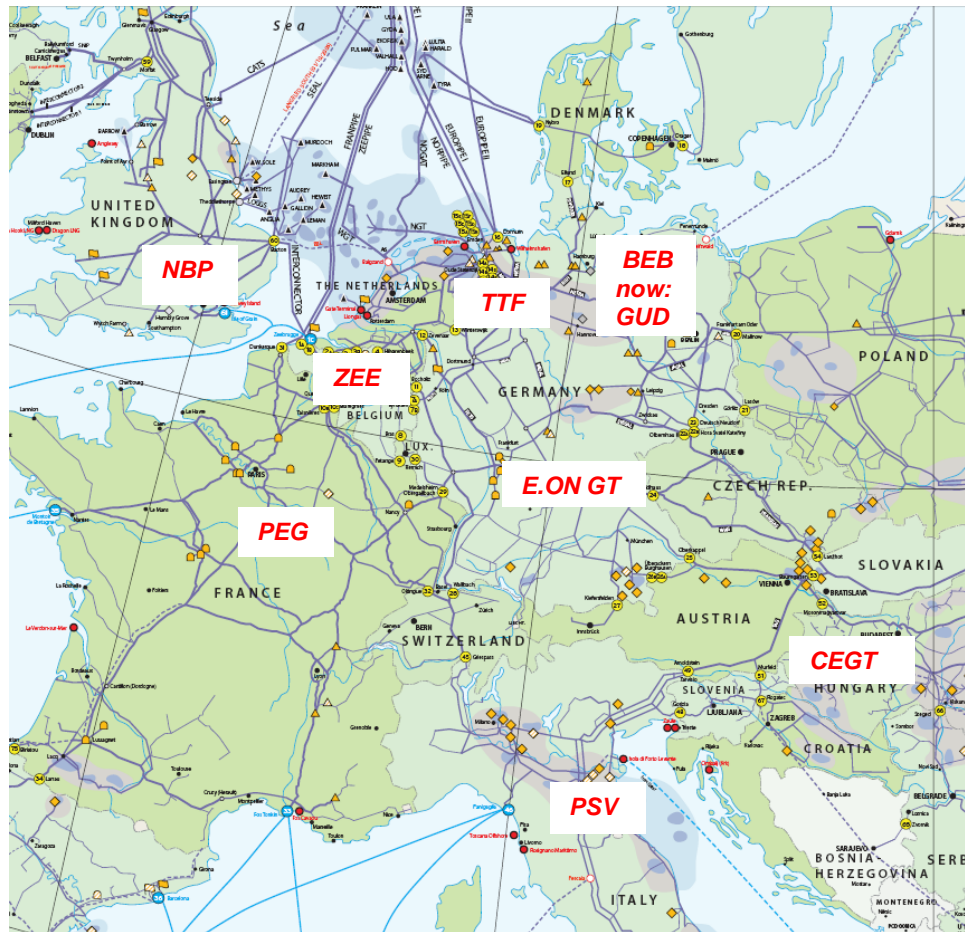


South-South West

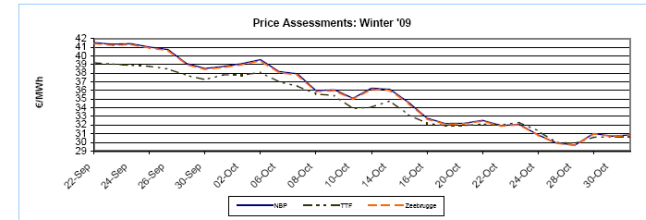
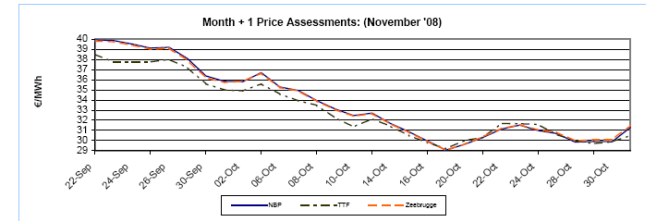
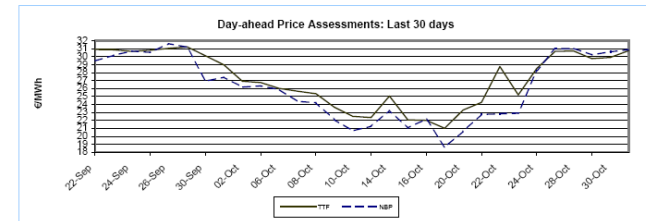
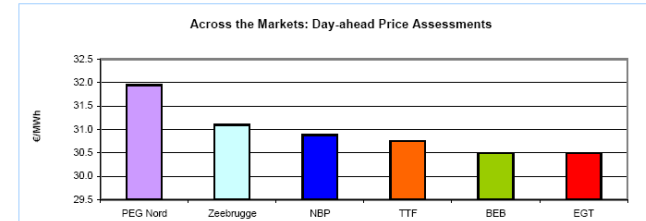


REMs tackle barriers to competition, such as the lack of market integration, transparency and balancing issues

Trading in Europe



Source: GTE



Source: Heren, ESGM

Current issues in European TPA Gas

- **No harmonisation of balancing market**
 - Daily vs. Hourly balancing
 - Market-based balancing to come
- Insufficient rules to **transfer capacity** between market zones
- Insufficient **congestion management** rules for commercial bottlenecks
- **Compatibility** of Exit/Entry capacity not provided
- Directive does not force organisational consolidation through the creation of nation-wide **Independent System Operators**.
- **Storage** not regulated even though access is paramount if not indispensable for efficient delivery of physical load

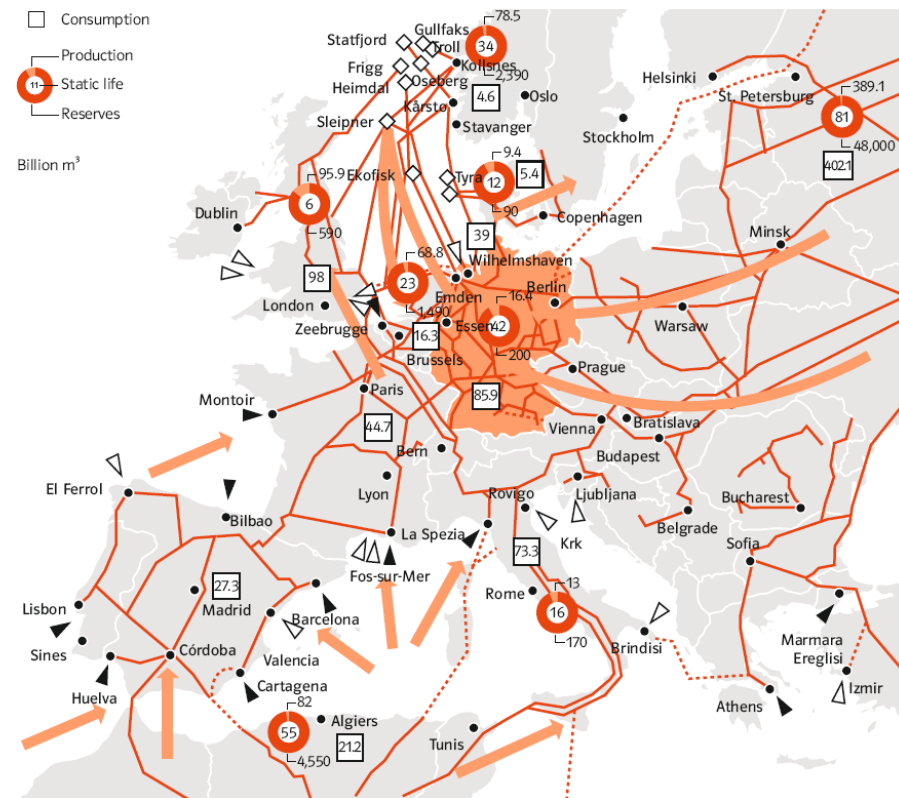
With respect to gas – Germany is likely to become Europe’s central hub for trading and services

