What are the barriers to developing efficient and transparent trading and how can they be overcome?

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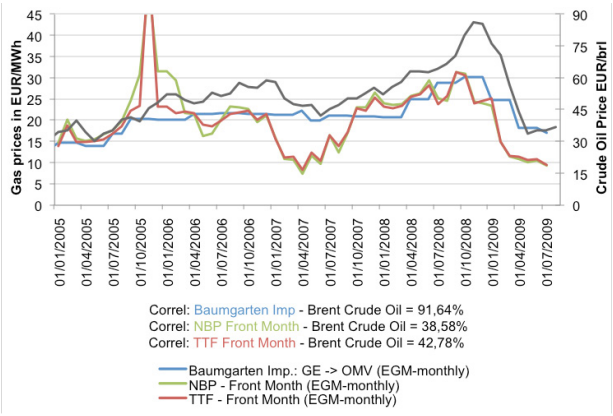
Setting the scene

Hubs might be regarded as the most recent step in the evolution of the gas industry and have become the symbol of the development of free markets, in an environment once characterized by national incumbents mainly supplied by long-term contracts.

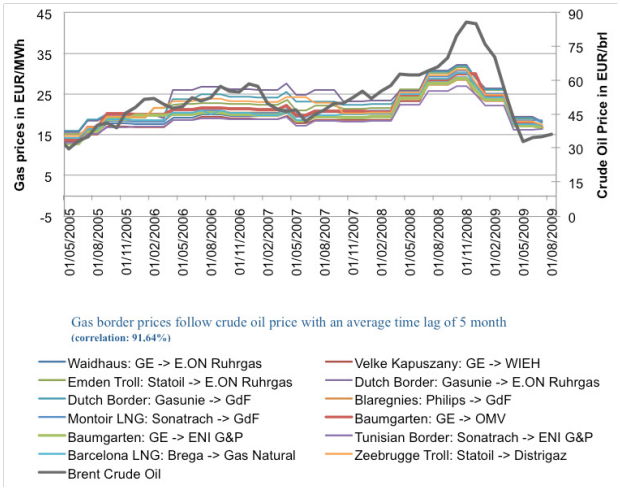
The evolution of liquid gas markets is essential because they provide an environment where customers can source gas at competitive prices, thus creating transparent and reliable price signals. Forward prices provide market players with the best view on future supply and demand conditions to faciliate the efficient usage of their existing asset base (e.g. gas production/ supply contracts).

Currently, the correlation (link) between daily quoted hub prices and oil prices is reducing. Gas hubs are, in effect, becoming the price formation points reflecting purely gas market conditions (see charts below).

Gas Prices vs. Crude Oil Price (shifted 5 month)



Gas Border Prices (Heren European Gas Markets) vs. Crude Oil Price (shifted)

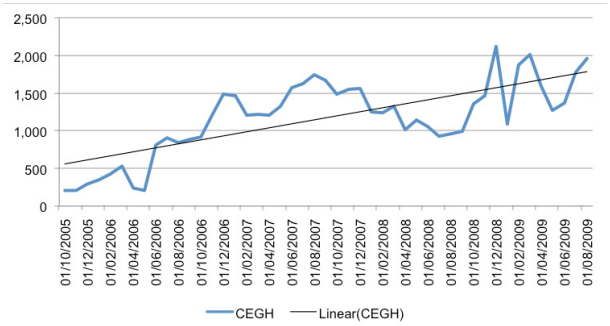


Hub evolution has transferred from electricity to gas markets and is moving from North-Western to Eastern Europe. In fact, the liquidity of gas hubs in CEE has increased.

