Creating successful transparent and liquid gas trading hubs
- the operational and commercial essentials

Summary

The European Federation of Energy Traders (EFET) is dedicated to furthering the development of transparent and liquid wholesale energy markets. Sufficient transparency and liquidity will be fundamental to the success of any gas trading hub.

- **Transparency** means that the price of gas traded in the market is continuously publicly known[1].
- **Liquidity** means that no single company can sustain undue influence on the traded gas prices.

Effective trading hubs help the market to generate real price signals. This enables market participants to respond to changes in supply and demand. Only with this link between supply, demand and price can the market deliver the efficiency gains that are one of the main benefits of competition

Gas trading hubs are common delivery points where many buyers and sellers are able to transfer title to gas. This paper sets out the essential operational and commercial requirements for the successful development of a gas trading hub.

Efficient trading can only occur once the conditions allow many buyers and sellers to participate in the market. Market participants will then need the ability to trade, for example to adjust their supplies to meet their customer's short and long term needs and to manage price risk. If there is inadequate access to information, networks, storage, consumers or supplies, or if there is undue market dominance in any location then it will be difficult to develop a trading hub. Access to information, network and flexibility services on a short-term basis (daily) is particularly important for hub development.

Gas Trading Hub Location

Assuming that there are many market participants then a trading hub might be located either at a physical point, for example a major interconnection, or a notional point within a gas network.

Physical locations should ideally be a point of confluence for several supply sources and pipeline systems and be close to storage capacity with effective third party access. A notional point would normally be within a transmission network that operates an entry-exit tariff and nomination system so that once in the system any network users' gas can be traded at the hub. EFET supports the Conclusions of the

[1] There are a number of ways by which price transparency is achieved. Where a trading exchange has contracts based at the hub, real-time prices for bids and offers can be seen on electronic systems and closing and/or settlement prices are published. Where trading at the hub is limited to the 'over the counter' market (OTC), current bids and offers may be known via brokers or electronic trading platforms. At the end of the trading day OTC closing prices, volumes and individual deals may be published by price reporting services. Where the hub operator operates a market, such as balancing or back-up/down, it should publish these prices electronically in real-time.

6th Madrid forum (October 2002) that entry-exit tariff and capacity regimes should be introduced for all EU gas transmission networks. Provided that the entry exit system is well designed to encourage new entrants and to ensure that capacity is available then this ensures that many of the conditions for liquidity are readily met and gas trading then contributes to the development of sustainable competition.

At a gas trading hub, the independent hub operator offers operational and commercial services that validate and facilitate title transfer and make gas trading more efficient.

The operational and commercial regime applied at each trading hub must be designed to facilitate gas trading and encourage new entrants, based upon transparency and interoperability with interconnected systems and leading to a high level of liquidity. Interconnected systems, including transmission and storage, should be designed to support and allow seamless access to trading hubs.

Operational requirements

- **Independent Hub Operator.** There must be functional and legal separation from any associated gas supply or trading companies. Users must be sure their trading transactions will remain confidential and that the Operator is financially sound, with appropriate credit arrangements in place. If the hub encompasses the whole transmission system, then a sufficiently independent TSO should be well placed to be the hub operator.

- **Standard hub terms and conditions**. The hub must be operated on a non-discriminatory basis, with standard published terms and conditions for all users.

- **Lack of market dominance.** The hub must be designed to operate in a way that minimises the ability of any single market participant to exert any undue influence. If market dominance exists in the market surrounding the hub, actions to reduce this are the responsibility of the relevant national regulators or EU authorities. Requirements imposed on dominant companies by these authorities could be executed at the hub: e.g. as a point of delivery for release gas or by the company agreeing to trade a percentage of its portfolio at the hub (to increase market liquidity).

- **Consultation with customers.** The hub operator must consult with its customers, and potential customers, during the development or any change to the hub's terms and conditions or operational processes. The hub operator should publish its intentions to consult and any changes should be subject to voting approval by a threshold % of customers. Customers must have the right to terminate if they find the changes unacceptable. Operators of interconnected systems should also be consulted to ensure continued interoperability.

- **Title transfer services.** The operator should record changes in the ownership of traded gas volumes, notify the relevant counter parties that ownership of the gas has been transferred, allocate actual quantities and in the case of any constraint allocate gas volumes between users. Essential components of this service include:
  - **nominations** – the operator receives and schedules nominations
  - **title tracking –** the operator tracks the change in ownership of gas volumes
  - **matching –** the operator matches nominations with counter parties and notifies customers in real time of any mismatches with counterparties

- **daily confirmation –** the operator confirms the deliveries and off-takes for each user
- **allocation** – the operator allocates traded gas to counter party level and notifies customers of any under/over deliveries in real time
- **identity protection –** for users
- **detailed monthly-reporting** – each month the operator confirms the details of each user's daily transactions and any resulting charges and in the case of constraints, details of whether the constraint was caused by upstream or downstream parties.