New infrastructure projects

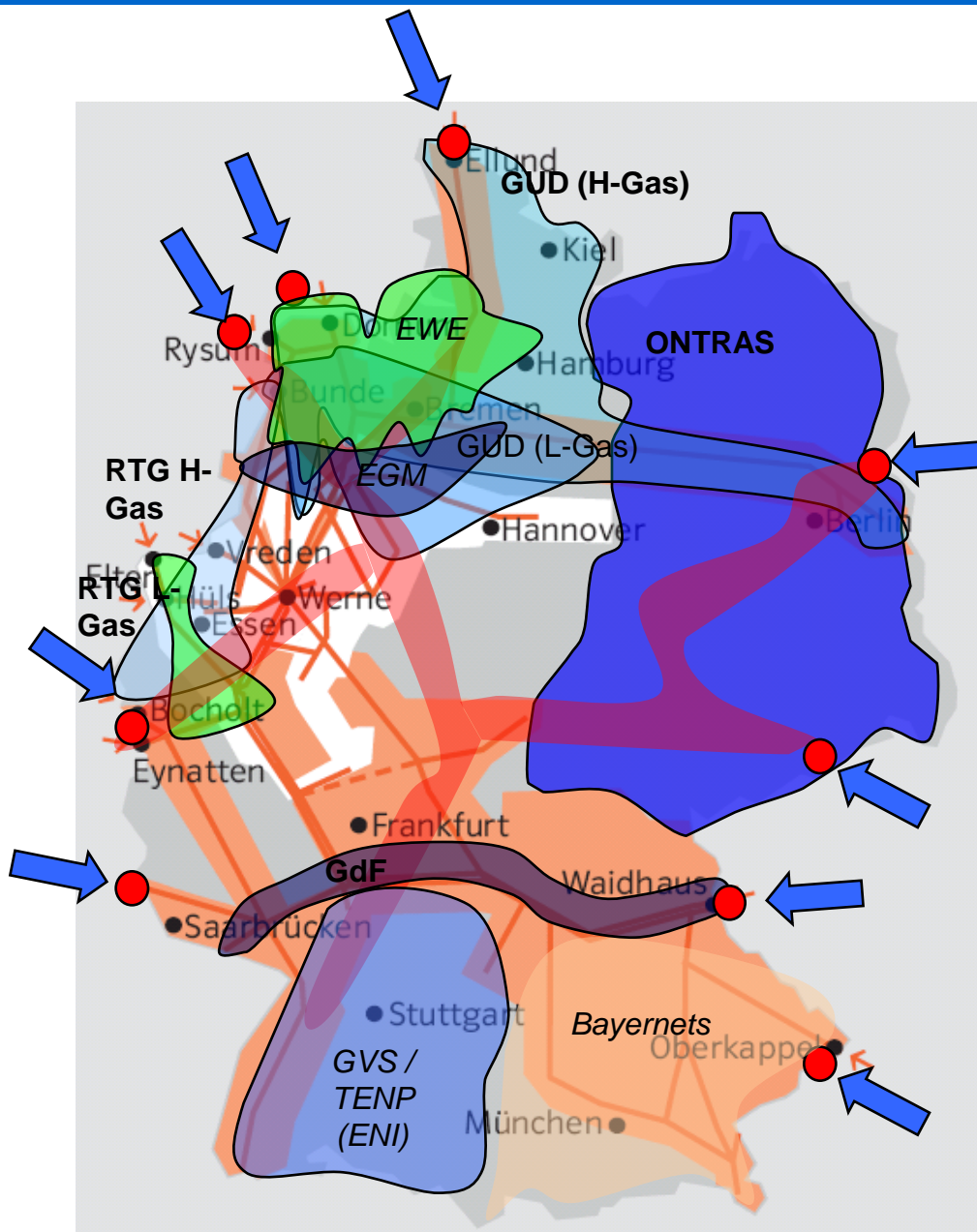
- Liquefied Natural Gas (LNG) Terminals
- New import capacities
- Storage

Significant impact on trading:

- Structuring and servicing between sources (Northern/Eastern E) and demand (Western/Southern E)
- Growing liquidity



Source: E.ON

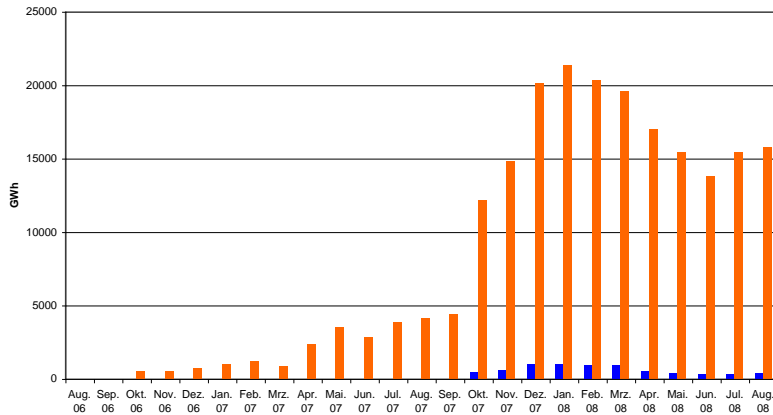


The new German Energy Industry act (EnWG) 2005: Achievements of regulation in Germany

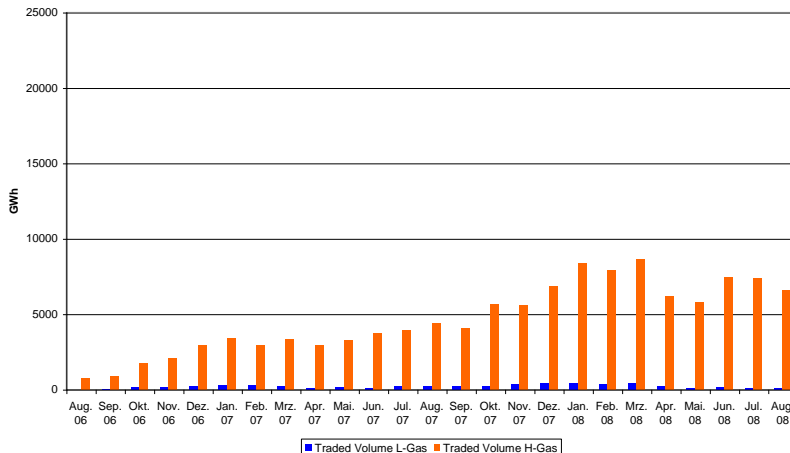
- Entry-Exit access within market zones
- Reduction of so-called market areas to 12 and proceedings against 5 L-Gas operators zu merge their zones
- Standard provisions for customer switching and data transfer
- Daily balancing instead of hourly balancing