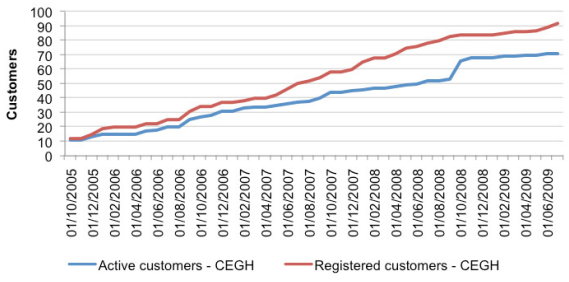
Influencing market liquidity

This paper focuses on the development of the CENTRAL EUROPEAN GAS HUB (CEGH) and investigates the factors influencing operations at Baumgarten. In recent years, the customer base has increased to 92. Trading volumes and churn rate are rising, and the Herfindahl index is decreasing (see charts overleaf).

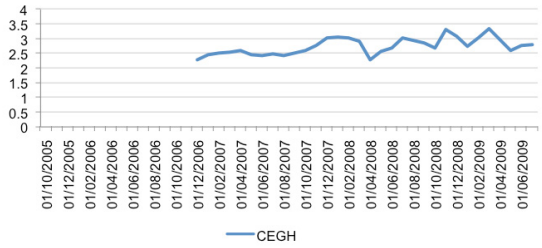
CEGH



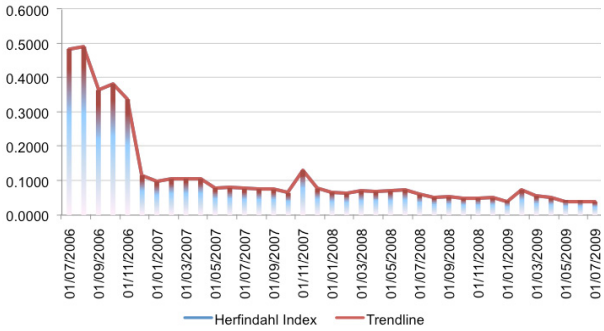
Number of registered and active customers at CEGH



