A VITAL LINK IN ENERGY TRADING

apX Group

Energy Viewpoints

Developing Energy Markets

Issue 10 – Spring 2007

Developing Energy Markets

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Regional Market Co-operation more Fundamental than Asset Unbundling

Dear Reader,

July 2007 was to be a defining moment in the liberalisation of EU energy markets. In theory, all TSO networks would have been legally and functionally unbundled and customers would have been free to choose their supplier. However, as the EU Commission's Sector Enquiry revealed in January, energy markets remain largely national with varying degrees of trading liquidity and with a lack of competition. This is due largely to the fragmentation of the marketplace.

Our latest survey of market trends reveals that the majority of market players support both TSO Ownership Unbundling and greater market transparency as ways of reducing the dominant power of incumbents and improving market liquidity. In our guest articles, ERGEG not surprisingly favour Ownership Unbundling and both Martin Brough of Oxera Consulting and Christian Essers of Genscape, welcome the EU Commission's affirmation of the importance of market based solutions and the fact that markets can be made to work without legislation.

However, various members of the APX research panel took the view that political resistance to Ownership Unbundling from France and Germany could well undermine progress on market integration and that other regionally-based solutions involving independent system operations at the national and /or regional level should be explored in more detail. This is the view taken by EURELECTRIC in its article.

APX's view is that Ownership Unbundling could be helpful, yet this would not be a *sufficient* condition for market improvement. The key objective has to be encouraging market integration and co-operation between TSOs, regulators, exchanges and market players to maximise cross-border trading. This would be a fast and cost-effective way to maximise the use of the current European infrastructure, thereby reducing market fragmentation and creating a "copper plate" for Europe.

APX's ideas are outlined in a recent presentation to the European Parliamentary Financial Services Forum (EPFSF) where we highlighted three much-needed improvements:

– Market coupling to create the "copper plate", removing fragmentation, creating more liquidity and competition – thus solving the market concentration problem in a very fundamental way.

– Compliant transparency publication schemes backed up by measures to ensure data reliability to create security for non-incumbents, such as new entrants and financial players, thereby bringing more liquidity into the market.

– Improvement in the carbon market to reduce political uncertainties, enabling all parties (incumbents, new entrants and financial players) to invest and provide security of supply.

These structural reforms address the root of the problems in the wholesale markets, whereas Ownership Unbundling is a strategy designed to deal with possible symptoms in the retail market. Whereas these symptoms have to be dealt with in order to increase general trust in market liberalisation, we do need more fundamental changes. Improvements in the wholesale market will feed through into the retail market.

Regarding market coupling, the immediate focus is optimal management of the existing network infrastructure, which would bring about a significant increase in utilisation, as we have seen in NW Europe, where transport capacity was under-utilised. Market coupling between the Netherlands, Belgium and France roughly doubled utilisation. Based on this increased utilisation, we also have a clearer view of where the real constraints are and the market is able to invest more appropriately and economically in new infrastructure.

In terms of the emphasis between gas and power, the former has lagged behind and more effort is needed to improve market liquidity. However, the answer is not necessarily to outlaw long term gas contracts between exporters and importers which can underpin security of supply. What is needed is for restrictive clauses (e.g. on destination) within these contracts to be removed so that more gas can trade with gas in the wholesale markets.

To discuss these and many more critical issues impacting on the future of EU energy markets APX is sponsoring a major symposium "Making Energy Markets Work" in Brussels on 13 June 2007. Speakers include the EU Commission, E-Control/CEER, Morgan Stanley, Barclays Capital, Deloitte, Gas Strategies, Juno Mother Earth Asset Management, EnergieNed, Climate Change Capital and the Directors of Trading from leading companies across Europe. It promises to be a lively and fascinating debate.

We hope that you enjoy reading *Energy Viewpoints* – please continue to send your feedback to us at apx@apxgroup.com.

Meanwhile, we'll keep bringing markets together. ■

Best regards
Bert den Ouden
CEO

Market Players Support Ownership Unbundling and more Transparency

The majority of our panel of market participants believe ownership unbundling (OU) of TSO power and gas networks and more real-time disclosure of supply data will reduce the market influence of dominant incumbents, encourage competition and lead to greater market liquidity. However, on OU, "political" opinions are deeply divided and some form of compromise solution seems likely in order to maintain progress towards a single energy market. These are some of the main conclusions of Moffatt Associates' latest European Energy Trends Survey.

Setting the Scene

This year was to be a defining moment in the liberalisation of the European energy markets. From July 1, all gas and power customers should in theory be free to choose their supplier, in line with the last EU energy liberalisation directive, Directive 2003/54/EC. However, as the European Commission's Competition Directorate's energy sector enquiry revealed in January, the European energy markets remain largely national, and there is a lack of competition.

As a result, earlier this year the European Commission produced a package of measures aimed at removing barriers to competition and establishing a genuine single energy market in Europe. These measures, revealed on 10 January 2007, are intended to create a genuine single energy market in Europe, accelerating the shift to low carbon energy and increasing energy efficiency.

