apx Group

A VITAL LINK IN ENERGY TRADING

Energy Viewpoints

Developing Energy Markets

Issue 11 – Summer 2007

Developing Energy Markets

Contents

More action needed to improve EU wholesale gas market

Dear Reader,

The 1 July 2007 deadline for fully opening gas markets to competition has come and gone. A lot more needs to be done to attract more wholesale spot market liquidity, increase access to transmission capacity and encourage cross-border trading.

Our latest survey of market trends reveals that many market participants believe that new sources of gas supply (eg LNG) and voluntary measures (eg EFET's pilot day-ahead allocation of gas capacity) will help improve wholesale market liquidity, but legislation is needed to force wider market access and attract new entrants. A lot will depend on the content of the EU's 3rd Energy Directive due to be published on 25 September 2007.

Because of the domination of a few integrated players in the market and political worries over security of supply, many of our Expert Panel doubt whether the EU will ever copy North America, where 60% of contracts are for less than 12 months and where the demand and supply for gas are more important drivers than the oil price.

Cross-border trade can be an effective way of improving wholesale market liquidity, but non-discriminatory access to cross-border capacity is an issue which still has to be resolved. New entrants are not able to compete on an equal footing with incumbents for access to cross-border transit capacity, and this acts as a barrier to competition.

Co-ordination between national energy networks, in terms of technical standards, gas quality and congestion management mechanisms, is relatively low and needs to be improved if there is to be an integrated pan-European gas network. Such a network would facilitate investment in cross-border capacity, not only by the incumbents but also by new entrants. More investment in facilities and infrastructure would itself have the effect of improving liquidity in the market.

A lot can be achieved via voluntary co-operation re-enforced where necessary with regulation. A good example is North Germany where according to BEB, gas contracts are becoming shorter and co-operation between network operators has helped the market in North Germany to establish itself as the most liquid virtual trading hub for natural gas in the country.

APX takes the view that additional transmission interconnection capacity is a necessary but not sufficient condition for gas market integration. Contractual congestion issues should be solved to make capacity available, gas should be encouraged to flow by removing "transaction costs," and hub trading should be encouraged.

For this reason I hope that the Gas Regional Initiative North West region (GRI's)'s pilot day-ahead allocation of border capacity with support by EFET can be put in place before the end of the year but even if the deadline is not met, we agree that the process would be worthwhile, if there can be agreement to remove all contractive barriers to trade. ■

Best regards
Bert den Ouden
CEO

EU Gas Market: Turning hopes into reality

The 1 July 2007 deadline for fully opening gas markets to competition has come and gone. Our Expert Panel believe that new sources of gas supply and voluntary measures to improve wholesale market liquidity will help, but legislation is needed to force the pace of change.

Slow progress on liberalization

Directive 2003/J5/EC of 26 June 2003 requested full market opening by July 2007, but implementation is late or unsatisfactory in a number of EU states.

In Germany, (which is of crucial importance for the whole of Europe in terms of its volume, and the role it plays in transit and in price-setting), gas competition has scarcely developed and there is a lack of transparency in the market. This has serious consequences for the establishment of a liquid and transparent gas market in the EU. The European Energy Exchange (EEX) started trading gas on 2 July 2007, but believes that it will take up to three years in which to get a gas reference price, during which time the volume trading will increase only slowly. Liquidity in the European gas market is really only expected to improve if the dominance of the incumbents declines and there is easier access for new entrants.

Countries where gas has only been introduced relatively recently, such as Latvia, Portugal, Finland and Greece, have been allowed to derogate from the requirement to open their gas markets until 2010, in the case of the first two, and as soon as certain conditions are met, in the case of Finland and Greece. Gas Regulation 1775/2005 of 28 September 2005 sets minimum obligatory requirements for access to transmission systems. These must be offered in a non-discriminatory way on terms that may also suit new entrants, for example firm or interruptible capacity, long- or short-term contracts.

The energy sector enquiry by DG COMP and DG TREN, completed earlier this year, made a number of recommendations for further action to improve competition in the EU energy markets. These included ensuring non-discriminatory access to networks through unbundling, improving the regulation of network access at national and EU level, and coordination between TSOs. Other proposals covered reducing the scope for unfair competition and strengthening the enforcement of competition law, including rules governing market concentration and market integration.

TSO unbundling is essential

Many of our expert panel (see page 20) believe that full unbundling of integrated companies is necessary if liquidity is to be developed in the wholesale market, as this will create more market players and increase transparency. There is also a tendency for capacity that could be used to be kept idle, and this practice could be ended if vertically integrated incumbents were required to separate out transmission and supply.

The European Commission is in favour of full ownership unbundling, but this idea is strongly opposed by the European gas industry and by some member states, principally France and Germany. Indeed, some energy companies, particularly in Germany, have threatened to challenge full unbundling in the courts if it goes ahead, and have warned that such a course of action could be construed as expropriation of assets, and therefore illegal.

The Commission has acknowledged that the gas market differs in certain ways from the power market, and that these differences need to be taken into consideration when addressing effective unbundling. These include the nature of gas flows, which allow the transmission system operators more power to choose where the gas goes, and the need to strengthen gas infrastructure, to diversify gas supplies and thereby provide more competition in the market.

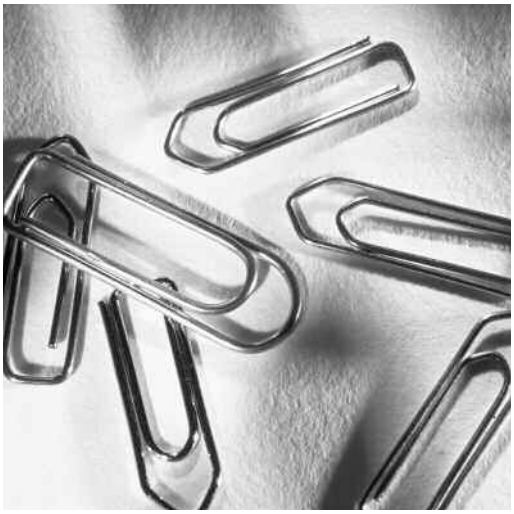
RSO may be an alternative

EFET, the European Federation of Energy Traders, while believing that ownership unbundling would be desirable, takes a fairly pragmatic approach. It believes that an alternative to ownership unbundling should be put forward to improve the current system for cross-border trade. This could be in the form of "regional system operators" or a system in which national TSOs could "transcend" boundaries to be involved in decisions concerning investment in cross-border transmission capacity. This could mean merging TSOs in many cases.

Spot, capacity and cross-border trading

There was less agreement amongst our Expert Panel on the question of whether we would ever see a situation in the EU like in North America, where about 60% of contracts are for less than 12 months. Some panel members believed that political concerns over security of supply in Europe will make it difficult for short-term contracts to develop in the same way as in the US, while there was some doubt about whether a spot market could develop in Europe in the same way as in the USA, because of the small number of dominant incumbents in the EU. Conversely, others thought that with more flexibility in the market, there would no longer be the need for long-term contracts.

The issue of secondary gas capacity rights in the EU is also a key concern for the gas industry. The EU energy regulators group (ERGEG) believes that these markets are an important vehicle for capacity re-trading and therefore for providing access to gas markets within the EU. EFET (see page 07) produced a position paper on this subject on 29 March 2007 which states that the secondary market plays a vital role in



helping market participants manage and shape capacity needs to meet business requirements, where the price of traded capacity is determined by agreement between buyers and sellers. The paper set out a number of recommendations on how to promote greater secondary market activity, including "harmonised and timely platforms, coordination processes and information rights."

On the whole our Expert Panel thought that there would be an increase in the trading of secondary capacity rights, largely because a general increase in trading will result in an increase in all products, including secondary capacity rights, and that this should produce more liquidity in the market.

There was less of a consensus on whether, gas release programmes are the best way of facilitating wholesale gas trading. Although many of our panel believed that it was an effective mechanism, there was less agreement about whether this was the best way. In the same way, opinions were divided on whether long-term contracts made it impossible for third parties to access gas in upstream markets, although there was some agreement that these do indeed make it more difficult.

Cross-border trade in gas is a good way of improving liquidity in the market, but non-discriminatory access to cross-border capacity is an issue which still has to be resolved. New entrants are not able to compete on an equal footing with incumbents for access to cross-border transit capacity, and this acts as a barrier to competition. Coordination between national energy networks, in terms of technical standards, gas quality and congestion management mechanisms, is relatively low and needs to be improved if there is to be an integrated pan-European gas network. Such a network would facilitate investment in cross-border capacity, not only by the incumbents but also by new entrants. More investment in facilities and infrastructure would itself have the effect of improving liquidity in the market.

Some signs of progress

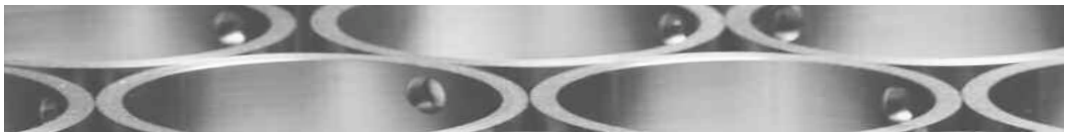
In the meantime, liquidity on the European wholesale gas markets is likely to remain low, although there are some positive signs which could have an impact in the short-term.

Wingas's decision earlier this year to merge its three gas trading zones in Germany into one from 1 October 2007, following similar moves by RWE and E.ON, should help to strengthen liquidity. Plans for Wingas to merge their trading zones with other gas companies later this year should also help to make trading more liquid.

The increasing availability of LNG in the European market should also help to drive growth in wholesale gas liquidity in southern Europe, particularly as France develops more LNG terminals, and gas demand continues to grow in Spain and Portugal.

However, much will depend on the development of further EU legislation on the EU electricity and gas markets. The European Commission is expected to produce a third draft directive on energy liberalisation before the end of September 2007, and all market participants will await this document with interest.