Trading increasing at VP E.ON GT and Gasunie D

E.ON GT H-Gas, L-Gas



GUD H-Gas, L-Gas



Market Areas

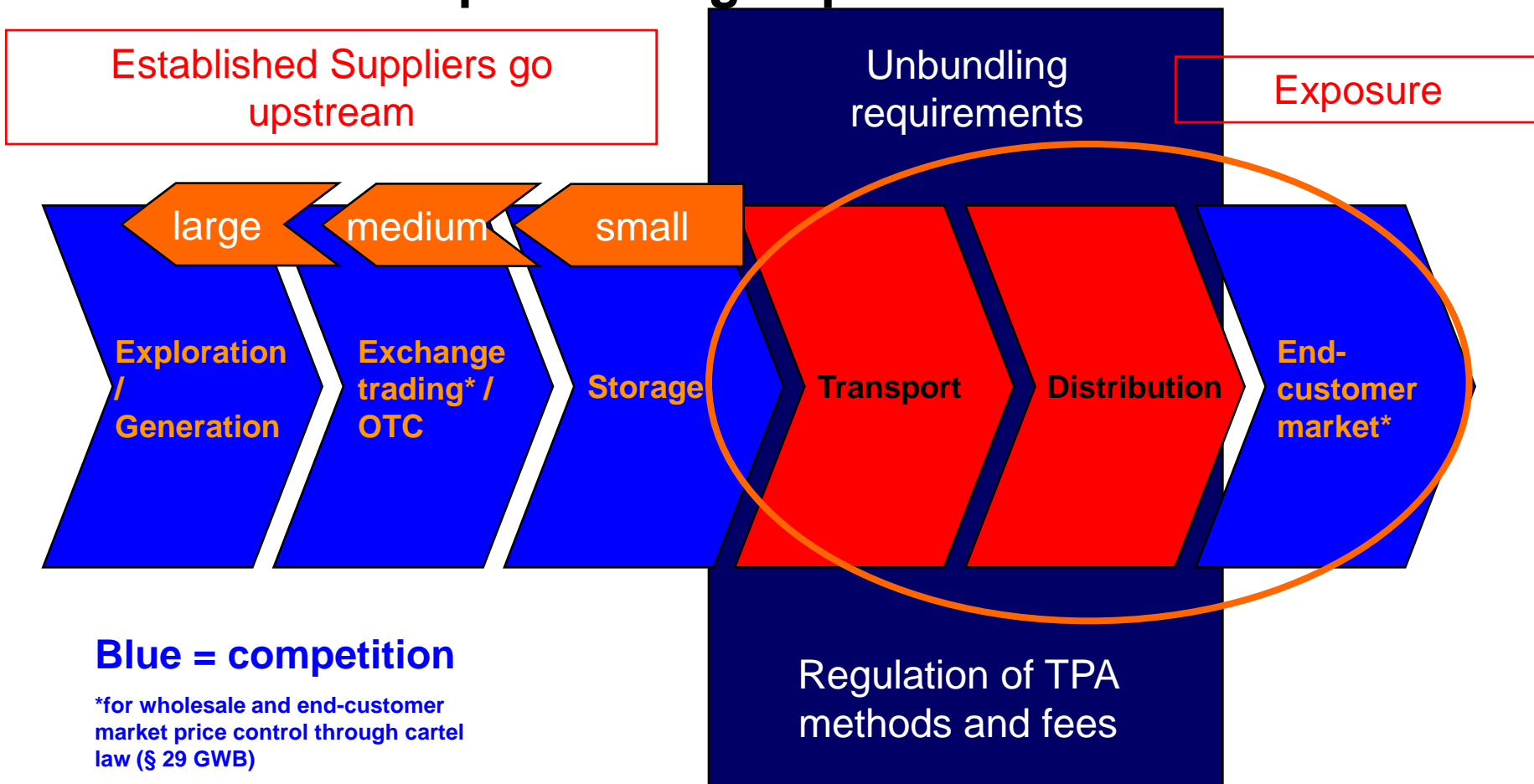
Decision for launch in:

- ⚡ E.ON Gastransport (approx. 45% of the German H-Gas transport volume)
- ⚡ BEB (approx. 15% of the German H-Gas transport volume)

* Decision of E.ON Gastransport to merge the E.ON H-gas market area in October 2007

The EEX has started spot and futures trading in the BEB (now Gasunie) market area and in the E.ON GT market area in 2007.

Regulatory changes and market developments force established companies to go upstream



Decision of the Cartel Office on long-term contracts affects the whole distribution chain

Decision: In 2006 the Bundeskartellamt prohibited E.ON Ruhrgas' long-term gas supply contracts with distributors:

- Contracts that cover
 - between 100 and 80 % of annual requirements must not run for more than 2 years
 - between 80 and 50 % of annual demand must not run for more than 4 years
 - 50 % or less of annual demand they can be signed for more than 4 years
- Distributors whose actual total requirements are less than 200 GWh are exempted from this stipulation.
- Multiple supply contracts between the supplier and the customer are to be considered as one individual contract.
- Tacit extension clauses are also prohibited.

Control of abusive practices by dominant firms / Supervision of price abuses by monopolists

- In Dec. 2006 the Bundeskartellamt has started to publish gas prices of local distribution companies in Germany in order to strengthen competition and bring down prices charged to consumers
- End of May 2007 it published a second comparison
- Newly introduced § 29 into anti trust act
- Market-dominant companies must not
 - offer energy at prices that are higher than prices offered by other companies or in comparative markets unless the company can justify the prices level
 - ask for fees that are inappropriately above cost

Weather Risk displayed in an Annual Report 2007 of a regional distribution company

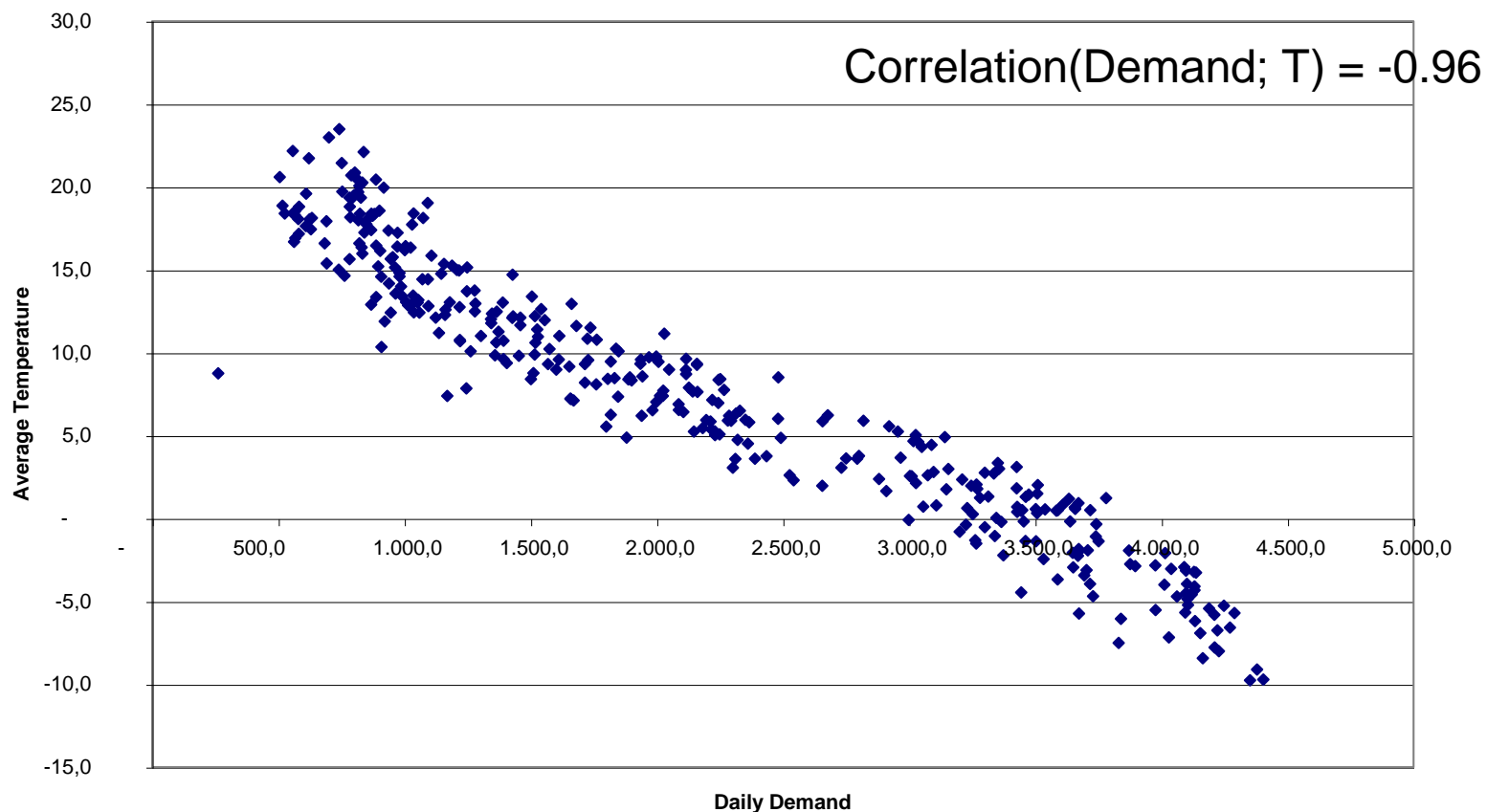
“... Q1 2007 was much warmer than Q1 in the previous year; .. degree days, relevant for the heating demand of our customers have fallen by 6.7% y-t-y to 2941 and are significantly under the long-term average.”