Focus on Ownership Unbundling

Directive 2003/54/EC required legal, organisational and decision-making independence from other activities not relating to transmission, or distribution for a distribution system operator. However, realising that this legislation has not been sufficient to ensure complete separation of these activities, the Commission, led by the EU Competition Commissioner Neelie Kroes, has been calling for full ownership unbundling between energy supply and network activities. According to Ms Kroes, the continued bundling of generation, supply, pipelines, grids and distribution seems to be at the heart of the current market failure.

The Commission has argued that a lack of unbundling could give a TSO an incentive to use its monopoly position as network owner to prevent or limit competition in other areas of the value chain, for example by increasing its competitors' costs, withholding essential information and providing information only to affiliated companies. Networks could be seen as strategic assets serving the commercial interest of the integrated company, and not the overall interest of network customers.

Directive 2003/54/EC provided for the possibility of future amendments if its rules proved to be inadequate. On this basis, the Commission has decided that further legislation is needed if progress is to be made in this area. In its energy package, after strong opposition from a number of EU member states, the Commission stopped short of insisting on full ownership unbundling. Instead, it put forward two alternatives for network separation:

(1) A full independent system operator, where companies would be allowed to remain owners of the network but would receive a set price for allowing competitors to use it.

(2) Ownership unbundling, where the generation business is kept fully separate from distribution activities over the network.

The Commission has warned that the first option would require more regulation, but stopped short of calling for a European regulator, which is likely to be a highly unpopular move.

Promoting Integration and Liquidity

Other measures contained in the Commission's energy package include strengthening national energy regulators, improving the regulation of network access at national and EU level, reducing the scope for unfair competition by incumbents providing lists of suitable power generation or gas storage sites for competitors, and improved transparency and coordination between transmission system operators (TSOs).

The lack of investment in cross-border interconnection capacity is also regarded as a problem. According to Neelie Kroes, TSOs invested only 20% of the €1.3 bn collected in congestion revenues by auctioning spare capacity back into interconnector capacity. This is particularly worrying, since it is the incumbents who are failing to invest in the networks, and who are thereby strengthening their dominant position at the expense of possible new entrants.

Lack of information also represents a serious barrier to competition. For example, wholesale price movements are often caused by variations in production or in the use of import capacity by the largest electricity and gas companies. Smaller market participants are at a disadvantage if they cannot track the underlying causes of changes in market prices.

The Commission believes that more transparency would also allow for improved market surveillance.

In an attempt to improve the availability of information, ERGEG, the European energy regulators' association, has proposed guidelines for transparency and has advised the Commission that these should be legally binding. The EC plans to introduce binding guidelines for transparency either through new legislation or by modifying the existing electricity regulation EC 1228/2003, which relates to conditions for access to the network for cross-border exchanges in electricity.

A new EU directive will therefore be put forward later this year, based on the measures contained in the energy package, and following extensive consultation with EU member state governments, the European energy industry and other interested parties.

Opinions Divided on Ownership Unbundling

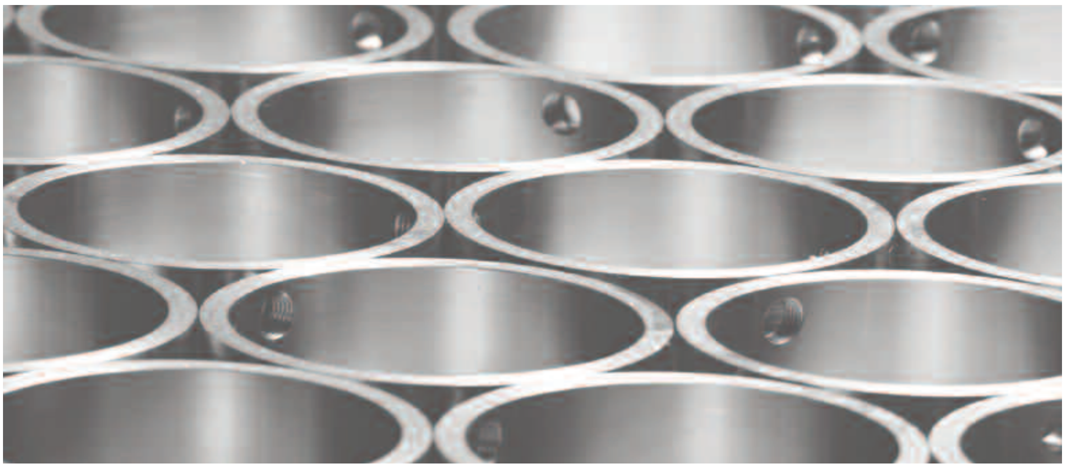
Of all the measures currently under discussion, the most contentious is the question of separation between the networks and supply. With the exception of the UK utilities, the European power industry has come out strongly against full ownership unbundling (FOU). EURELECTRIC, which represents the European power industry, has rejected FOU and the creation of an independent system operator in favour of a regional model involving TSOs linking up their activities on cross-border trade *(See Call for Regional TSO – Page 12).*

Such a model, the association believes, would act as a driving force for market integration, and at the same time limit the role of vertically-integrated companies to that of owners of the transmission assets.