MOFFATT ASSOCIATES
August 2007



Decisions Pending on EU Gas Capacity Trading

The industry is awaiting a decision in September on whether a pilot day-ahead auction can be put in place by the end of the year. According to Dr Colin Lyle[1], chairman on the EFET Gas Committee, even if the deadline is not met, the process would be worthwhile, if there can be agreement to remove all barriers to trade.

Setting the scene

The Gas Committee of the European Federation of Energy Traders[2] has long recognised that restricted access to cross-border capacity is distorting the development of the EU gas market. How do we reach a situation in which capacity is available to all on an equal and non-discriminatory basis? Well, as a wise Irishman is known to have said when asked for directions "I wouldn't start from here!" But 'here' is where we are, with most cross-border gas capacity in Continental Europe assigned to a small number of historical players. Furthermore the EU Gas Directive, and to some extent the Gas Transmission Regulation, assume that capacity is in the hands of the Regulated TSOs!

Putting a market value on capacity

Within EFET we have debated whether or not a Nord Pool-like approach could be undertaken for the gas market, involving all the capacity, by some means, first returning to (independent) TSOs. Whilst this had theoretical attractions, the majority felt that it did not offer a workable way forward for the gas market in the short or medium term. Instead, EFET formed a strong, united view that capacity must become a tradable right, and to help achieve this EFET has been urging better information transparency, improvements in TSO services and processes (for example) to speed up registering capacity transfers, and harmonisation of the approach to selling primary capacity.

Primary capacity allocation

At the two Madrid Fora in 2006, EFET set out how primary capacity should be allocated, in particular the importance of TSOs maximising the capacity that is offered to the market and an incentive scheme that rewards successful TSOs for maximising the use of capacity. EFET also supported ERGEG's view that **regulated** infrastructure operators do not generally need binding long-term transport contracts to enable investment. Indeed the starting point for Gas Transmission investment should be that the TSO ought to put in place sufficient capacity to meet all reasonable demands for the agreed forecast use of their infrastructure, and the costs will be covered through regulated tariffs.

[1]Statements of EFET positions in this article refer to documents published on *www.EFET.org*. Other statements are the author's independent observations and are not necessarily EFET policy.

[2]Established in 1999, the European Federation of Energy Traders (EFET) is an industry association representing over 80 trading companies operating in more than 20 countries. The EFET mission involves improving conditions for energy trading in Europe and fostering the development of an open, liquid and transparent European wholesale energy market.

Is congestion physical or contractual?

Perhaps the first difficulty in the gas market is the lack of information transparency, so that it is sometimes impossible for a third party, even the regulator, to distinguish whether the congestion is physical or just contractual. Physical congestion cannot be resolved without operational changes (e.g. reconfiguration of compressor plant) or investment to increase pipeline capacities.

Contractual Congestion at the time of Capacity Allocation might occur if parties are unable to obtain the capacity they seek to flow their gas because one or more parties are not using all the capacity that has already been allocated to them. Alternatively contractual congestion at the time of allocation might simply arise because the value placed on capacity by market participants is higher than the regulated price for capacity, resulting in a higher demand for available capacity than has been offered for sale. Regulatory, contractual or market remedies can solve contractual congestion without physical changes to the infrastructure.

How can capacity allocation be improved?

The key steps that EFET set out to improve Primary Capacity Allocation and resolve Congestion Management were as follows:

- There must be a clear obligation or incentive for the TSO to invest in sufficient capacity to meet agreed forecast use of regulated infrastructure.
- Full information transparency on the aggregate historical use of the pipelines and their future availability (in terms of the technical capacity, aggregate booked capacity etc…) is essential so that the right valuations and investment decisions can be made.
- Regulators must have checked to ensure that any scheme put in place includes all capacity and is not distorted by historical arrangements.
- Capacity is a right that should be tradable. This means that new and historical capacity rights must be established on an equal basis and if there are significant anomalies due to historical arrangement then these need to be addressed.
- In particular it is essential that the way primary capacity has been and is sold in the future allows that capacity to be traded on a secondary market.
- On a regular basis (perhaps only once per annum if there is an effective secondary market) the maximum available capacity (technical minus booked) should be offered on an annual and multi-annual basis.
- The sale should be based on an auction, which will clear at the regulated price when the demand for capacity can be satisfied by the available capacity. This should be the normal outcome.
- Auctions at cross-border points should be organised in a co-ordinated way so that capacity allocated by one TSO is recognised by the other.

- If demand (for capacity) cannot be met by available capacity then there is either contractual congestion or physical congestion.
- A well-designed auction will result in a fair allocation of this scarce capacity cleared at a market price that is higher than the regulated price when congestion occurs.
- Consistent approaches to the shorter-term sale of any remaining primary capacity will be necessary during the year and can be managed on-line by the TSO.

EFET went on to point out that the use of auction revenues needed careful consideration, as a TSO should not benefit from allowing physical (or indeed contractual) congestion to occur. The unbundling of the TSO also needs to be sufficient to ensure that recycling auction revenues to users does not result in undue benefits to an affiliate. Auction revenues above the regulated price could be used to improve the firmness of future capacity that can be used by market participants.

The day-ahead capacity pilot

In October 2006, EFET made a new practical suggestion: the Day-ahead x-border capacity pilot. The proposal was specifically designed for the gas market but it followed certain mechanisms of the daily auctions that were already being successfully implemented for cross border electricity transmission capacity.

In the current situation, a shipper needs to contract exit capacity out of one grid and entry into the other. The new proposal implied auctioning firm capacity from one hub to the other, so entry and exit combined. Only where the capacity implied a counterflow, (i.e. where physically no flow in the required direction is possible) would the capacity be interruptible.

The auction required the TSOs to obtain, free up or reserve capacity for the auctions and also required them to jointly organize the auction, since the auctioned capacity was to be sold as a combination of entry and exit capacity.

The proposed model also fostered secondary trading of capacity by encouraging shippers to make unused capacity available for resale; they would be reimbursed the value of the auction. When the shipper had only offered entry or only exit capacity, they would receive 50% of the auction outcome.

Implementation of the day-ahead pilot

The target start date for the pilot was 1 April 2007. Auctions were to have been held via secured internet websites run by one dedicated auction office with one common platform or technology. This was to avoid each TSO developing its own IT system for the auction; a situation that exists in the power market and which requires significant additional resources from the participants.

The proposal was intended as a test or trial after which the process would be reviewed and improved leading to potentially more capacity being auctioned, as well as additional delivery periods (e.g. front month, front quarter etc) and additional locations (EGT-GRT, Fluxys-EGT, EGT-Transgas etc).

The main goal was to break down the artificial contractual and procedural barriers that stop liquidity developing at traded hubs in North and North West Europe. The capacity scheme would have supported initiatives of liquidity providers in these markets, such as the daily choice market as introduced by E-on Ruhrgas in the EGT North grid.

So EFET's proposed pilot for auctioning primary gas capacity and stimulating cross-border gas capacity trading in NW Europe should have touched down by now, but ▶

as we continue to circle around the runway enthusiasm is beginning to decrease. What has caused the delay? Adam Cooper, who leads the Capacity Market Project Group in the EFET Gas Committee summarises the problem as "Legal and regulatory barriers preventing rather than encouraging TSOs to facilitate the necessary products." There is now a risk that the initial idea is taking so long to land that traders' attention will focus elsewhere.

Criteria for success

To help get better understanding among all players, the EFET Gas Committee published a guide to secondary capacity trading, including the requirements on TSOs to facilitate day-ahead secondary trades. The TSOs involved in the pilot have responded positively to this and have committed to being able to register capacity transfers within 3 hours, rather than the 10 days that has been the norm until now.

For the platform to be successful, however, Regulators and TSOs will need to:

- Resolve, on a final basis and before a scheme is put in place, any legal issues that would prevent the implementation of secondary capacity trading.
- Actually implement the necessary system changes, to allow the transfer of capacity between eligible shippers within the day.
- Ensure that full aggregate information on capacity and flows is made available to all market participants on an equal basis.

Unfortunately it seems that significant additional work remains on product definition, changes to network access arrangements, and clarification of national legislation. Although a general framework can be put in place fairly quickly, the detailed contractual arrangements for capacity trading are fundamentally different between the networks –some are still changing – and the negotiation and conclusion of individual agreements for all relevant systems will take time. Additionally, the success of the market will depend on capacity being made available to waiting buyers by existing capacity holders and by TSOs.

Decisions pending

With cooperation, these difficulties will eventually be surmounted. In the meantime, developments in network access terms elsewhere in Europe mean that primary capacity auctioning and secondary capacity trading at other cross-border points, albeit not yet as x-border products, are being established more quickly elsewhere. The industry is working towards a decision date on 15 September 2007 for whether a pilot can be in place in December 2007. Whether or not this is achieved, the process will have been worthwhile if there is a clear plan for the removal of the remaining legal, contractual and operational barriers that currently prevent auctioning primary capacity and cross-border capacity trading at crucial interconnection points in the European pipeline grid. ■

Conditions for a Liquid Gas Market: North American experience

In North America over 60% of gas contracts are for one year or less. According to Peter Krenkel, president of NGX[1], this reflects the high level of market participation and short-term variability in trading conditions.