„Turnover before taxes decreased by 115,1 Mio. € to 713,9 Mio. €. The mild winter could not be compensated by the below average Q4”

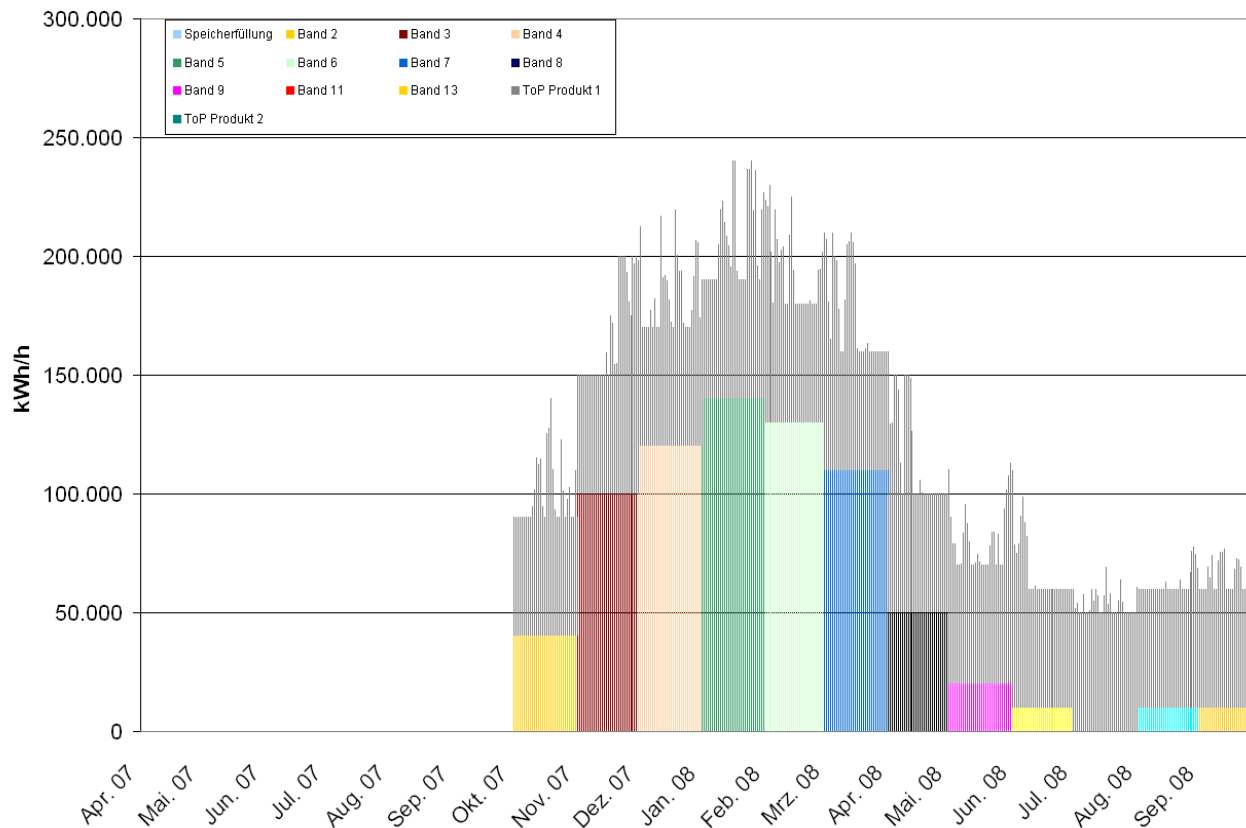
	2006	2007	Δ %
Gas supplies to 3rd parties	20.7	18.9	-8.9 %
Heating- and Powerprod.	2.3	2.2	-6.0 %
End- and Industrycustomer	10.4	9.2	-11.9 %
Distcos	9.3	8.5	-8.9 %
Heating Plants	1.7	1.6	-8.4 %
Turnover before tax	828.9	713.9	-13.8 %