France and Germany are the strongest opponents of full ownership unbundling amongst the member states. Although TSOs are independent entities in most EU power markets, the independence of grids from their parent utilities is a controversial issue in France and Germany, with their strong, vertically integrated utilities.

The French government has warned that ownership unbundling would mean dismantling its energy giants, EDF and GDF, and neither France nor Germany want to see any reduction in the power of their national champions.

Although the German government's current EU Presidency means that it is taking a lower profile than France on the issue, it remains opposed to full ownership unbundling. Joachim Wuermeling, secretary in the German economic ministry, has questioned the effectiveness of a full separation of grid operations and energy supply within energy companies, maintaining that "full ownership unbundling is no 'general cure' and is not enforceable throughout Europe."



The German power industry, which is strongly opposed to ownership unbundling, is trying to halt the Commission's plans by proposing an alternative solution. This would involve power companies merging their networks with other foreign competitors in order to create a regional network transmission and distribution system, covering Germany, France and the Benelux countries. The companies say that the networks would be managed independently, without their involvement.

Opponents of FOU warn that it will heighten the risk in retail and generation businesses, particularly for smaller integrated utilities like those in the Netherlands. They claim that these companies need a stable and solid cash flow such as that provided by network businesses, and if this is taken away, their future business will be compromised.

Those who are against ownership unbundling also say that it would weaken European companies when negotiating with dominant suppliers such as Russia. They point to the UK, where full liberalisation has led to price increases.

In contrast, other players in the German energy market are more supportive of the Commission's proposals. The VIK, which represents industrial energy consumers, believes that increased independence of network operations can prevent discrimination against new entrants accessing the network, while the BNE, the German association for new energy suppliers, also maintains that transmission and distribution should be independent in order to prevent market dominant companies from exploiting their position.

Commission Stands by to its Favoured Option

A few weeks ago, following the European summit of heads of government, France claimed that the European Commission had definitely dropped plans for ownership unbundling, largely as a result of its lobbying, and that EDF and GDF would not have to be dismantled by separating out their network activities.

However, any hopes that the Commission had abandoned its preferred option of full ownership unbundling were swiftly dismissed when the EC Competition Commissioner, Neelie Kroes, warned that ownership unbundling was still at the top of the agenda as one possibility. Shortly afterwards, this was followed by confirmation that the Commission was drawing up plans for the full ownership separation of networks from generation, a document which will be published later this year.

The question of compensation also looms large over the debate. If unbundling goes ahead, the power sector will insist on adequate compensation to reflect the negative effect of divesting network assets on their cost of capital. In Germany, the government has suggested that forced unbundling might contravene the country's constitutional property rights, and the power industry there believes that it could amount to an 'expropriation' of shareholders assets.

It is not only in the EU that ownership unbundling has resulted in a storm of protest. The Swiss power industry is disputing plans by the government to force power companies to relinquish ownership of the newly created swissgrid transmission system operator, which took over Etrans in December 2006, in return for shares in the new organisation.

The power sector believes that the plans amount to compulsory expropriation and that they are illegal. The battle could intensify in the next few weeks as the government finalises the detail of its new energy legislation, designed to bring Switzerland largely into line with the EU's market liberalisation rules.

EU member states are split over ownership unbundling, and France and probably Germany are likely to continue with their opposition. The Czech Republic, Austria and Hungary also have reservations, but the UK, Ireland and the Netherlands are supportive of the plan. Only qualified majority voting would be needed in the Council for any subsequent Commission proposal, which means that France would be unable to veto the plan.

APX Panel Supports OU and More Transparency

Most of our panel of experts in the Energy Viewpoints survey supported ownership unbundling as the best way to ensure that the networks will not continue to be controlled by the larger companies, to make sure that proper competition develops, and to move towards liquid markets *(See Market Survey results in detail on page 18).*

However, some respondents felt that solutions other than full ownership unbundling might be possible, for example the creation of regional independent system operators.

There was some support amongst our panel for enhanced cooperation between regional network operators, and indeed regional power markets are already in the process of being formed. ERGEG, the EU energy regulators' association, has proposed a framework for regional developments in electricity and gas and is working on the establishment of seven macro regions for electricity and four macro regions for gas.

As to whether full ownership unbundling will lead to an immediate and sustainable reduction in the cost of network access, there was some uncertainty amongst our panellists about whether this would be immediate, but a general consensus that this would eventually lead to a reduction in cost. However, most believed that full ownership unbundling would improve the availability of market information.