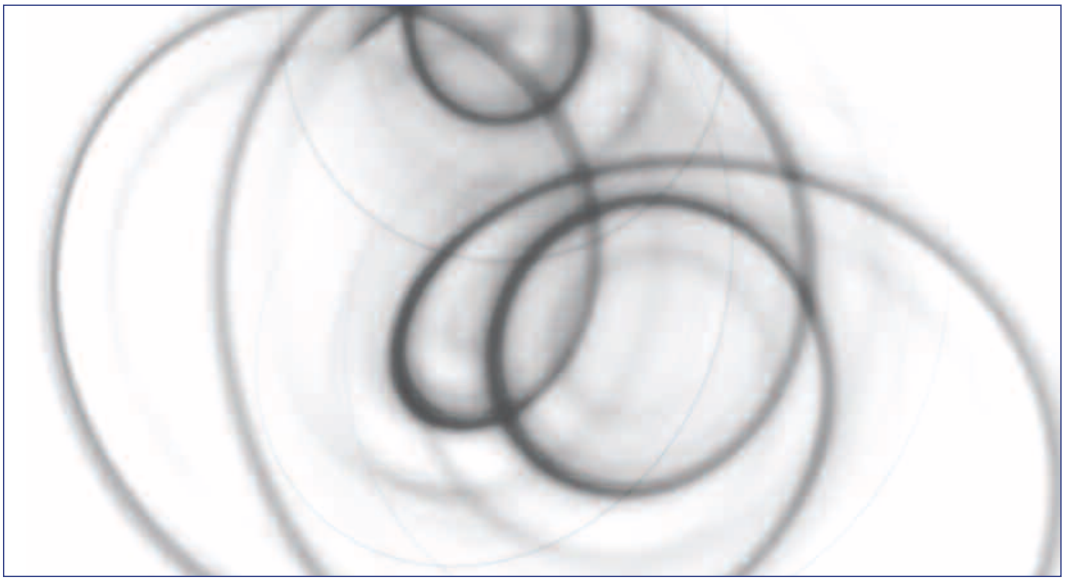
Liquidity criteria

For a liquid gas market to exist, numerous conditions need to be established. Multiple participants must exist so that there are significant volumes of gas trading daily. In addition, there need to be multiple instruments in existence that will provide a reliable delivery mechanism for the physical gas. Having access to storage and transportation, helps ensure reliable delivery. Just like other markets, the natural gas market has to abide by numerous government regulations; however, fewer regulations will promote a more active market.

NGX needs to provide accurate and reliable price indices that reflect a true market price. This accuracy allows for the development of derivative markets such as swaps and options. Encouraging the development of these markets lends support to both the exchange and the OTC markets.

In addition, NGX must support active paper and OTC markets to lure in speculators who could have some concerns about trading in new markets, such as lack of volume traded.
If however, even all these conditions exist, it must be remembered that an exchange itself cannot create a liquid market. It can only provide the mechanism to help markets expand and reduce impediments that may have previously slowed the exchange of money and gas.

[1]NGX is Canada's leading energy exchange and North America's largest physical clearing and settlement facility. NGX is a subsidiary of TSX Group.



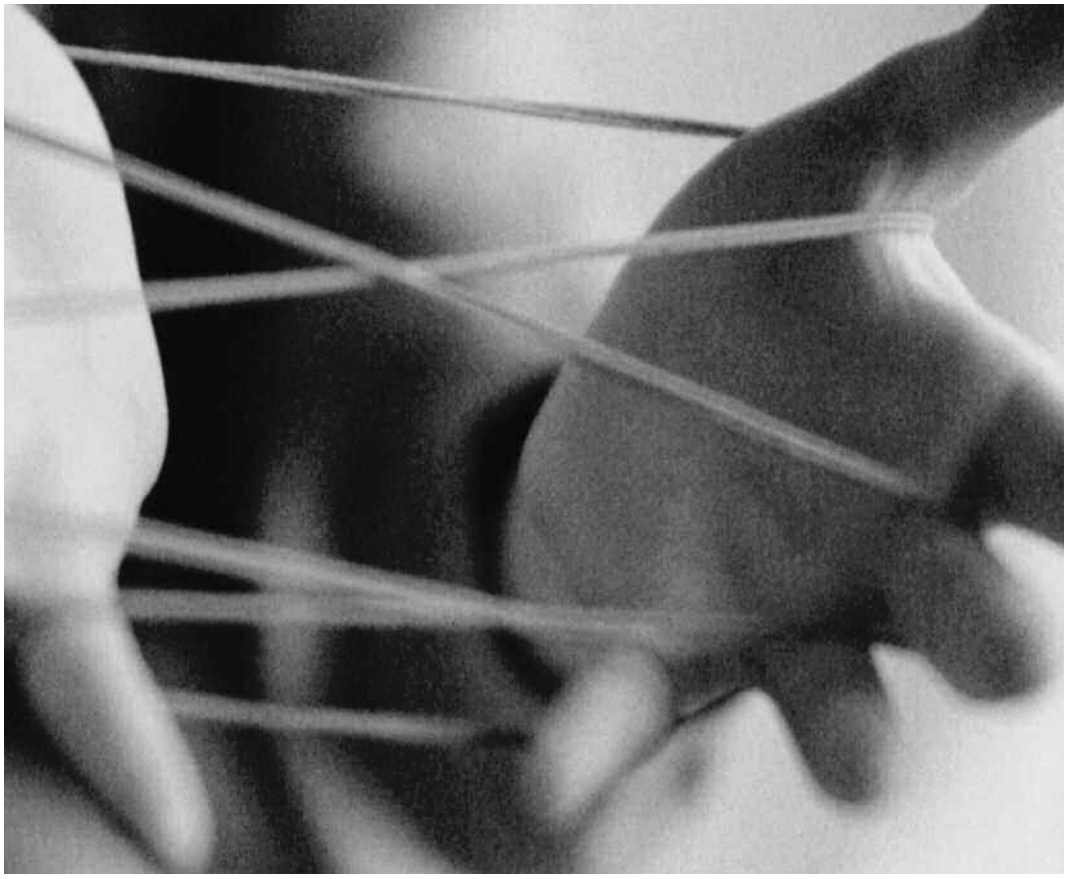
Variable market conditions

In North America over 60% of gas contracts are for one year or less. The reason is the highly variable nature of conditions in the natural gas market. Factors that move the price of gas up and down are more likely to occur in the short term. These variables include supply and demand, production and exploration levels, storage injections and withdrawals, weather patterns, pricing and availability of competing energy sources. Utilities, producers, marketers and pipelines rely on this information to make decisions as to when to purchase and when to sell gas. These short term variables are more accurate and easier to understand than longer term variables.

With all of these variables impacting on the market, it is easier to predict the demand curve for less than one year.

Because of this predictability, companies have more of an appetite for the risk in the short term. Clients also prefer shorter contracts because of the price that is involved in entering a long term deal. Companies must provide collateral for the entire length of the contract; therefore a longer contract will result in a higher cost of collateral with all the variables factored in, a shorter deal is less expensive for a company to undertake.

Finally traders hesitate from going into long term contracts because of the lack of liquidity. If more companies are buying and selling shorter term contracts, then there will be more liquidity in that time frame. By definition, a liquid market attracts participants because it is easier in a liquid market (compared to a non-liquid one) to buy and sell into and out of positions. ■



EU Gas Market Integration: Is more transmission capacity all that is needed?

According to DTe, the Dutch regulator, additional transmission interconnection capacity is a necessary but not sufficient condition for EU gas market integration. Contractual congestion issues should be solved to make capacity available, gas should be encouraged to flow by removing "transaction costs", and hub trading should be encouraged.

Setting the scene

Creating one competitive internal European wholesale market for natural gas is a pillar of European energy policy. We consider there are two important pre-requisites for the creation of an internal wholesale market: liquid gas hubs and the possibility and incentive for shippers to move gas between these hubs.

Access to interconnection capacity between the different European transmission networks is therefore key. However, several European studies show a lack of available interconnection capacity[1] between the European transmission networks. This shortage of available interconnection capacity has led to a call for the construction of additional physical transmission interconnection capacity between the different European transmission networks.[2]

However, we argue that physical expansion of interconnection capacity, while necessary,[3] is not the only way to increase supply on and trade between the European hubs. The market potential of the current infrastructure is far from fully utilized. At the moment, many interconnectors suffer from contractual congestion, which implies that not all physical capacity is being used[4]. Secondly, the "transaction costs" of flowing gas are sometimes too high. Thirdly, only a small percentage of gas flowing through Europe actually reaches hubs.

Solving these three bottlenecks will lead to an increase in trade and will be an important step towards the internal European market. Conversely this also implies that physical expansion will only lead to a significant increase in trade, if these bottlenecks are solved. ▶

[1] A 2006 report of DG TREN ("Priority Interconnection Plan") signals a lack of available interconnection capacity.

[2] In the already mentioned DG TREN report of 2006, DG TREN expresses an urgent need for the construction of additional interconnection capacity on a number of European cross-border points.

[3] E.g. in the "Gasmonitor 2005" DTe expresses a need for additional physical interconnection capacity (in Dutch).

[4] A report of DG Com 'Sector Inquiry', published in February 2007, confirms that.

Contractual congestion

In case of contractual congestion, there is physical space on the network, but shippers interested in this capacity cannot obtain it as it has been allocated to someone else. This appears to be an important cause of the lack of availability of interconnection capacity. DG COMP's sector inquiry on the European energy markets (2007) shows how currently significant shares of interconnection capacity are controlled by incumbent shippers through long term (pre-liberalisation) legacy contracts. Very often these incumbent shippers do not utilize all of the capacity rights they control[5]. Firm or interruptible Use-It-or-Lose-It (UIOLI) mechanisms, which enable TSOs or regulators to reclaim capacity rights and re-offer these, appear to be ineffective[6] in managing contractual congestion.

Secondary markets, on which shippers can sell their unused capacity rights to other interested shippers, are currently too illiquid to solve the allocation issue. An ERGEG study[7] on the performance of the secondary markets found three reasons for this lack of liquidity. First of all, incumbent shippers appear to lack an 'appetite for trade', on the wholesale market as well as on the market for transmission capacity. Secondly, there is a lack of positive as well as negative incentives for these incumbents to start offering their capacity on the secondary market. Lastly, there appear to be number of shortcomings in the facilitation of the secondary market by the TSOs. Consequently DG COMP comes to the (quantitatively substantiated) conclusion that the secondary markets are failing in their tasks as an effective congestion management tool.

The Gas Regional Initiative North-West region, led by DTe[8], initiated a workgroup to attempt to improve the liquidity on NW-European secondary markets[9]. This group adopted EFET's pilot initiative[10] which focuses on secondary trading of day-ahead capacity at the borders of Germany, Netherlands and Denmark. A first success was achieved when relevant TSO's indicated that they could reduce implementation lead-time of secondary trades from 10 days to 3 hours. Most market parties agree that the relatively long time it takes a TSO to transfer capacity makes the trade in secondary capacity on a short-term basis (i.e. day-ahead, week-ahead) practically impossible.