Domestic / Stadtwerke demand highly correlated to temperature

Load-Temperature dependency

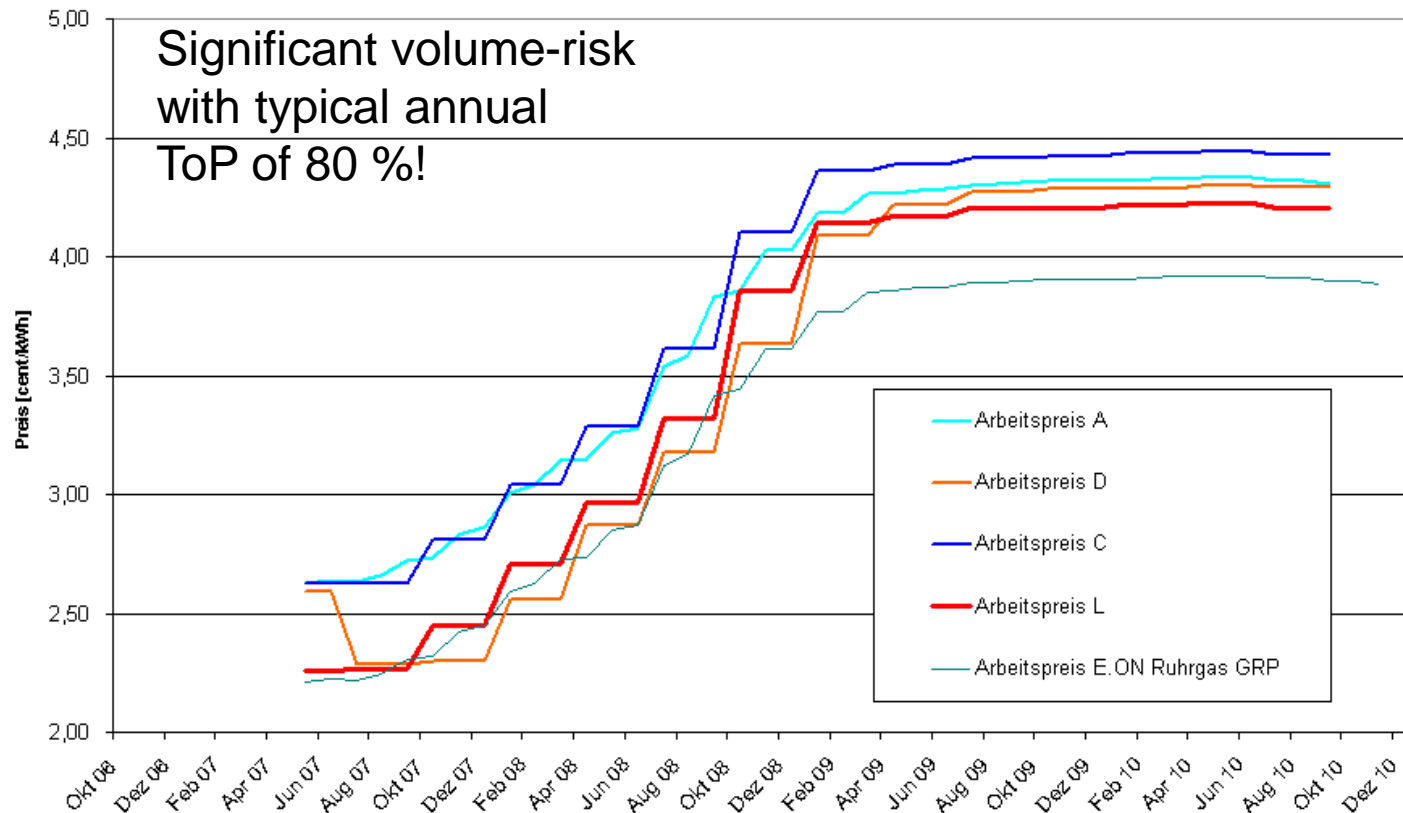


German Stadtwerke have started a market based portfoliomangement

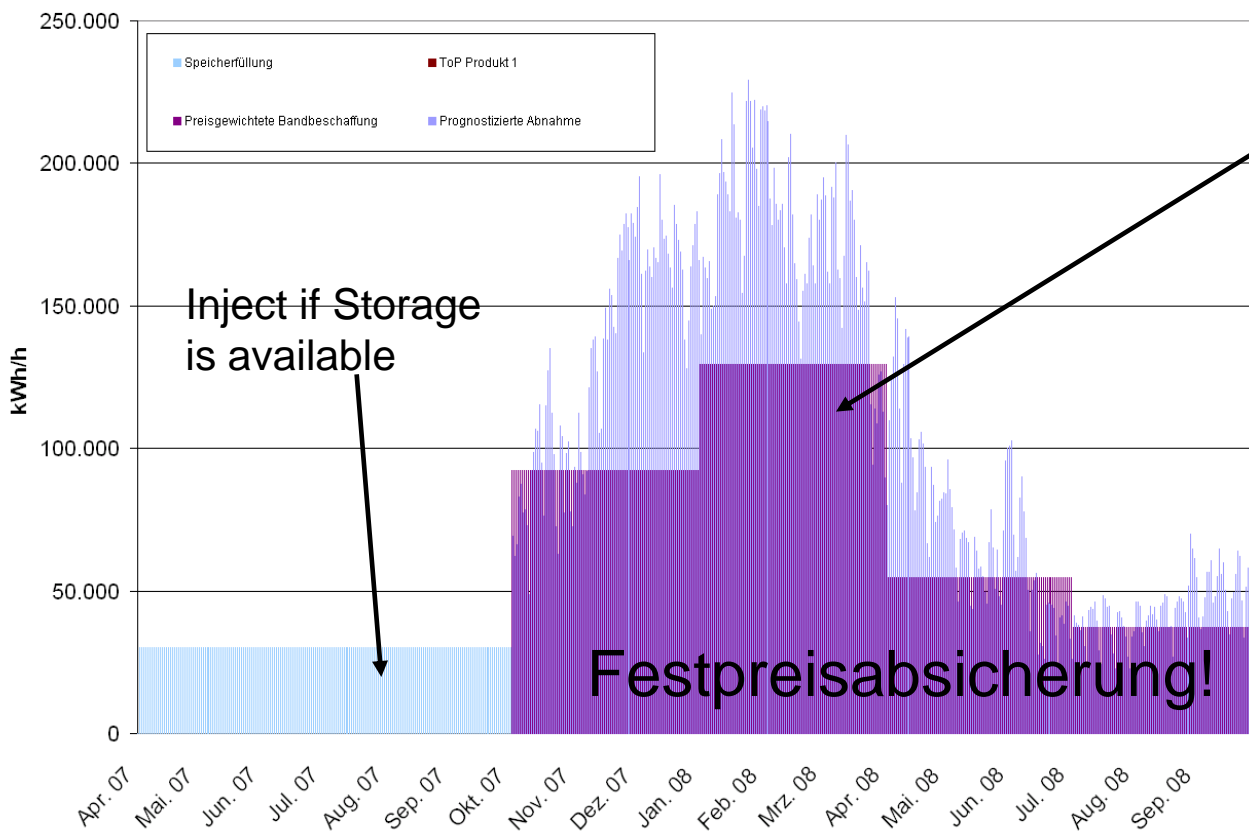


- Oil-linked gas contract
- in combination with
- Traded products

Long- and short-term flexible gas contracts are linked to oil

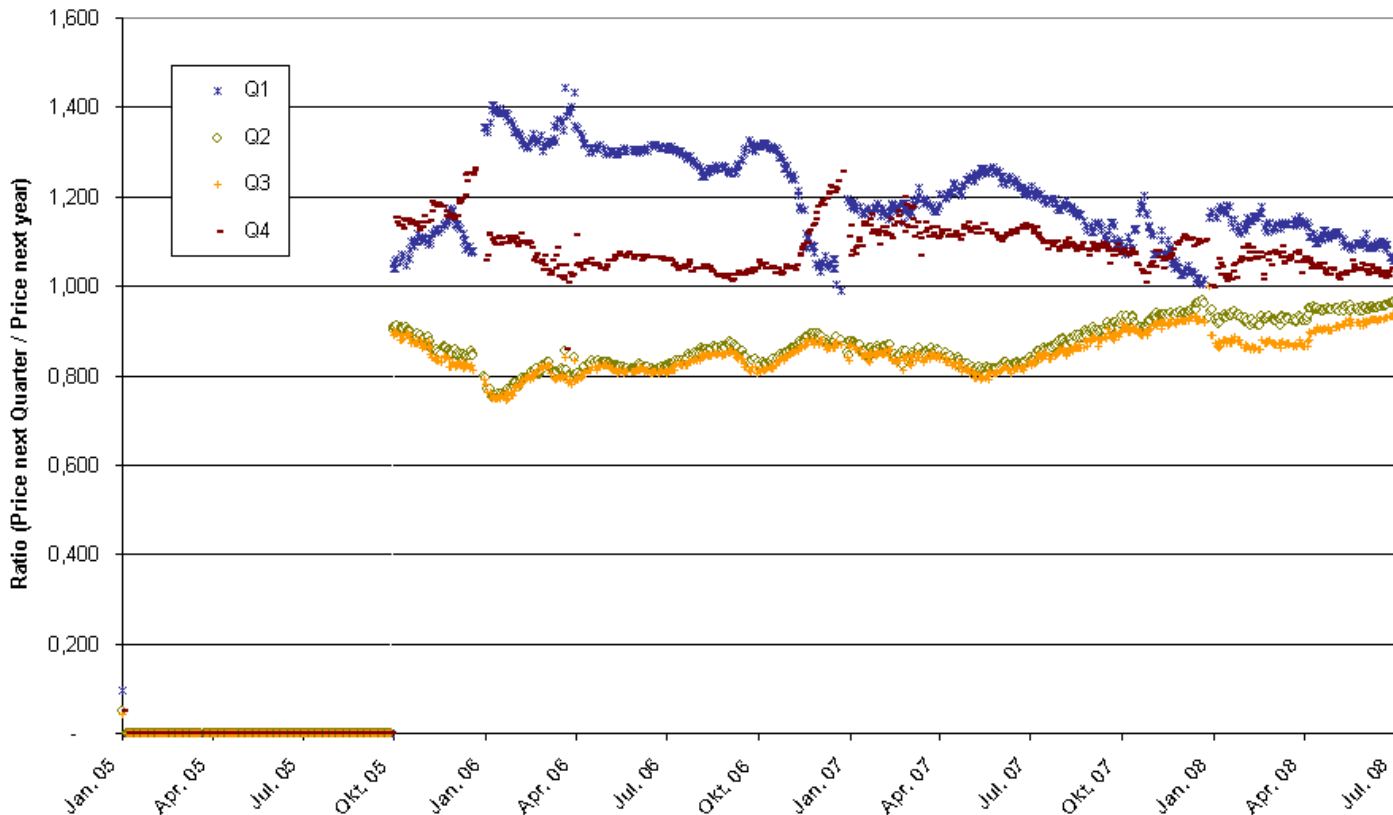


Some suppliers use storage and annual or quarterly physical hedge



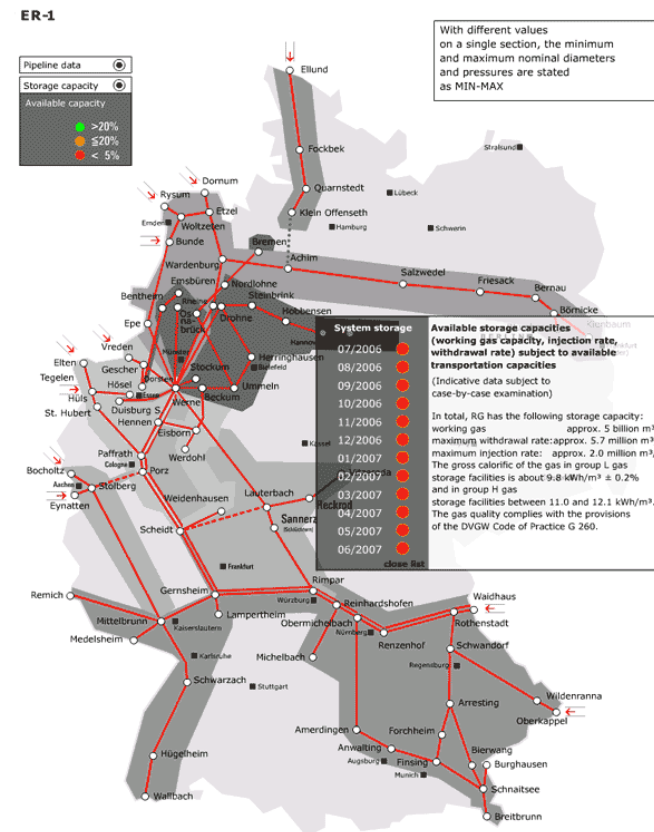
- Buy seasonal structure - Fixed price hedge
- M-t-m exposure to seasonal forward structure