The majority of our respondents also agreed that the disclosure of more supply data to all market participants would improve gas and power market liquidity. Most believed that the provision of information is a key issue, and that this should be available to all, not only to the largest energy operators. In addition, if all market participants have access to supply data, this should help to establish a liquid market. There was a general agreement that everyone trading in the market needs access to the same information, otherwise it will continue to be controlled by the larger incumbents.

There was also agreement about the kind of data that is regarded as essential information, with an extensive range of information on gas regarded as particularly desirable. This is largely because gas liberalisation has tended to lag behind that of electricity, and some basic information that is beginning to be available for power is not yet available for gas.

Possibility of a Compromise

In conclusion, much now depends on the detail of the directive that the Commission will present later this year. Opponents of full ownership unbundling hope that the Commission's proposal can be blocked, while supporters are concerned to ensure that there is no weakening of the proposal to achieve a compromise.

However, the possibility of legal challenges to ownership unbundling could yet force the Commission to soften its stance. The final legislation could therefore abandon full ownership unbundling in favour of the adoption of the independent system model, as the Commission tries to ensure that at least some progress is made in its efforts to create a single energy market in Europe.

MOFFATT ASSOCIATES

May 2007

Ownership Unbundling: the Views of European Regulators

The issue of unbundling is certain to be one of the most hotly contested elements of the "third package" of liberalisation legislation which the European Commission are expected to bring forward this summer. The European Regulators' Group for Gas and Electricity (ERGEG) have consistently stated their preference, in principle, for ownership unbundling. Here they explain why.

ERGEG's 2006 assessment of European energy markets, based on the reports of the national regulators, found that insufficient unbundling remains the most persistent barrier to competition in the internal market. The economic incentives on the networks are simply not right, undermining the principle of non-discrimination and distorting trade. The existing regime of "legal unbundling" leaves too much discretion to vertically-integrated companies, and has been implemented to differing degrees by Member States, meaning companies often act without fear of enforcement

Effective unbundling is crucial to the development of competitive single EU energy markets and to the security of our energy supply. A TSO must act – and be perceived to act – independently of commercial interests for markets to function, as the market participants or network users are the customers of the TSO. Areas where discrimination can occur include network access, real time operation of the system and the provision of information. Equally, and crucially, a TSO should be incentivised to maintain, plan and invest in the networks to extend capacity where there is a market need, rather than in the commercial interests of the vertically-integrated parent company. Network operators sometimes have to spend money on projects which have a negative impact on the economic performance of their affiliated companies, which clearly without proper unbundling they will not be incentivised to do.

There are numerous attempts globally to unbundle transmission activities from affiliate interests in the competitive areas of the market. However, it is widely acknowledged that full "ownership unbundling" is the most effective and "clean" approach. The defining element of ownership unbundling is that the network is operated and owned by one independent company, which clarifies responsibilities and liabilities, and is the only approach where we can rely on "true" economic incentives on the network operators. Hence ERGEG believe that "ownership unbundling" of transmission should, in principle, be the model required at EU level. All alternatives require an intrusive and burdensome regulation of individual activities within the companies.

Analysis recently undertaken by ERGEG in those countries that have adopted ownership unbundling clearly supports the model. In Portugal, for example, investment in the networks more than tripled in real terms in between 2000-2006, following the introduction of ownership unbundling; and over the same period quality of service improved whilst prices fell, with interruption times and transmission tariffs coming down significantly. In the UK, similarly, £10 billion of investments in the network are planned in the coming 5 year price control period, and grid reliability is 99.9997%, among the highest in Europe. In Italy, there was a 30% increase in the investment plan in the 4 years following the merger of system operation into a fully unbundled TSO.

Recognising the ongoing political debate, ERGEG have also undertaken internal analysis recently into the commonly referred to alternative of an "independent system operator" model. "ISO" models are, at first glance, less drastic to implement, since they preserve the ownership of the assets by the vertically-integrated company. In reality, however, they are also much more complicated. This interface between the asset owner and the ISO requires complex, heavy and intrusive regulation – and appropriately empowered national regulators to enforce it. There is no one ISO model, and a sliding scale can be envisaged between a "shallow" ISO, where most transmission functions remain with the vertically-integrated asset owner; and a "deep" ISO, which takes control of all of the transmission functions, including live operation, connection, network planning and investment decisions. From the perspective of minimising discrimination, the optimum ISO model will be the deepest one.

Finally, however, it is important to recognise that no unbundling regime can work without effective regulation. The extent of regulatory oversight required and therefore the resulting regulatory burden is in inverse proportion to the degree of unbundling, which points again to the benefits of ownership unbundling. Unbundling therefore, whilst vital, is one element of a package of measures that are required to create genuine, competitive, single European energy markets. ERGEG believe that strong, independent regulation at national and EU level, and clear roles and responsibilities for TSOs and regulators in a comprehensive EU-level regulatory framework are, together with ownership unbundling, essential to achieving the EU's energy objectives of "security, sustainability and competitiveness." These elements should all be included in the eagerly awaited "third package" of EU legislation. ■

Call for a Regional TSO in the EU Electricity Market

EURELECTRIC, which represents the common interests of the EU electricity industry, believes that a regional transmission system operator (TSO) is the best way to achieve market integration.