[5]A national example is presented in DTe's "Gasmonitor 2005," which finds that although interconnection capacity on a number of Dutch cross-border points was sold out completely in 2005, this capacity was seldom fully utilized, even in winter months.

[6]Market parties indicate the information TSOs provide on the chance of interruption are such that shippers are unable to make reliable risks assessments on the availability of interconnection capacity. For shippers who are unable to take risks (for example retail suppliers) this lack of information makes the interruptible capacity right useless and consequently the interruptible UIOLI mechanism ineffective as a means to create more additional, useful interconnection capacity.
On the effectiveness of the firm UIOLI mechanism, DG COMP as well as ERGEG report that the procedure of taking away future capacity rights of an incumbent on the basis of its historical flow profile (and thus breaking open an existing contract between shipper and TSO) has never been initiated, not by TSOs nor by NRAs. DG COMP explains how a number of TSOs refer to the Article 32 of Directive 2003/55, to explain why they never initiated such a procedure. This article states that older contracts fall under directive 91/296/EEC.

[7]ERGEG's 2006 paper "A roadmap for a competitive single market in Europe; An ERGEG conclusion paper "(Ref: E06-GMI-02-03) identifies the contractual congestion on a number of European interconnection points as a barrier toward creating a competitive single European market. These findings are supported by the outcomes of DG COMP's "sector inquiry energy markets" (published in February 2007), which comes to the same conclusions as the ERGEG study on the matter of contractual congestion.

[8]The Dutch office for energy regulation (DTe) is a directorate of the Dutch competition authority (NMa)

[9]The GRI NW region's paper: "Defintion of workstream: Interconnection: secondary capacity market.", (Ref: GRI-GAS-NNW-GENERAL-01-05), presents an overview of the process and objectives of this workstream.

[10]EFET inspired the pilot idea. The TSO's consequently took to work on it with more than expected enthusiasm.

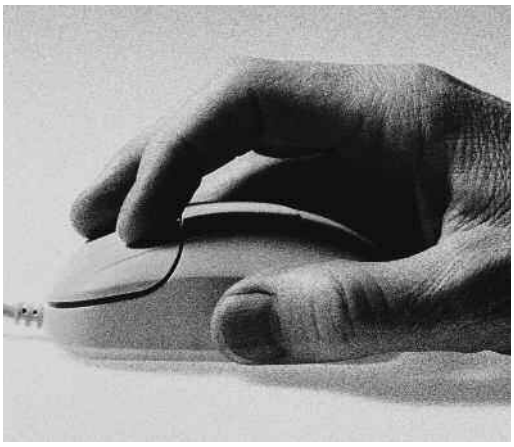
We believe that the current method of allocating new interconnection capacity sustains the contractual congestion problem. Very often[11] all additional capacity to be built is allocated FCFS[12] through long term (and high commitment) contracts, often in combination with grandfathering rights. This implies that the control of established shippers over the capacity on the European interconnection points will be sustained into the future. Therefore, new transmission capacity will also be subject to contractual congestion, unless some capacity is being reserved by the TSO for short-term (e.g. a year before flow or less) contracts. Solving or preventing contractual congestion will thus continue to be an important topic.

Encouraging gas flows

Available interconnection capacity only adds to hub liquidity, if gas actually flows. At the moment there are many hurdles resulting from for instance administrative rules and processes, which act as "transaction costs" and make (short term) optimisation of flows prohibitively expensive. Especially harmonization issues must be solved: exit off one system and entry on a connection one should match. Preferably, they should be sold simultaneously as a bundled (and therefore the same) product. While this is the case on many interconnection points on the electricity grid, as a result of TSO cooperation, this step has still to be taken for gas interconnections. In a similar fashion, balancing regimes should be harmonized between transmission systems and be made as simple as possible, to make the risk of imbalance manageable for shippers. Lastly, the provision of information, especially on real-time flows and balancing, should be improved dramatically to allow shippers to adequately assess the risks associated with the physical flow of gas. The Gas Regional Initiative deals with many of these cross border issues, which cannot be solved by individual countries.

Gas delivered at hubs

At the moment, the majority of the natural gas transported over the European interconnection points never makes it to national or regional hubs. In many cases, producing shippers deliver their natural gas directly behind the city gates, after which it cannot be returned to the national transmission network and cannot be traded – neither on a physical nor on a virtual hub. This is often a contractual condition imposed on buying shippers by producing shippers. Gas thus delivered has bypassed the hub. We therefore argue that these conditional deliveries significantly reduce the (potential) supply on European hubs. ▶



[11] Some EU members have incorporated a legal provision in their regulation on TPA to the national transmission network which explicitly requires a TSO (or other 'sponsor') to reserve a certain percentage of the new capacity to be built for short term booking in the future. An example of such an EU member is the UK.

[12] ERGEG's paper on guidelines for good practice open season procedures (GGPOS) (Ref: C06-GWG-29-05c), published in May of 2006, explains how TSOs (or other 'sponsors') have the freedom to determine the best method for allocating new capacity. Furthermore the paper advises to take future short term booking into account, however this is just a suggestion and so TSOs (or other 'sponsors') have no obligation to reserve a share of the new capacity rights for future short term booking.

On the buying side, importing shippers often do the same: they import gas for their own end customers (or for transit), and ship this gas behind the city gate. Only in case of an excess of imported gas will this gas be offered on a hub. We argue that the issue of gas reaching hubs could in many cases be solved through addressing the other issues mentioned above, in combination with good trading platforms. Gas will then be drawn to the hubs, and additional measures would not be necessary.

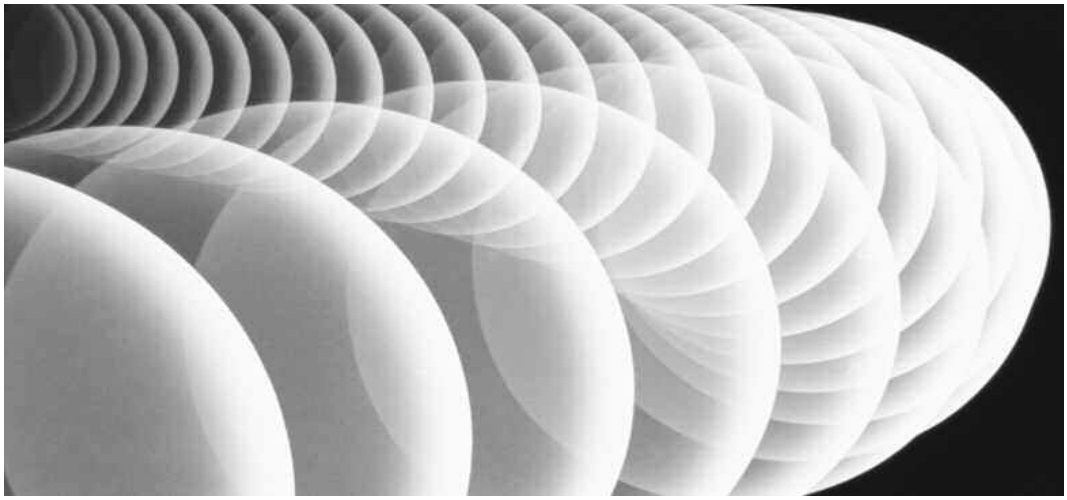
However, "islands" may remain inside the European gas market that do not benefit from increased flow and trade between the major hubs, for instance because of local transmission constraints, or because of gas quality issues. In those cases, players who are small or average sized on a European scale could be dominant on an "island." For instance, the low calorific market in the Netherlands may be such an island. Especially when it is not economically or politically sound to remove the island status – for instance because the investment is too high – and one player is dominant, policy makers and regulators should ensure that the dominant player's gas is delivered to customers where and when these customers wish it to.

Resuming, we have showed that the creation of one internal European gas market requires not only physical expansion of interconnection capacity, but also solving contractual congestion, harmonization of transport procedures, increasing information availability, and good trading platforms. Even so, "islands" within the European gas market may continue to exist, which may require specific regulatory intervention.

Final thoughts

Regulatory stability is an important pre-requisite for the investments needed for security of supply in Europe. While the suggested measures may lead to a more integrated market, loss of institutional trust should be prevented to preserve current and future investment plans. The test needs to be whether parties would make an investment in gas business assets on better terms than they would in the absence of such proposed regulation.

Therefore we argue that a combination of voluntary measures like Gas Regional Initiative Day Ahead Pilot and a carefully weighed set of (transition) mandatory liquidity measures for remaining "islands" are more likely to deliver an effective internal market. ■



German Gas Market: More integration and liquidity

According to Anke Alvermann of BEB in Hanover, gas contracts are becoming shorter and co-operation between network operators has helped the market in North Germany to establish itself as the most liquid virtual trading hub for natural gas in the country.

Setting the scene

The European and German gas world has undergone substantial changes. Only a few years ago, the gas business in Germany was characterised by long-term gas purchase contracts linked to the price of oil.

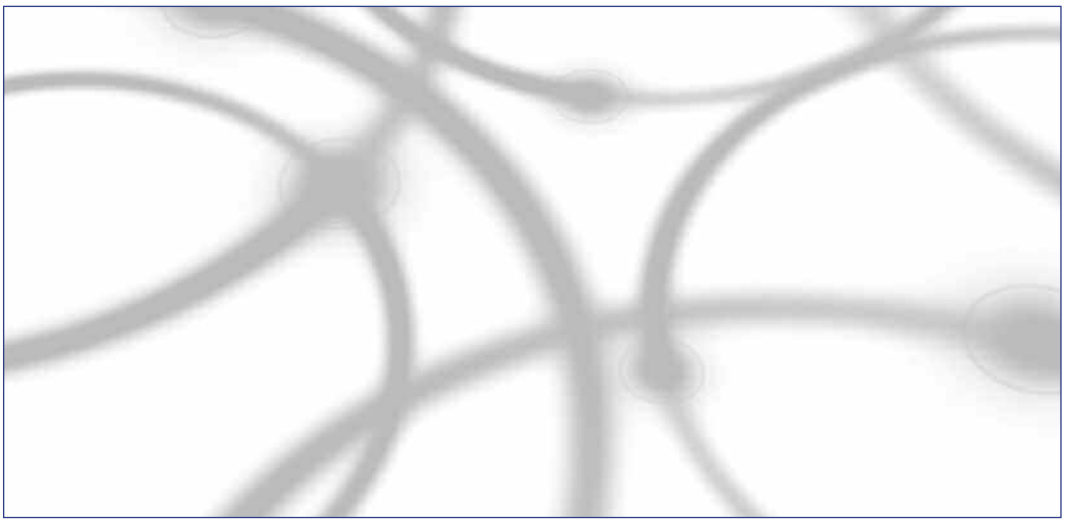
Today, the terms for the transactions of the shippers and traders are becoming increasingly shorter. For gas transport companies, this creates the need to offer the market services for gas transport and gas storage tailored to customer requests.