- **Balancing.** Operational Balancing Agreements (OBAs) should be implemented at all interconnection points. Within the hub, the operator should provide short-term balancing to cover temporary imbalances.

- **Delivery security or firmness.** The hub should provide 'back-up/down services' so that the buyer of the gas is guaranteed delivery in the event of any failure of the seller to under (or over) deliver its full contracted nomination on a day. This provides additional security for hub users by removing the shortfall risks associated with a production contract (or its onward sale). Back-up/down charges should be transparent and market-based. This should be achieved by allowing the creation of a back-up/down market where any player can offer flexibility services to the hub. At "notional" hubs, all physical constraints or delivery failures should be covered from the shipper balance accounts in the surrounding transmission network, keeping the Hub "super-firm" for users (e.g. as at the UK NBP). At physical hubs, the delivery terms should recognise the concept of planned maintenance or other outages with consequential reductions in tariffs as appropriate.

- **Capacity.** Where use of a physical hub requires capacity booking, the operator should ensure that capacity is booked and allocated on a non-discriminatory basis and short-term capacity is offered. Long term capacity should also be capable of being booked or transferred from adjacent TSO shipper account. The cost of capacity needs to be as low as possible (i.e. reflect efficiently incurred costs) to encourage trading. The capacity allocation and charging regime needs to be consistent, preferably entry-exit. The operator should facilitate secondary capacity trading and if necessary apply anti-hoarding measures. The same principles should be applied for notional hubs, but in this instance the user needs fair access to entry and exit capacity into the transmission system as a whole.

- **Information provision.** Information must be provided to users in a meaningful format on a non-discriminatory basis. At physical hubs where physical constraints could affect allocations, all operational information should be provided on-line in real-time and designed in a way that users can link these flows of information into their own computer systems.

- **Ease of transportation to and from the hub.** Users must be able to transport their gas seamlessly to and from the hub. The hub operator should work with the operator(s) of adjacent systems to ensure a high level of interoperability. This applies equally to physical and notional hubs, but may require more co-operation between system operators for physical hubs.

- **Quality conversion services**. Gas quality services should be provided, where necessary. Where these are normal services, essential for the efficient use of the hub and interconnected systems, they should be reflective of efficiently incurred costs.

Commercial requirements

- **Hub charges.** Whilst the operator should be given sufficient financial incentives to operate an efficient service, the charging structure for using the hub and its associated services should be designed to encourage trading and in general reflect efficiently incurred costs.

- **Credit.** Credit requirements should be low enough to encourage trading and liquidity, whilst allowing the hub operator to support a firm delivery service.

- **Tax and fiscal services.** Where energy, VAT or other taxes apply to trading at the hub, the operator should co-operate with users to minimise any barriers to trading this creates e.g. by helping establish a tax warehouse or offering a 'tax service'.

- **Trading contract compatible.** Hub operation should be designed so that trading can be carried out under standard industry terms and conditions, such as the EFET Standard Trading Terms. Some variation in hub operation may be necessary to reflect different hub structures and these differences can be accommodated in annexes to standard trading contracts.
- **Price discovery and transparency.** The price at which gas is traded at the hub should be publicly known. Daily market price information, such as the closing bid and offer and the price for back-up/down services, should be made available to and published by price reporting services.

- **Exchange trading and clearing**. Successful hubs may lead to the development of exchange trading and clearing based on gas traded at the hub.

- **Local market services.** Hub operators may need to offer additional services to meet the requirements of the local market. For example, if final consumption in the surrounding market is highly variable at smaller hubs, the operator could offer storage services. In contrast, at major hubs, the liquidity in the surrounding traded market should make it most efficient for users to match fluctuations in demand through their own commercial trades.

Requirements for surrounding systems

- **Entry-exit tariff and capacity regimes.** For both physical and notional hubs, the interface with surrounding systems is an essential component in successful hub development. This needs the implementation of entry-exit tariff and capacity regimes (with anti-hoarding provisions and secondary capacity trading) that reflect efficiently incurred costs.

  Such entry-exit regimes are the best way to ensure market participants can transfer gas to and from surrounding systems under non-discriminatory and transparent terms and conditions at reasonable costs.

EFET Gas Committee
February 2003