Independent behaviour by network operators is key to a properly-functioning market and unbundling requirements should be designed carefully to attain this objective. Unbundling should however not be looked at in isolation but needs to be considered together with other prerequisites necessary to successfully build larger electricity markets. In this respect, we believe that unbundling should be viewed from the standpoint of undertaking measures that are genuinely conducive to market integration. In our view, neither ownership unbundling nor an ISO model (if nationally based) as set out in the EU Commission's energy package, will deliver this objective. Thus, this issue needs to be addressed in the context of developing the regional market-dimension.

EURELECTRIC believes that a progressive and well-steered grouping of TSO activities is the best route to developing these regional markets. Driving seamless cooperation among TSOs is a key enabling factor to bring efficiency and economics of scale. EURELECTRIC recognises that TSOs have worked together and brought some improvement to the markets but we consider that this process of cooperation has not been able to deliver the level of change required for building efficient regional markets and that a new departure is therefore required.

We therefore call for the establishment of a robust regional TSO-governance whereby TSOs in a given regional market will gradually bring together all activities affecting cross-border trade. EURELECTRIC is in the process of looking into the concrete steps and necessary arrangements to underpin this new approach to TSO-cooperation and we intend to provide more practical and detailed input in the next few months. Under discussion is a stepwise approach that, as a starting point, aims at joining together pre-real time activities, followed by real-time activities, with ultimately the bringing

together of relevant decision-making powers. This will require the development of appropriate institutions for inter-TSO cooperation leading to a regional system operator function. The features of individual regional markets and how these interact with this proposal also need to be considered further.

Forcing vertically integrated companies to divest their transmission assets would not of itself lead to the development of competition on a larger scale and would moreover reinforce the prevailing excessive national focus as identified by the Commission in its analysis. We are concerned that the excessive emphasis on "ownership unbundling" and its supposed impacts on current market shortcomings is shifting attention away from the core requirements for fostering market integration. At the very least, enforcing such asset separation across the EU27 would inevitably be a lengthy and complex process and would not address the key issue of market integration.

The Commission's report blames the lack of investment in cross-border transmission infrastructure on insufficient unbundling. In our view, this analysis is not correlated with facts showing that where ownership unbundling has been imposed, it has not resulted in more interconnectors being built. The reasons for the current failure to develop interconnectors are manifold. They lie in the absence of proper incentives in the first place, combined with a lack of political will, inadequate coordination between regulators, cumbersome planning and environmental procedures and often strong public resistance. We hope that the further analysis, commissioned by the Commission on the impact of ownership unbundling of transmission assets in the eleven EU Member States where this has been introduced, will help clarify this point.

For all these reasons, EURELECTRIC favours a regional model whereby TSOs will gradually link up their activities so as to act seamlessly. The benefits of such a model over the ones set out in the Commission's proposal is that it will enable a mode of cooperation that will be a driving force for the development of regional markets while at the same time limiting the role of vertically-integrated companies to that of asset owners.

European Energy: The Rise of Markets and Economics

According to Martin Brough of OXERA Consulting, the most noticeable feature of the latest energy package is the fact that markets are at centre stage. While the role of the Commission across all sectors, and more specifically, its jurisdiction, revolves around the creation and enforcement of a single market in Europe, the confidence with which the Commission asserts the primacy of the role of markets in energy policy represents a step change in attitudes.

A key part of the energy package from the Commission is the assertion that meeting aspirations on all aspects of energy policy, from the environment to security of supply and competitiveness, depends on the use of markets. Where markets have not existed (for example, in carbon emissions, or Continental gas) they should be created (for example, through the Emissions Trading Scheme, or through freeing up gas for hub trading). Where markets exist, the Commission argues, enforcement of competition law is needed to make competition effective.

A fundamental and helpful distinction made by the Commission is the difference between ex post and ex ante regulation. Energy policy involves using the assets we already have efficiently, but, given the capital intensity of the sector, it also depends on creating the right assets for the future. The Commission asserts that markets can do both, but recognises that the regulatory drivers for the two aspects are different.

Ex Post Regulation

When it comes to ex post regulation, the Commission can arguably take a tough line—assets that are already on the ground reflect investments which are sunk. The sector inquiry highlighted a number of areas in which the Commission asserts that markets are not functioning well and assets are not being operated competitively. A large number of enforcement actions are being perused under competition law, alleging anti-competitive practices (breach of Article 81) or abuse of dominance (breach of Article 82) by the owners of current assets.

On these issues there is clearly considerable value at risk for incumbents. It is one thing to collect evidence to make a general case in a sector inquiry, but it is quite another to demonstrate before a court that

particular behaviour is in breach of competition law. The next few years will be a real test of the ability of evidence-based economic assessments to prove (or disprove) these allegations of illegality, and to demonstrate the minimum required remedies to correct any failings.