Moreover, given the large number of German transport operators, it means that co-operation amongst these companies is becoming more important, so that the range of services can be extended further and the entry-exit capacities of a number of gas transport companies can be booked by shippers and traders on joint internet platforms.

Network cooperation

Unlike many European countries, where there is only one national gas transport company, there are about 700 local, regional and supra-regional gas network operators conducting business in Germany. 16 gas transport companies, which operate pipeline systems in H-gas and/or L-gas, are active in the business of supra-regional gas transport. Currently, there are 18 market areas (13 in H-gas and 5 in L-gas) in Germany.

Back in 2006, the gas network operator, BEB Transport GmbH & Co. KG, Dong Energy Pipelines GmbH, Hydro Energie Deutschland GmbH and Statoil Deutschland GmbH decided to cooperate in the Market Area H-Gas North Germany. The Market Area L-Gas North Germany was formed by BEB and ExxonMobil Gastransport Deutschland GmbH. BEB coordinates activities in both markets.



On 1 July of this year, these two market areas, along with the market areas of ONTRAS VNG Gastransport, went online with a joint Internet platform. **(see figure 1 opposite)**

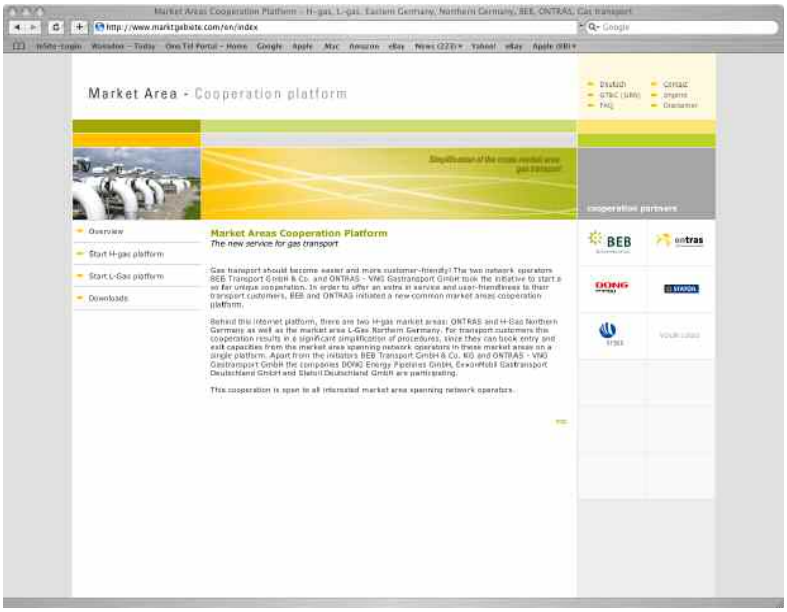


Figure 1 – Internet Trading Platform

From August 2007, customers can book transport capacities between the Dutch and Polish border in both market areas online on this Internet platform (www.marktgebiete.com). Transport customers will be able to select from a clearly structured and transparent list of the capacities of all six cooperating gas transport companies, add their selection to a joint shopping basket, then book their requests by a "click and book" function. This cooperation of the market areas of North Germany with the market areas of Ontras VNG Gastransport simplifies processes significantly for customers, thereby supporting the further development of a liquid gas market in Germany.

Expansion in trading

By launching its entry/exit network access system on 1 July 2004, BEB established the first virtual trading point in Germany. The BEB concept was also incorporated into the German Gas Network Access Regulations, enacted in 2005 to mandate the establishment of a virtual trading point for each of the 18 market areas currently existing in Germany.

The virtual trading point of the Market Area North Germany has already established itself as the most liquid trading hub for natural gas in Germany. Just under 30 companies have announced their interest in the sale or purchase of natural gas on the internet page set up especially for this purpose, moving away from traditional supply agreements.

Since the establishment of the BEB virtual trading point, gas volumes traded have risen rapidly. **(see figure 2 below)** In the first half of 2007 alone, the BEB hub handled a total trading volume of 20.9 billion kWh, an increase in the trading volume of 150% compared with traded volumes in 2006. The current record for trading volume within one month was registered in June 2007 at about 3.7 billion kWh.

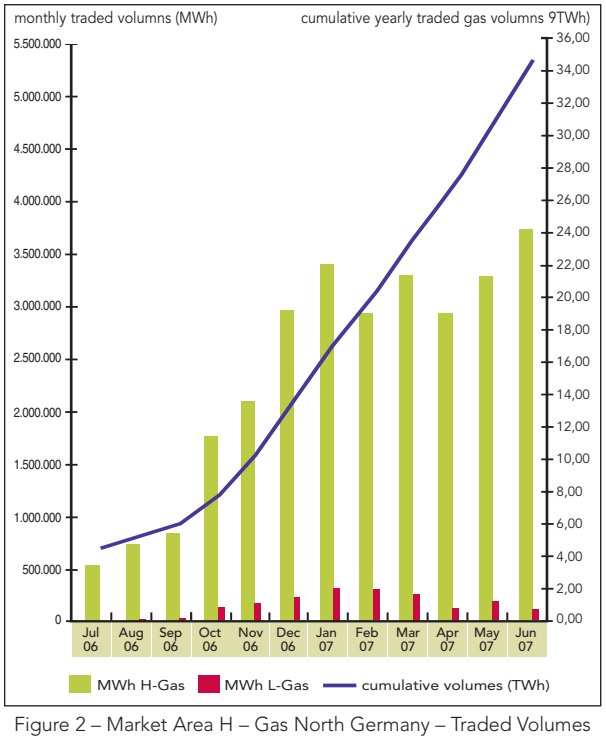


Figure 2 – Market Area H – Gas North Germany – Traded Volumes

Currently, trading is mostly in the Market Area H-Gas North Germany. Virtual points contribute to the increase in liquidity for natural gas because new opportunities for gas procurement, portfolio optimisation and the realisation of arbitrage transactions between the domestic and international gas trade points are opened up for all market participants.

The realisation of the so-called two-contract variants and the related adaptation of all traditional supply agreements with further distributors within one market area by 1 October 2007 as required by the German Federal Network Agency, will likely result in a further substantial increase in liquidity at the virtual trading point.

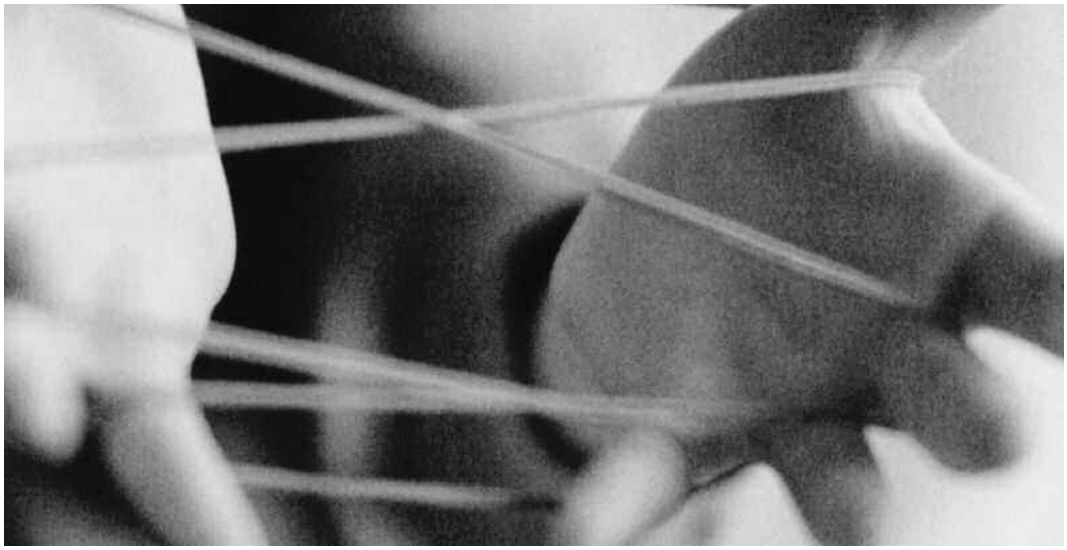
Gas exchange and transport capacities

The European Energy Exchange (EEX) set up the first German gas exchange on 2 July 2007 at the BEB virtual trading point in the Market Area H-Gas North Germany. In addition, BEB offers available storage capacities and the integration of important import and export points for natural gas in the market area, thus meeting all of the important requirements of the EEX for participating network operators.

Market participants can trade products, including gas, on both spot and futures markets on the EEX. The spot market is necessary because it enables physical portfolio optimisations within a short period. But growing potential is also expected for the futures market – especially in view of the step-by-step elimination of city gate agreements.

BEB is going to offer day-ahead capacities at selected cross-border points from the beginning of August 2007, thereby supporting gas trading on a short-term basis. Booking transport capacities for the following gas day during the period from 09.00 to 10.00 am will be possible. The possibility of offering combined day-ahead capacities is currently being discussed with neighbouring network operators. Combined day-ahead capacities would involve the opportunity for network users to be able to book entry and exit capacities at a cross-border point with one click on an internet platform.