Significant seasonal risk in the seasonal structure



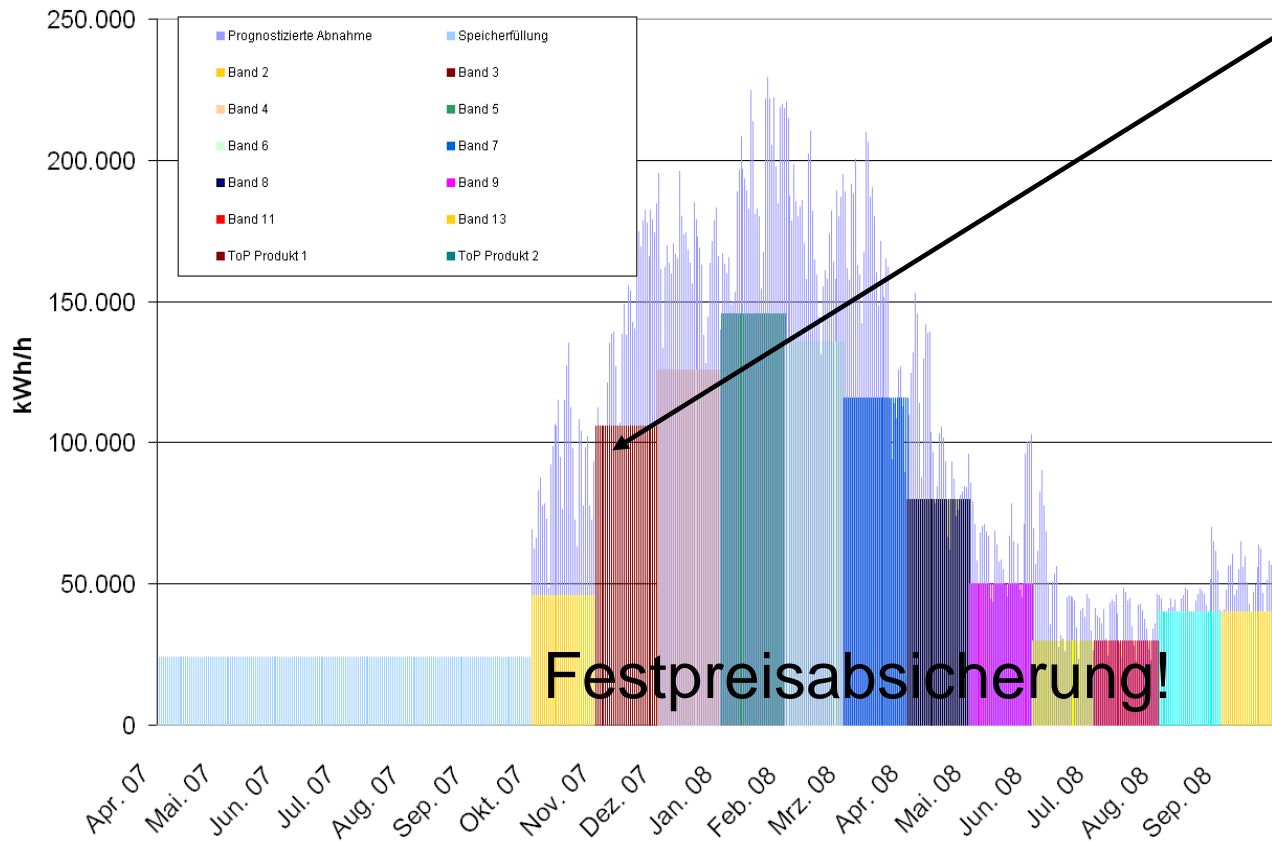
While storage is typically available only in very limited amounts and specific locations there is no rucksack procedure to provide access

	1. Okt. 08	1. Apr. 09	1. Okt. 09	1. Apr. 10	1. Okt. 10
Number of storage sites not fully booked	5	5	6	6	7
Number of operators with sites not fully booked	4	4	4	4	4
Working gas capacity not fully booked in bn m ³	0,24	0,24	0,43	0,46	0,57
Freely bookable working gas (percentage of total available)	1,3	1,3	2,4	2,6	3,1



Source: Monitoring Bericht der BNetzA 2008

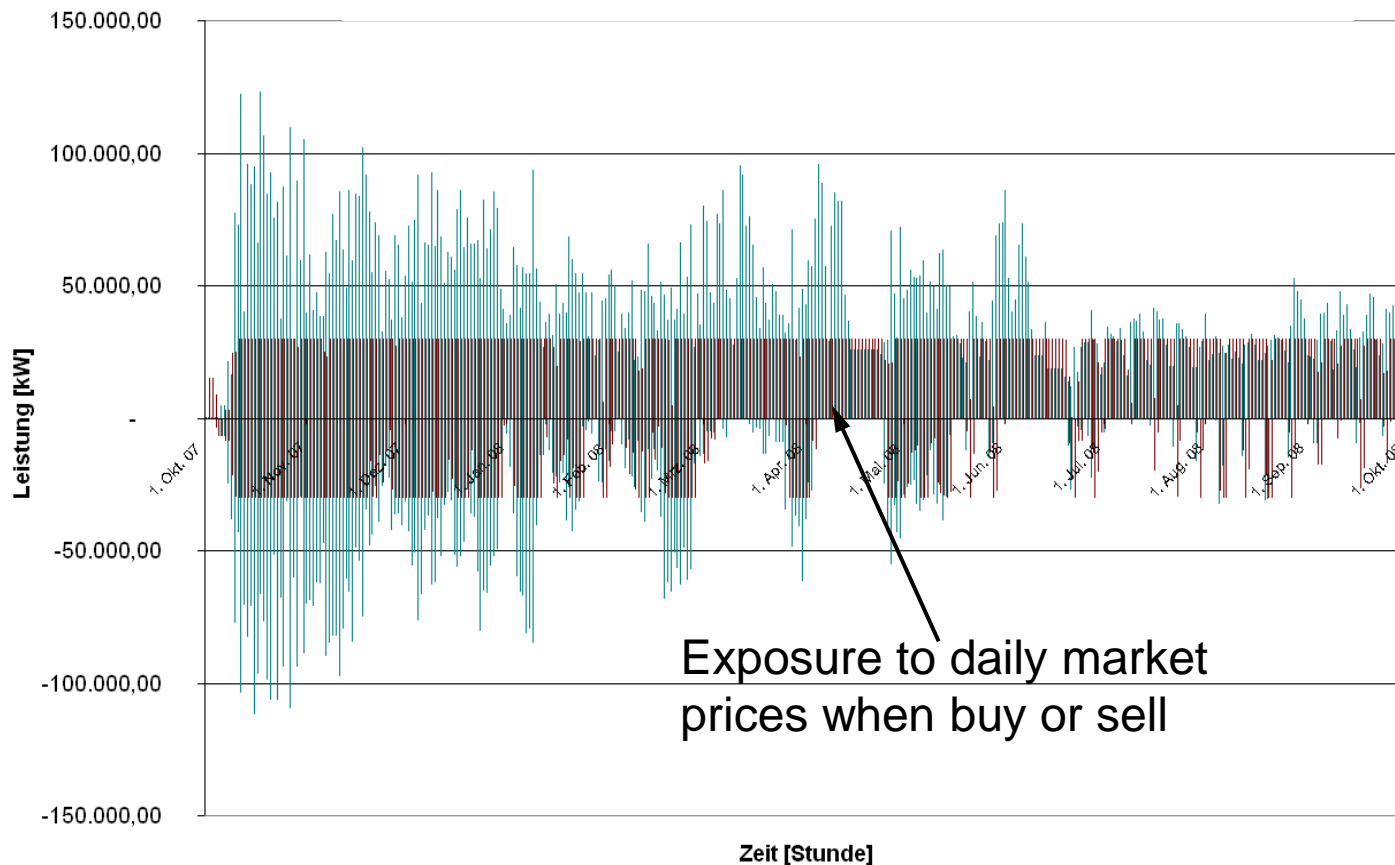
Exposure to months-forward structure when quarters come into realisation



- Sell Quarter and buy Month for medium optimisation
- Exposure to monthly forward ratio

Festpreisabsicherung!