Ex Ante Regulation

Ex ante regulation of the energy sector involves creating the right conditions and markets to ensure that the assets needed to meet future energy (and environmental) requirements are built. Regulators, including the Commission, need to use a carrot as much as a stick since someone (often in the private sector) is needed to provide the capital for investment.

One aspect of this is to maximise the available pool of investors by ensuring open access to markets, by freeing up gas for new entrants, and by enforcing some form of further unbundling of network ownership or operation. Another is to create the credible expectation that future returns on assets will relate to market conditions rather than state aid.

An unavoidable fact, however, is that market pricing is based on marginal costs, and that the marginal form of generation in a single European power market is almost certainly going to be gas-fired. Creating the conditions for investment in power stations, therefore, may involve a convergence of European wholesale power market prices to levels consistent with new gas entry. This does not mean lower prices for all European consumers.

Gas and Security of Supply

A further consequence of the application of gas market prices to electricity as well as gas customers may be to highlight the dependency of Europe on gas supplies from a small number of countries outside Europe. The Commission has yet to demonstrate to every Member State's satisfaction how the efficient use of markets in allocating gas use within Europe can help in ensuring the cheap supply of gas to Europe.

The use of competition law to change the way gas is bought and sold in Europe might well undermine the use of long-term, oil-indexed contracts. The attraction of this is that such contracts do not reflect the value of gas to Europe, or within Europe — market prices might ensure that tight gas is used wisely and surplus gas is used rather than hoarded. However, it also means for producers that securing an attractive price for gas depends on ensuring scarcity, and the Commission's jurisdiction does not include taking action on abuse of dominance outside Europe ■

Energy Market Reform: Short on Detail and Political Commitment

According to Christian Essers, Managing Director of Genscape International, the EU Commission's proposals should not be viewed as a final solution for existing market problems – more an invitation to market participants to move forward rather than wait for more legislation.

Much has been said about the Communication from the Commission of the European Communities (EC), drawing a line under 10 years of energy market development and outlining a way forward, addressing the key issues of unbundling, regulatory coordination, stimulating investments, avoiding unfair competition, ensuring reasonable energy prices for consumers and sustainable energy use.

Some reactions were fairly predictable. Environmental campaigners missed lack of ambition, while the large energy countries prepared for a battle around the intended break-up of national energy champions via unbundling.

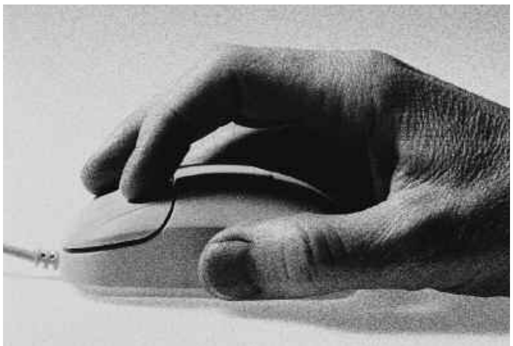
It would in fact be easy to discard the whole package as old wine in new bottles, or to point out the lack of concrete measures as well as the offering of watered-down alternatives for key items, e.g. the unbundling. Blaming the 4 November outage on regulatory failures does not come across as a sign of strength either.

So, is there anything noteworthy about this regulatory initiative?

Seen in a broader regulatory perspective rather than on its own, one could consider it a stepping stone towards an efficient market without explicit political approval ex-ante. A reinforcing of long-standing important goals in the areas of competition, environment, customer protection and security of supply.

One of the big issues of the current energy discussion, though not limited to energy, is the apparent lack of an explicit EC mandate for further reforms. At the start of the internal energy market process some 10 years ago, there were doubts on the details of the future market, but a broad consensus that more market working would create significant benefits – usually politically abbreviated to "lower prices." In order to achieve further progress today, the EC has to extrapolate its original mandate with an own plan, which conflicts with national politics in several large member states.

The regulators in several countries do not have the desired political independence and may need to adhere to national preferences and policies. The EC can provide the necessary indirect support through providing support in terms of facts and ▶



figures (e.g. the sector inquiry) or launching potentially more confrontational proposals.

The regional initiatives for gas and power have accelerated the slow processes by allowing for "alliances of speed." These initiatives have benefited from the EC activities, both the sector inquiry and the reform announcements. Working with the market participants, regulators can point to the concerns and plans on a European level and use these to accelerate the discussion and decision processes.