To increase utilisation rates in its pipeline system, BEB is going to improve the publication of historical network utilisation data at selected entry and exit points. This data will enable network users to assess the risks of interruptions themselves. BEB's intention here is to increase further the liquidity of the European gas market. ■



European Energy Market Trends Survey – Summer 2007

This edition of *Energy Viewpoints* includes the results of our latest quarterly survey which monitors trends in the European energy markets.

This survey is run in association with **EFET** (the European Federation of Energy Traders) and is conducted by **Moffatt Associates,** an independent market research and business strategy consultancy based in London.

The objectives of this research programme are to canvass views on trends in market prices and energy market developments, and to monitor changes in market perceptions over time.

Results are based on the views of a representative panel of leading market participants and policy influencers. The survey itself takes the form of a detailed telephone questionnaire and is conducted on a strictly confidential and non-attributable basis. Respondents were interviewed in July 2007.

This quarter we received contributions from 31 senior market participants from 13 European countries (Austria, Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Poland, Spain, Switzerland and the UK).

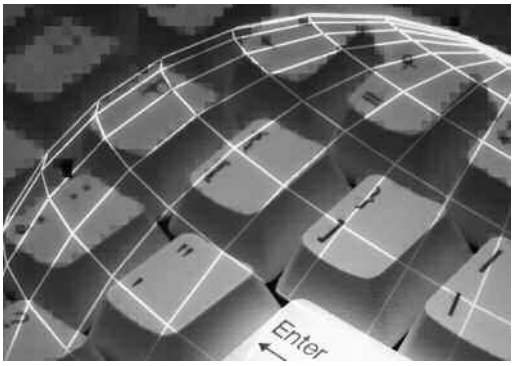
The key findings are as follows:

Market Trends

- As in last quarter's survey, 64% of respondents believe that **spot power prices** will increase over the coming twelve months. A sizeable minority of our Panel – 25% –anticipate that spot power prices will fall, with the remaining 11% expecting them to remain unchanged.

- In the gas market, there has also been a slight rise in the number of Panel members predicting that **spot gas prices** will increase over the next twelve months – from 50% of respondents last quarter, to 54% for this Summer survey. 25% of respondents anticipated falling gas prices in the spot market, while the remaining 21% predict prices will be unchanged.

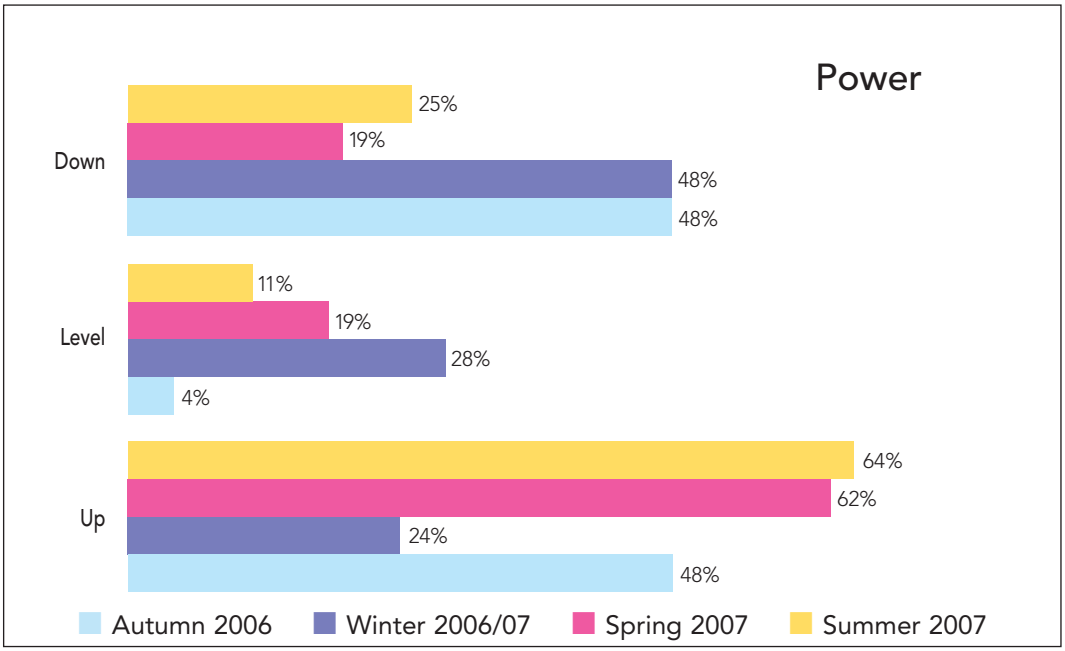
- With regard to future **power** prices in our four featured markets, there has been a continuation of the trend seen last quarter towards predictions of higher power prices – and in some cases, sharp increases (defined as more than 3%). Taking **Germany** first, last quarter 33% of respondents expected to see sharply higher power prices in the next 12 months; this proportion has risen to 50%, with a further 12% expecting lower price rises. Just 19% thought power prices would fall. Likewise, the most popular prediction for **Scandinavian** power prices was that they would increase by more than 3%, with 39% of respondents saying this would be the case. A further 22% predicted prices rising but by a smaller amount. There was a similar picture for the UK: 36% expect sharply rising prices and 16% foresee lower price

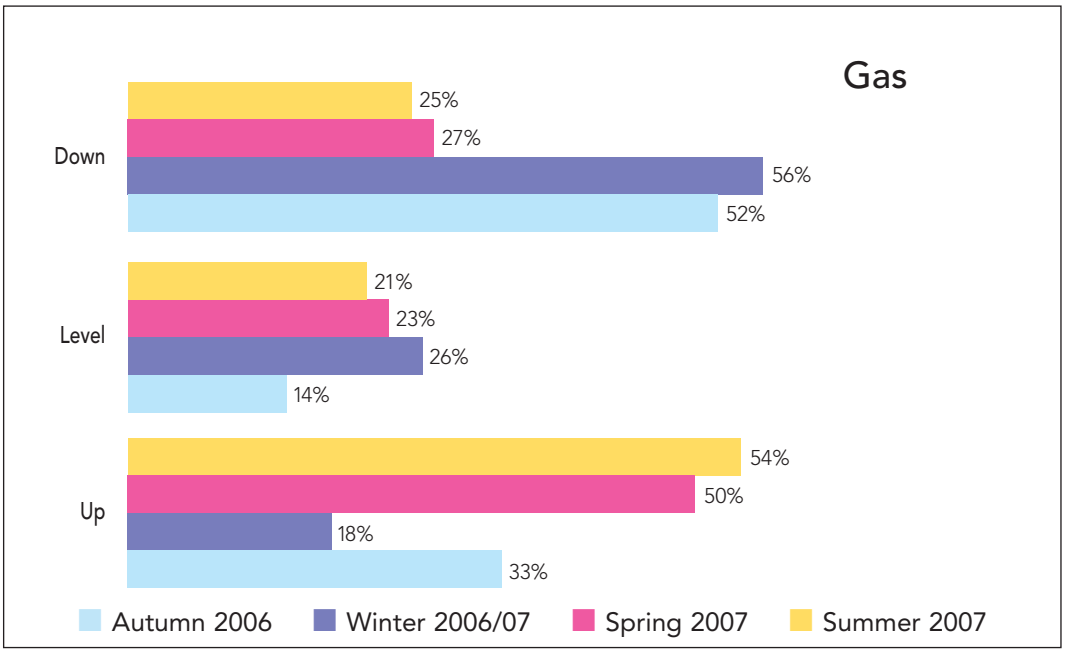


rises. Some two-thirds of respondents believe power prices in **the Netherlands** will increase, although this proportion has dropped slightly since our Spring survey (down from 68% to 64%). The most popular view (40%) remains that Dutch power prices will rise sharply.

- Gas prices are also expected to rise fairly steeply over the next year, in each of Germany (so said 46% of respondents), the UK (32%), the Netherlands (32%) and, to a lesser extent, Scandinavia (26%). These numbers represent a significant shift from the last quarter, when only 17% believed that German gas prices would rise by more than 3%. For the UK, last quarter only 30% of respondents foresaw any kind of price increase over the next 12 months; now 53% expect this to happen.

What will be the underlying trend for spot energy prices across Europe in the coming 12 months?





Key factors Influencing Energy Prices

For each of the following issues our Panel were asked whether it would have an upward, downward or stable impact on energy prices in the next 12 months. The Panel were also asked to rate, on a scale of 1-5, how significant the issue would be in determining energy prices over the next five years. The most significant factor was said to be movements in fossil fuel prices, followed by environmental pressures, which would both exert an upward pressure on energy prices.

	Direction	Mean Significance
Environmental pressures	Upwards	3.90
Movements in fossil fuel prices	Upwards	3.94
Market liberalisation	Downwards	2.21
Industry consolidation	Upwards	2.05
Infrastructure developments	Downwards	2.31

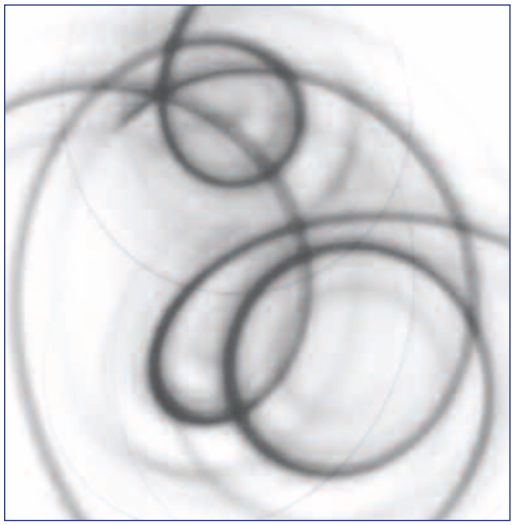
Panel members were asked to identify issues likely to be at the forefront of energy markets in the next 12 months, and two issues stood out: **carbon trading** and **consolidation** within the European energy market. Respondents expected greater clarity on developments concerning Phase II of the EU ETS, which is due to commence in January 2008. They also expected to see further cross-country consolidation and discussions about mergers and acquisitions. Other issues mentioned included the impact of Russian foreign policy, measures towards ownership unbundling, and the impact of legal actions taken against certain market players by the European Commission.