CEGH – Churn Rate

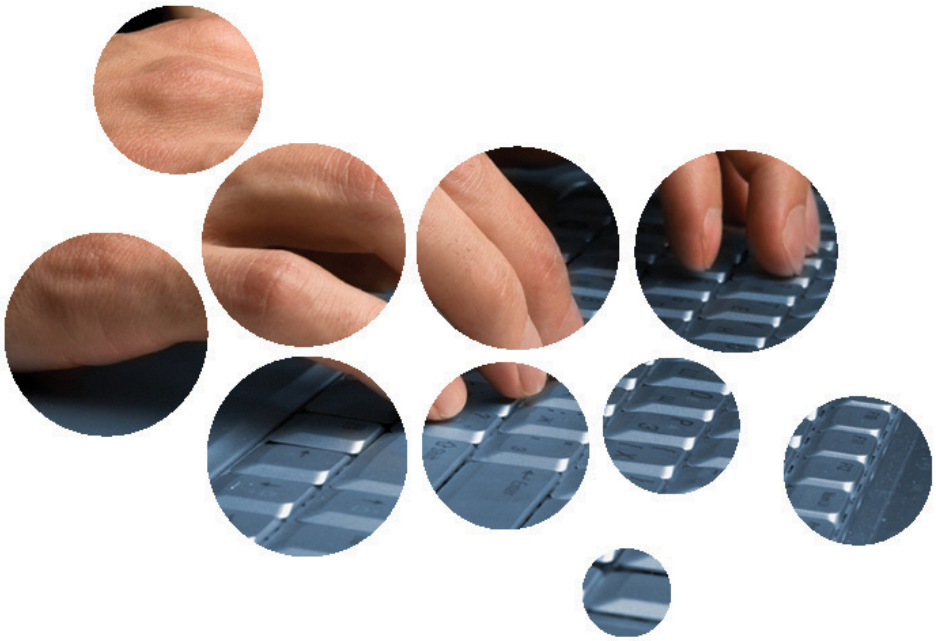


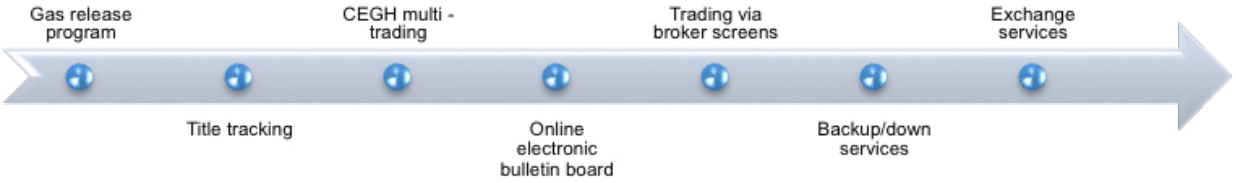
Verlauf Herfindahl Index CEGH



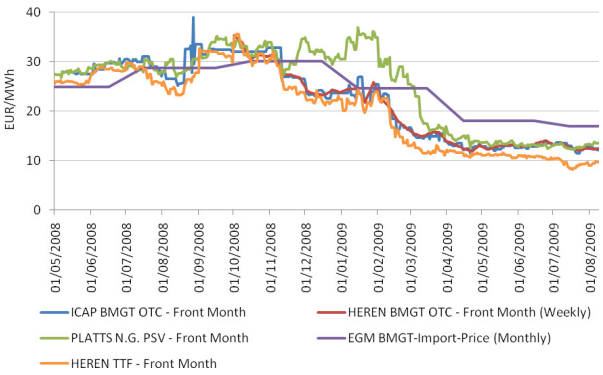
The planned partnership with GAZPROM (still subject to EU Commission approval) will promote the further evolution of the hub. In order to describe the pathway for future development, it seems appropriate to first explain what we have already done to increase the liquidity of the market.

Gas release programs were the first step creating some liquidity at the Baumgarten hub. Functionality of the trading platform was finally established 2006 when title tracking services were offered. Additional services and the implementation of "CEGH Multi-Trading Software" tailored to customize the complexity of the Baumgarten location was a major step to attract more traders to Baumgarten. Involvement of brokers and the availability of price indices have further increased liquidity. One of the most important brokers worldwide is reporting increasing trading activities at Baumgarten and publishes daily price quotations which show very good correlations with HEREN indices (see charts overleaf).

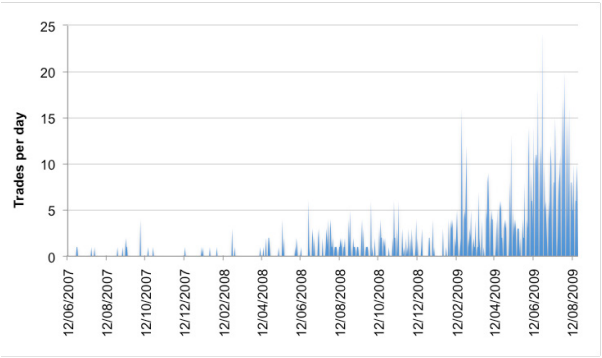




Price quotations in Baumgarten – reflect the market environment



Broker trades per day brokered at Baumgarten



Benefits of exchange trading

Moving along the OTC–development path takes us to the last step in our evolution, viz. the development of a gas exchange platform.

Gas release programs, as the first step of our evolution, have contributed to liquidity. Progress in launching a gas exchange platform will most likely do away with the need to carry out gas auctions in the future. In Autumn 2009, we will start exchange trading, offering spot services, which will be followed by derivative services in the first quarter 2010. To be totally compliant with the Austrian exchange law, we have teamed up with **Vienna Stock Exchange.** In a second step, we agreed on a co-operation with **European Commodity Clearing House** (ECC) in order to create maximum clearing efficiency for our customers. ECC will deliver cross-margining benefits for customers trading at different exchanges and trading different products throughout Europe (multi-commodity approach).