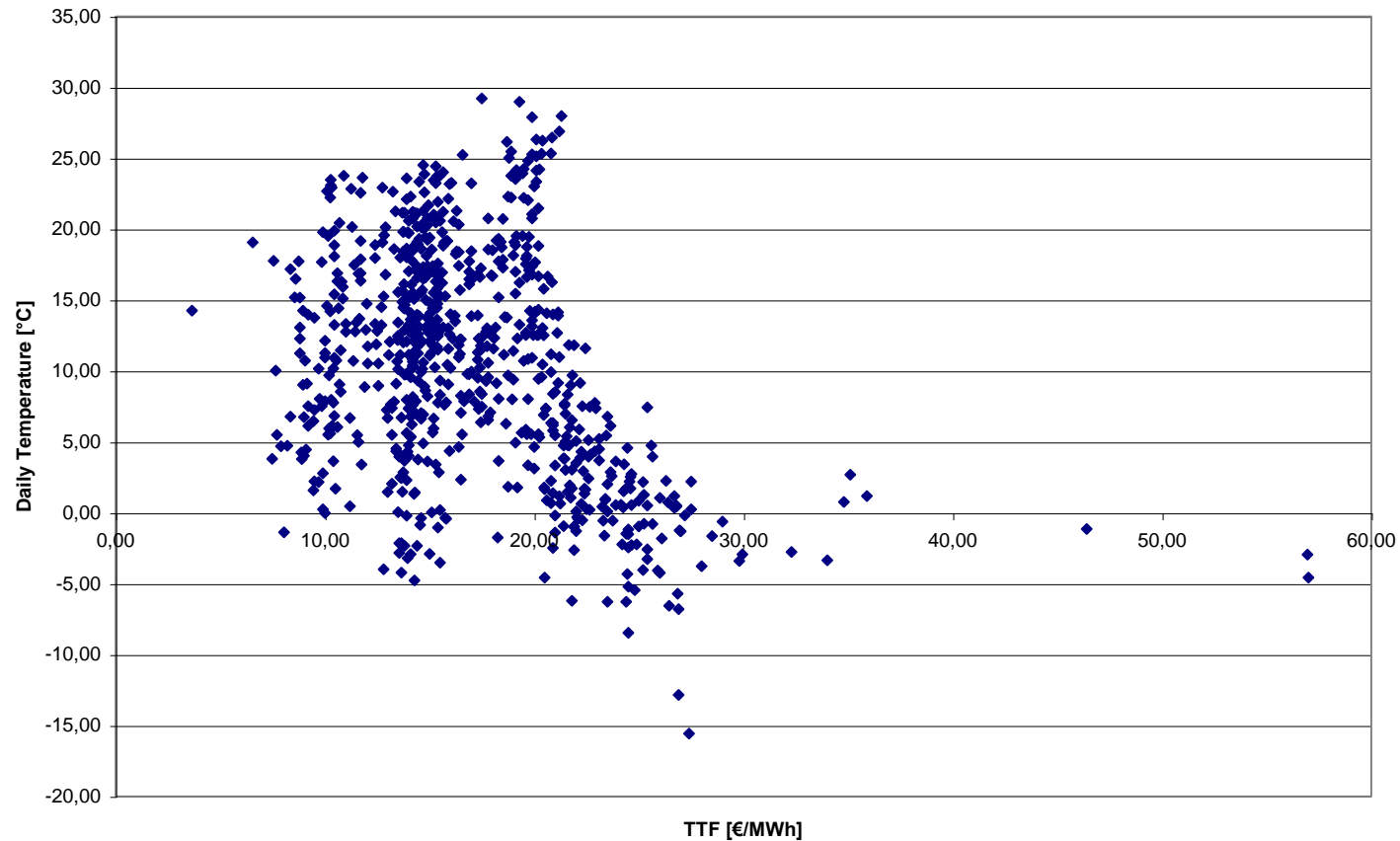
Good prognosis and liquidity crucial for cost-efficient fine-tuning



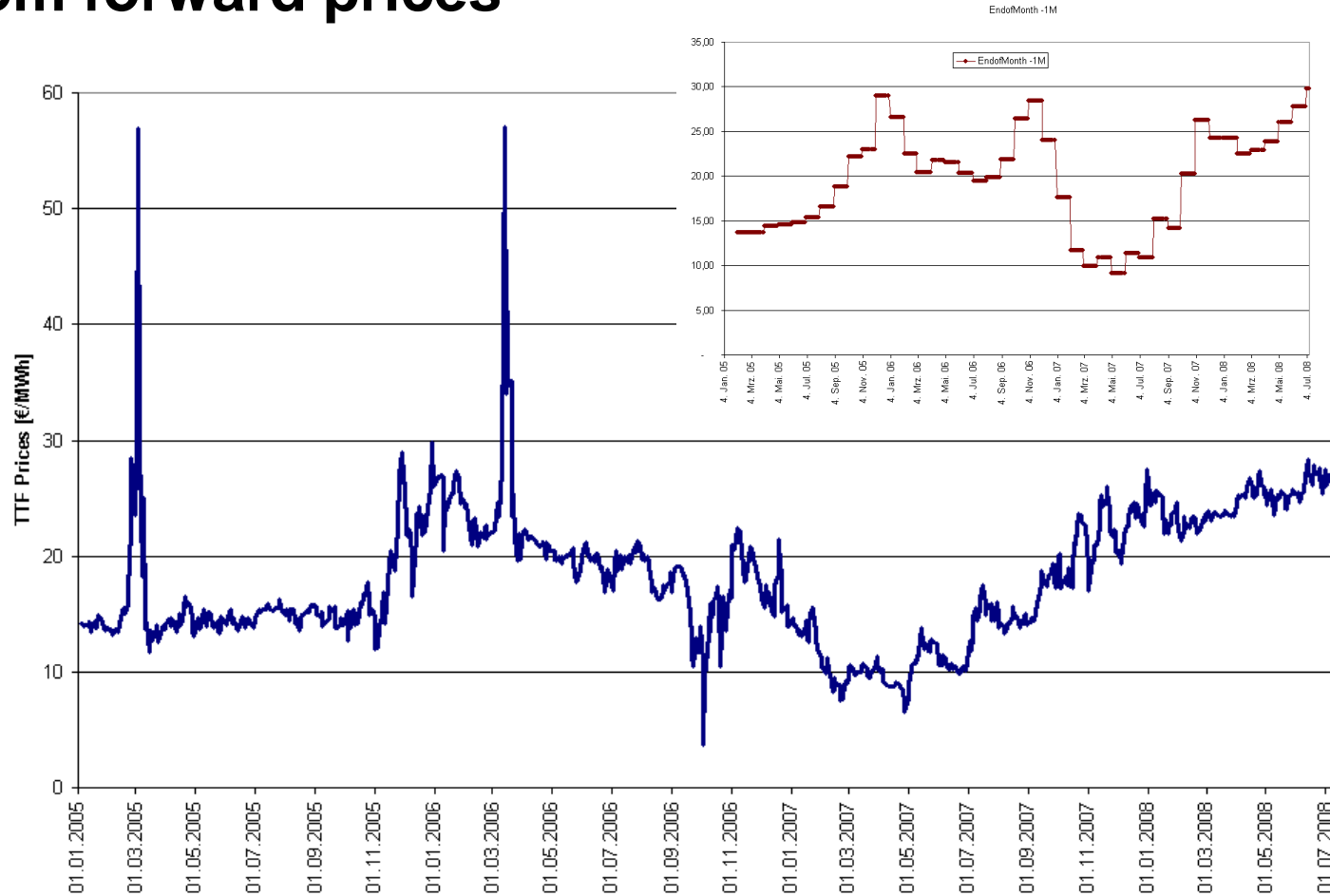
Procurement of residual load:

- Spot market (price risk)
- Flexible service contract (ToP risk)
- Storage (availability)

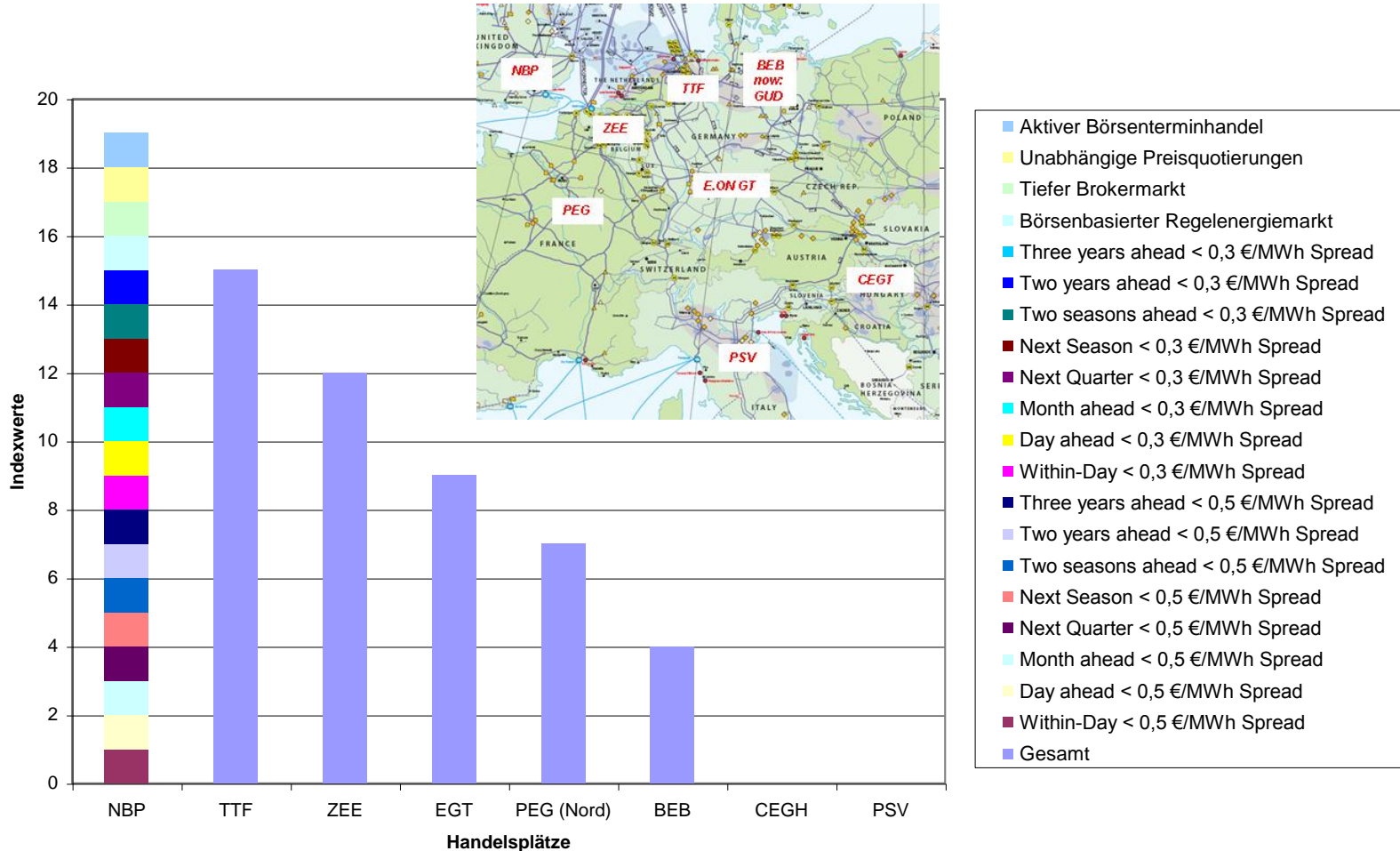
Low correlation between temperature and market prices



Spot price development is widely disconnected from forward prices

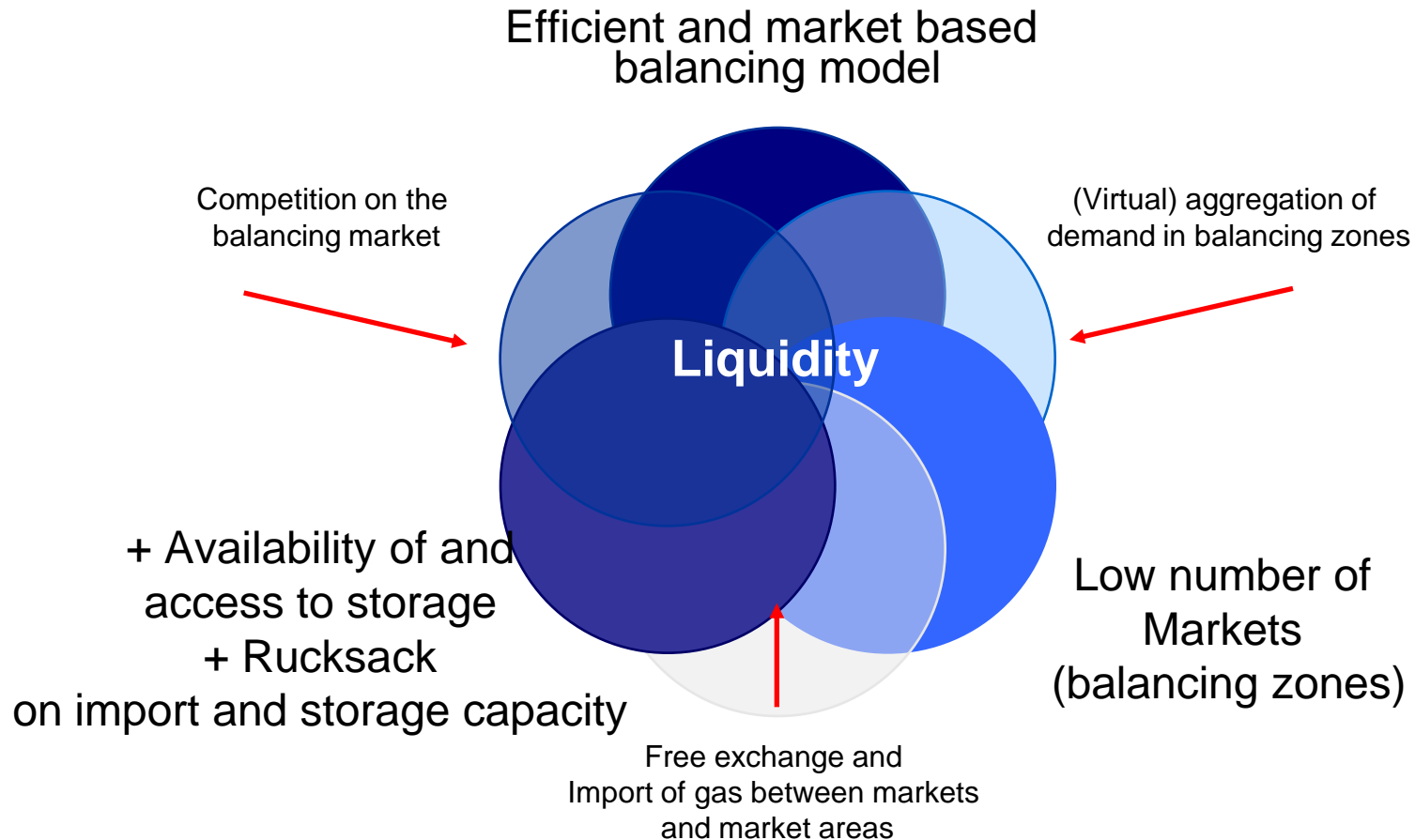


Liquidity decreases towards East and South



Source: Heren, Day ahead from Oct. 31 2008

The gas market hopefully to come: Liquidity prevails



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