• Respondents whose companies have some **cleared** traded volumes said that, on average, 35% of their trading was cleared (down slightly from 38% last quarter).

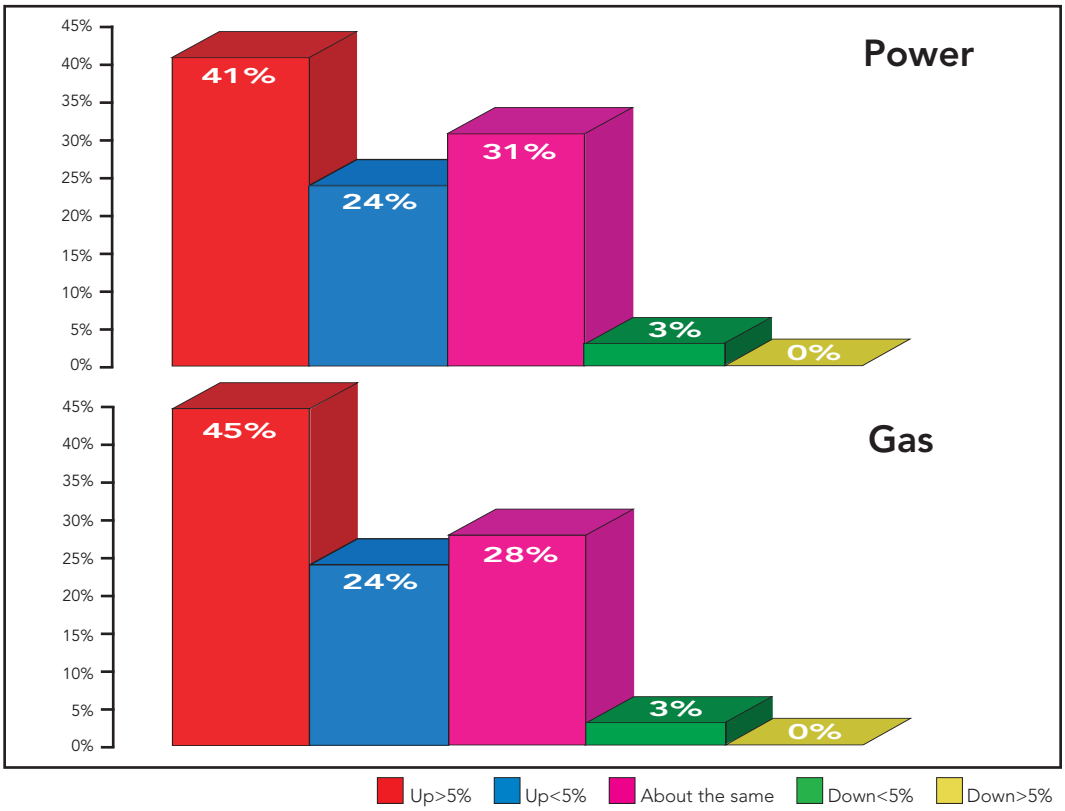
• Some 65% of respondents expected an increase in **trading activity** in the **power** market over the next 6 months, a figure significantly up on last quarter's 50%. Only 3% of respondents expected activity to fall.

• An even larger proportion of respondents expect there to be an increase in **trading activity** for gas: 69% said they thought this would happen over the next 6 months (up from 58% of respondents last quarter).

• Regarding the proportion of market activity going through **exchanges** during the next 6 months, expectations for power and gas are now similar: 54% of respondents (up from 53% last quarter) expect the proportion of power trading going through exchanges to increase, and 56% expect this to be the case for gas (down from 74%).



How do you see the EU market trading activity (defined as volumes traded – exchanges and bilateral) changing over the coming 6 months?



Special Topic: Gas Market Trading – Survey Responses

1. Will ownership-unbundling of gas transmission system operators by itself create more liquidity in wholesale markets? If YES, why? If NOT, why not?

YES	NO	DON'T KNOW
64.5%	16.1%	19.4%

Selected comments

"Yes, because it will create more market players, also unbundling will mean the value chain is broken up allowing volumes to be traded."

"No, because unless there is end-user interest this will not happen."

"Yes, as more independent parties will be active in the market and thus give more liquidity."

"No, because a mechanism does not create a market."

"Yes, more competition for customers, who are no longer locked in, therefore suppliers need more hedging. TSOs will integrate market zones and enhance access that will stimulate trading."

2. Do you agree or disagree with the following statements relating to the trading of gas and transmission capacity in the EU:

	Agree	Disagree	Don't Know/ No comment
Long term contracts between producers and incumbent importers make it impossible for third-parties to access gas in upstream markets	57%	33%	10%
Wholesale trading in gas will never develop so long as gas contracts are indexed to oil prices	27%	70%	3%
Gas release programmes are the best way of facilitating wholesale gas trading	37%	27%	37%
Active gas spot trading in the UK has developed more than elsewhere because of competitive supply	76%	14%	10%
New pipelines and more LNG import capacity will result in:			
a) more flexible long term gas contracts	77%	7%	17%
b) higher volume of shorter term contracts	80%	7%	13%
c) price indexation against traded "hubs"	73%	10%	17%
Access to gas capacity rights is no use to anyone who does not have access to the commodity and vice versa	50%	33%	17%
It makes sense for both capacity tariffs and physical gas to be made available simultaneously on the same trading screen (OTC or Exchange)	63%	10%	27%
Prices for both transmission capacity and gas must be:			
a) real time prices	70%	3%	27%
b) be able to be traded forward	77%	3%	20%
Secondary trading of gas capacity will:			
a) ensure shipping costs are minimised	47%	10%	43%
b) stop excess capacity being withheld from use	57%	33%	10%

3. Will we ever see a situation in the EU like in North America where about 60% of gas contracts are less than 12 months? If YES, why? If NOT, why not?

YES	NO	DON'T KNOW
25.8%	48.4%	25.8%

Selected comments

"Yes, demand side pressure will ensure that continually increasing proportions of gas supply contracts are linked to the spot markets. Also, producers will undoubtedly become more comfortable over time in selling against a spot index instead of an oil-related index."

"No, I don't think so in the EU, because liberalisation is not consistent yet and oil indexation creates a structured product atmosphere."

"No – it will take years to unwind existing contracts. Russian and Middle Eastern producers wish to retain oil-linkage regardless of what happens within EU."

"Yes, eventually, because of a combination of liberalisation of markets and increased LNG share."

"I don't know, because there is one big exporting country and I don't think they will act in favour of such a thing happening."

4. Will trading of secondary capacity rights in the EU increase in the next few years? If YES, why? If NOT, why not?

YES	NO	DON'T KNOW
74.2%	6.5%	19.4%

Selected comments

"Yes – TSOs will accommodate and stimulate secondary trading by offering interruptible capacity, national regulatory authorities will increase control and pressure on market parties and TSOs."

"It should do but I'm not sure, because the European energy market is governed by national and vested interests."

"Yes, because the incumbents realise that secondary capacity trading is mutually beneficial."

"Minimally in the next 2 years, I think, if the market is opened up a bit more, so not in the next few months but maybe in 5 years." ■

Moffatt Associates
August 2007

APX Group News

APX Group signs a memorandum of understanding on the implementation of a coupled North-West European electricity market

A Memorandum of Understanding between governments, regulators, power exchanges, Transmission System Operators and the electricity associations of the participating countries was signed on 7 June in Luxembourg, agreeing on the implementation of a coupled market between France, Belgium, Luxembourg, Germany and the Netherlands by 1 January 2009. Market coupling of short-term electricity markets leads to a more efficient use of interconnection capacities, providing more opportunities for energy suppliers to buy and sell power and to optimise their portfolios.

The electricity associations – grouped in the North-West European Market Parties Platform (NWE MPP) – welcome the market coupling as a large step on the way to market integration and enhanced competition, providing benefits to consumers in the whole region.

A key step in creating a coupled market is the introduction of a common auction office and the harmonisation of trading rules. Furthermore, the Memorandum of Understanding deals with measures that will increase security of supply in the region, such as a common system adequacy forecast or a regional transmission capacity plan. The members of the NWE MPP are fully committed to a rapid implementation of the respective mechanisms and institutions.

All APX exchanges on EuroLight™ Platform

In June a key milestone in the integration of APX's businesses and its objective of delivering members more efficient trading arrangements was achieved. APX's UK gas market migrated from EnEx, its previous trading platform, to EuroLight™ v4.0 coinciding with an upgrade of APX's Dutch and Belgian gas markets to the same version of EuroLight™ 4.0 from a previous version.

Members of APX Gas UK, APX Gas NL and APX Gas ZEE may now see all the gas markets on one screen. EuroLight™ 4.0 incorporates APX's UK gas market from its legacy platform EnEx, and allows the APX gas markets to be traded on one screen with one login. The key benefits of EuroLight,™ above and beyond the opportunity for inter commodity trading, is its open architecture allowing API interfacing to internal deal capture systems and the potential to interface with Trayport Global Vision™ 8.5, allowing aggregation of APX prices against broker prices to a single screen.

APX's EuroLight™ platform has been in operation on APX's power markets since 2004 and has proved to be a stable and easy-to-use trading platform.

FSA Regulation

In June 2007, APX Commodities Limited received authorisation from the Financial Services Authority as an ATS (alternative trading system) operator, giving it the regulatory scope to list and clear any derivative product.

Authorisation of APX Commodities Limited is a prerequisite for consolidation of APX's UK markets. APX is consolidating its UK markets (APX Gas UK and APX Power UK) within a single legal entity, in order to deliver benefits to its members that include an integrated rulebook, more efficient collateral arrangements, and ultimately trading of all UK products on a single EuroLight™ screen. The consolidation takes the form of a transfer of the assets of the APX Power UK business from APX Power Limited (authorised and regulated by the FSA since 2001) to APX Commodities Limited.