In general, exchange functionalities will provide the following benefits for customers:

- **Globalisation of trading activities**
  - across regions
  - across industries and businesses
- **Standardisation of trading activities**
  - anonymous trade
  - anonymous price quotation
  - standardised contracts (interchangeable with other exchanges)
- **Management of risk exposure for traders**
  - traders not utilising EFET term sheets can easily participate in trade without risk exposure
  - OTC–clearing as an alternative to exchange trading

Operating between TSOs

Unlike other hubs in Europe operating within one single TSO, CEGH operates between different TSOs and storage operators. As a consequence, at Baumgarten there is a need to harmonise operations between TSOs and to integrate trading into the transportation operation.

Over the last few months, progress has been made concerning co-operation with TSOs. TSOs agreed to conclude an Operating Balancing Agreement (OBA) under which CEGH will act as "Central Matching Agent" on behalf of the TSOs in order to enhance the integration of trading in the overall shipping process. Together with TSOs, a model has been developed for a more effective handling of matching processes and trading processes, while transportation issues are managed exclusively by each TSO.

Transmission operations will benefit from liquid hubs. For example:

- interruptible contracts seem to be more attractive for shippers since gas can be sold and bought at competitive market prices with lead times of two hours. As a consequence the utilisation of short-term transportation contracts (e.g. use it or lose it models, interruptible contracts) will be also a function of liquid hubs;
- shippers in Baumgarten may sell to the hub and buy from the hub free of charge;
- TSOs have access to balance their grid, taking advantage of liquid market platforms.

The co-operation between transportation and trade is essential for success. This is why Baumgarten operates a trading platform on top of one of the most important logistic transmission nodes in Europe. This means that CEGH is firstly a trading point for transmission streams, and the local Austrian end consumer market is less important than downstream transmission activities.

This is different from the business models of other hubs in Europe, which are embedded in the "end-consumer market". The following factors are essential to the success of the CEGH operation:

- co-operation with TSOs is very important to efficiently integrate trading with different transportation systems and storage systems;
- harmonisation of operating rules of different TSOs in order to increase operational efficiency;
- market-making is crucial to develop a trading market; especially during the implementation phase the commitment of interested and strong traders in the respective markets (SPOT, FUTURE ; OTC) is an essential driving mechanism for a high liquidity development.
- extension of the exchange functionality to include secondary capacity trade in order to put the customer in the position to trade gas, storage and transportation capacities simultaneously;
- implementation of back up/down services due to the absence of a major domestic balancing regime:
- integrating back up/down mechanism with different balancing regimes of up and downstream transmission systems;

Following the HANSE model

The distinctive feature of the Baumgarten Hub is that trading has to be co-ordinated in collaboration with different network operators. In future, additional pipeline systems owned and controlled by different operators will be linked up to the Baumgarten node transferring gas from other sources in the Caspian region to our trading location. This will boost liquidity and therefore the greatest challenge for the implementation of the EU's 3rd Energy Package must be the efficient integration of the CEGH trading structures into the upstream and downstream transmission regimes.

Our historical model is HANSE, which has developed trading structures for commodity trade in Europe, which might be regarded as a prototype for our future evolution.

- HANSE was successful in integrating Eastern Europe into the highly advanced trading structures of the West; NOVGOROD at that time was a very important HANSE trading location, marking the first time ever resources of the EAST had been efficiently traded in the WEST.
- HANSE efficiently managed the combination of trade and transportation.

The Central European Gas Hub can be seen as a gas market place at the eastern frontier and, due to its geographic location, it will undoubtedly have the obligation to open up trading in the region.

Therefore, we have invited GAZPROM to become our partner and together with our other partners (Vienna Stock exchange and CENTREX) our target is to establish the most liquid trading point in this area.

We are following the HANSE model by attempting to integrate Russian resources into modern market functionalities and implement best practices of co-operation with all neighbouring transportation and storage systems.