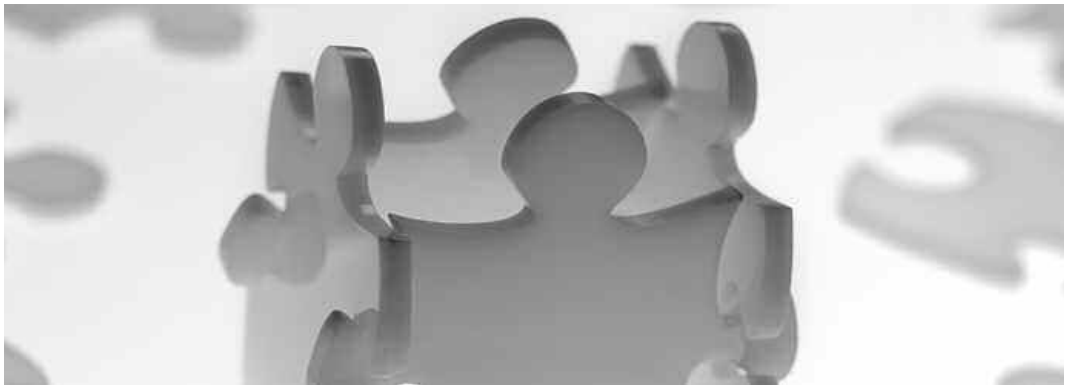
APX Commodities Ltd

On 9 July 2007, APX Gas Limited was renamed APX Commodities Limited. The newly named legal entity reflects APX Group's multi-commodity business and enjoys FSA authorisation and regulation recently awarded to APX Gas Limited. The renaming of the legal entity is in preparation for the transfer of the assets of APX Power Limited, the legal entity currently holding APX's UK power business. The transfer of these assets is anticipated to occur within 2007. This initiative is in line with APX's planned integration of its UK businesses which will bring an array of benefits to our members.

Hans ten Berge new Chairman of the Supervisory Board

On 6 July the Supervisory Board elected Hans ten Berge (1951) as the new Chairman of the Supervisory Board of the APX Group, the Anglo-Dutch energy exchange. Hans ten Berge succeeds Peter Wilson, who chaired the Supervisory Board for six years.

Peter Wilson was Chairman of the APX Group Supervisory Board from 2001. In this capacity, he initiated the transformation of the Dutch spotmarket for electricity to an international exchange group and a key player in the North West European energy market with power and gas exchanges in the Netherlands, the United Kingdom and Belgium. The APX Group is now an international and profitable business with rising trade volumes.



Hans ten Berge is Secretary General of EURELECTRIC, the association of the electricity industry in Europe. Following posts in a number of international companies such as Exxon Chemie and Kemira Agro, he joined Eneco Energie as Managing Director and Member of the Management Board. Previously Mr ten Berge held positions on the Markets Committee and Supervisory Board of the energy derivatives exchange Endex.

APX Further Improves Gas Services

In July APX increased access to its gas markets through enabling a cross-vision functionality on its EuroLight™ trading platform and through discounting fees for new members to its continental gas markets. Through these initiatives, APX Group aims to increase transparency of its gas markets and create opportunities for greater liquidity.

The new cross-vision functionality means that members trading on any of APX's gas exchanges may view the other gas markets regardless of whether or not they are a member of that exchange.

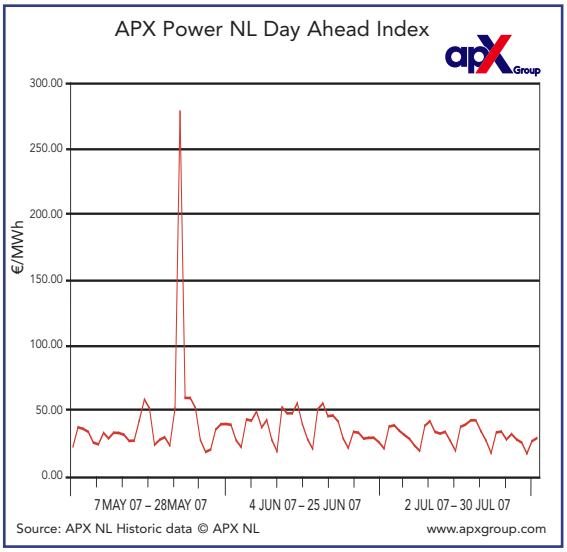
Increased visibility is a theme that will continue as APX Group announces that it will introduce an interface to Trayport's Global Vision™ Trading Gateway platform later this summer, following wishes from participants.

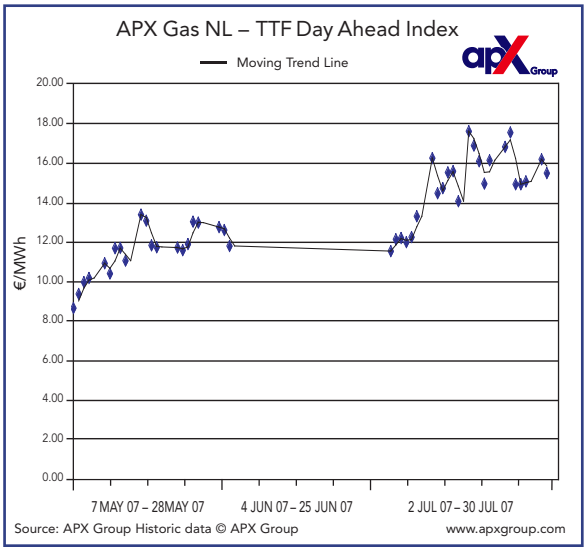
Additionally, APX Group has waived monthly membership fees for new members to its TTF and Zeebrugge gas markets for the rest of 2007.

New volume record on APX Group's Power NL market of 78,353.8 MWh

In July a new all-time record volume of 78,353.8 MWh was reached on APX Power NL's Day-Ahead Market on Thursday 26 July 2007, since its beginnings in May 1999. This volume equals approximately 26% of the average net electricity consumption in The Netherlands.

APX Indices





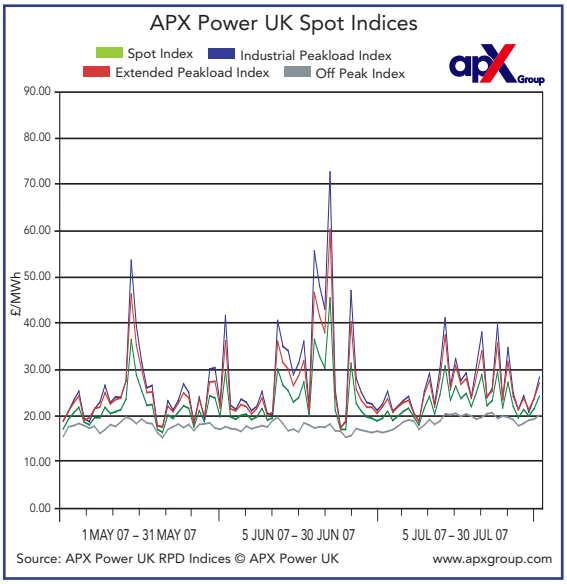
APX Power NL Day Ahead Average Prices

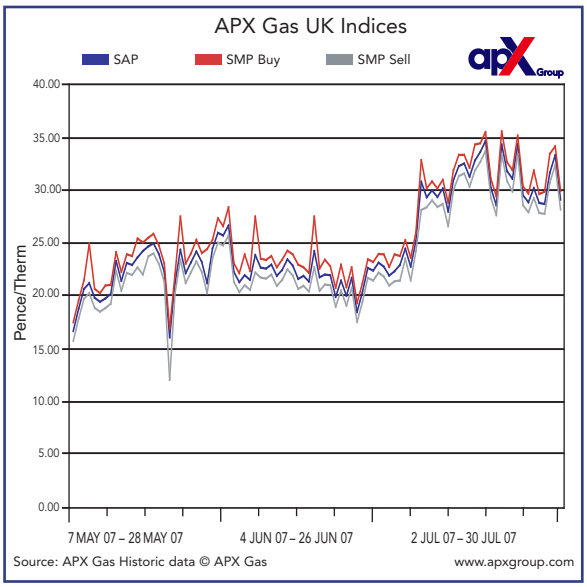
The APX published average prices are comprised of base load, off peak and peak load (07.00–23.00) prices based on the average price (in Euro/MWh) of Dutch power traded every day on APX for delivery the next day. Weekend prices are only comprised of base load prices and volumes.

APX Gas NL TTF Day Ahead Index

The Index is a volume weighted average price (VWAP) of all day-ahead trades executed and matched on APX at the TTF gas hub between 06.00 and 18.00 CET (05.00 and 17.00 UK time) for delivery the next day.

APX Indices





APX Power UK Spot Indices

The APX Power UK Spot Indices are based on the APX Power UK Reference Price Data (RPD) which is a half hourly price derived from the volume weighted average price of all Half Hour, Two Hour and Four Hour Block contracts traded within seven calendar days of market closure on APX Power UK.

Spot Price Index (base load) – The average of the RPD prices for all 48 half hour settlement periods.

Peak Load Index – The average of the RPD prices for half hour settlement periods between 07.00 – 19.00.

Extended Peak Load Index – The average of the RPD prices for half hour settlement periods between 07.00 – 23.00.

Off Peak Index – The average of the RPD prices for the Off Peak half hour settlement periods, between 23.00 – 07.00 and 19.00 – 23.00 in the same EFA day.

APX Gas UK Indices

SMPbuy is the highest price that gas was traded (buy or sell) by Transco in its Network Code balancing role for delivery that gas day. In the event of no Transco action, the SMPbuy is calculated by a default setting of 0.0287p/kWh (0.8411p/therm) from the prevailing SAP.

SAP is the volume weighted average price of all trades on the OCM platform.

SMPsell is the lowest price that gas was traded (buy or sell) by Transco in its Network Code balancing role for delivery that gas day. In the event of no Transco action, the SMPsell is calculated by a default setting of –0.0324p/kWh (–0.9496p/therm) from the prevailing SAP.

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