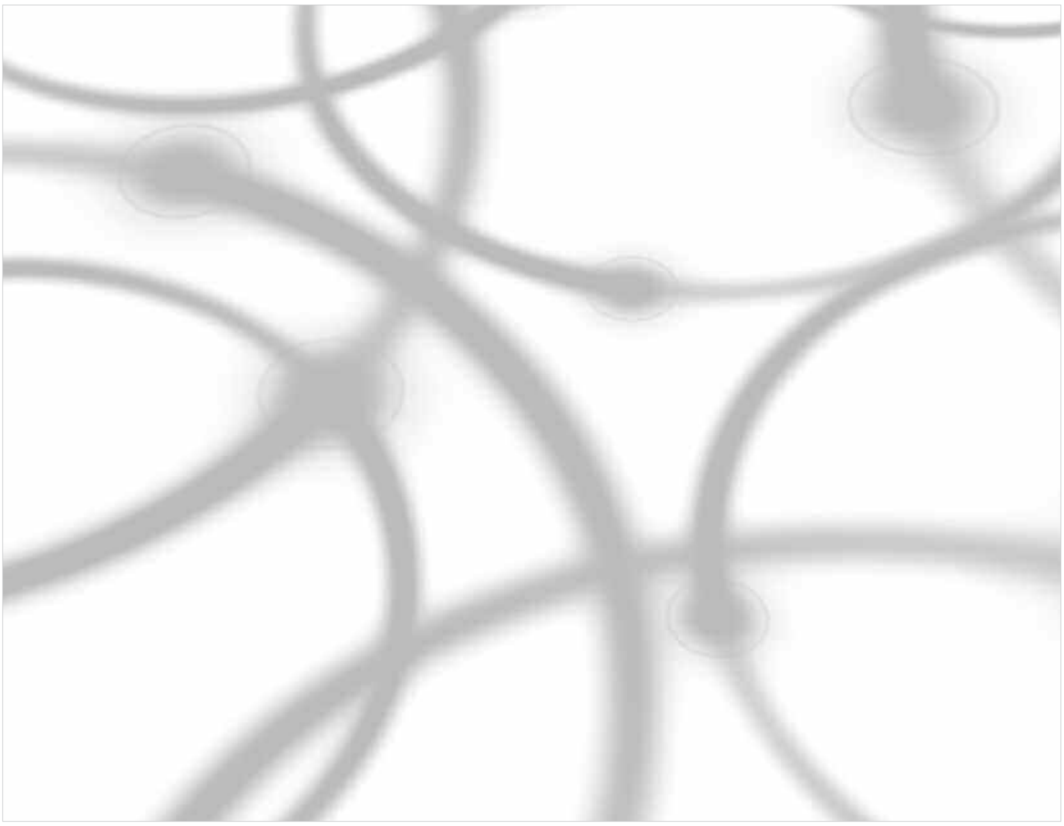
In the meantime, despite some clear concerns voiced, e.g. regarding the unbundling, the Council has agreed to the summary goals proposed by the EC and requested concrete measures to be proposed and supported by arguments. That is when the real decisions/discussions will take place.

No concrete measures of the plan have been proposed let alone approved yet, so far, everything stayed on a high level where one has difficulty to disagree with. Who doubts the need for more interconnection capacity and the need for better cooperation between regulators or between TSOs? It is the how much and how to get there, that divides the various groups involved.

And the conclusion?

With its extensive sector inquiry and the ongoing discussion of various aspects of the findings during both phases, the EC has created a starting point.

The EC communication should not be read or seen as the answer to existing market problems. It is a summary of a thought process and a signal to the market participants as well as regulators to proceed. Ultimately, it is an invitation to move forward actively, rather than to wait for more legislation and regulation. ■



European Energy Market Trends Survey – Spring 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 such as the response to the European Commission's proposals on ownership unbundling and market transparency, 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 April 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).

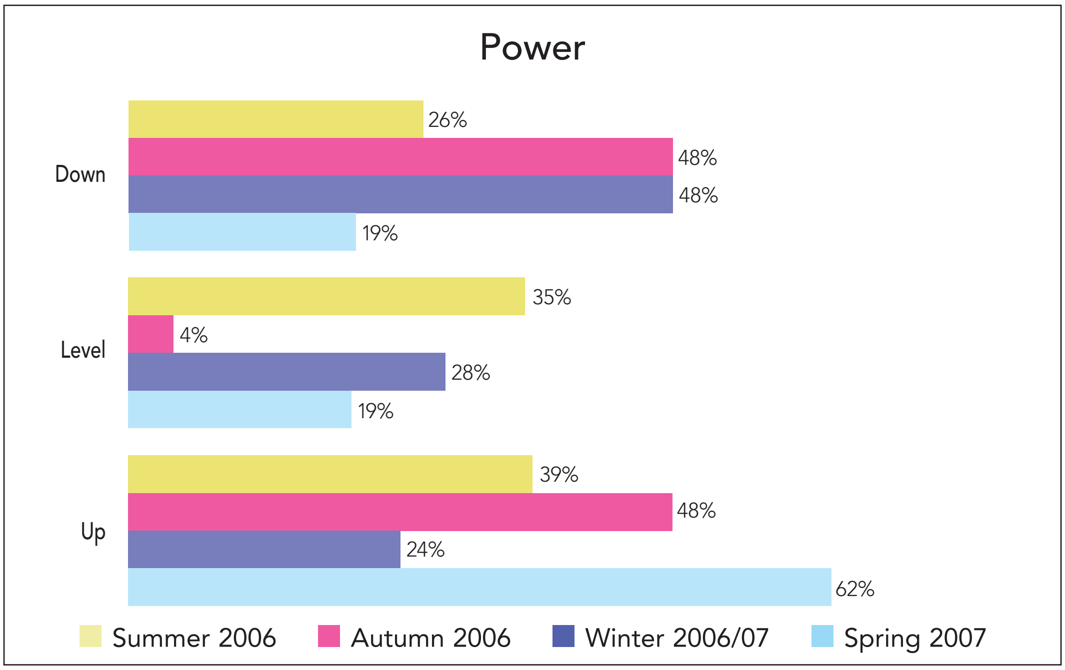
The key findings are as follows:

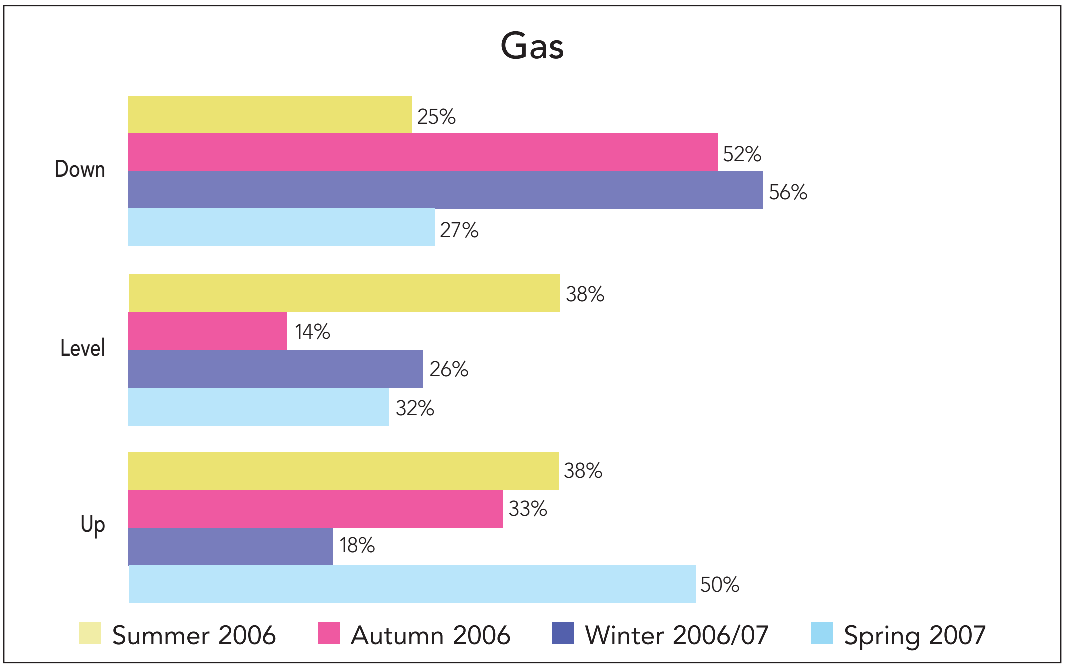
Market Trends:

- In our survey last quarter, only 24% of respondents believed that spot energy prices for power would increase. This Spring edition sees 64% of respondents predicting a rise in spot power prices with only 19% of our Panel believing that prices will fall compared to 48% who felt spot power prices would fall last quarter.
- In the gas market, the results over the last year have seen forecast gas prices falling with only 18% last quarter expecting a rise. This quarter there has been a dramatic turnaround with half of respondents expecting spot gas prices to increase. Whereas 56% of respondents last quarter thought spot gas prices would decrease, only 27% this quarter think this is the case.
- With regard to future **power** prices in Germany, Scandinavia, UK and the Netherlands, opinions continue to fluctuate. Last quarter respondents were confident that power prices would fall in these four areas during the next 12 months. In **Germany** this quarter, only 46% of respondents think that power prices will remain the same or fall compared to 78% last quarter. Trends in **Scandinavian** power prices were difficult to ascertain last quarter with respondents divided on the outcome but this quarter, only 11% predict prices to fall compared to 64% this quarter who expect prices to rise. The **UK** has not changed as significantly, according to our respondents, with 57% estimating stability or decrease in prices compared to 69% who thought the same last year. However in the **Netherlands,** the view of our respondents has changed completely. 82% were of the opinion that power prices would fall or remain unchanged last quarter but now only 32% believe this still to be true.
- In our last quarter there was a swing away from rising **gas** prices in Germany, ▶

Scandinavia, UK and the Netherlands. This quarter predictions of rising prices are back but not as striking as power price forecasts. In **Germany** 34% of respondents feel that prices in gas will rise compared to 24% last quarter; although nearly completely divided last quarter over future gas prices, 46% believe that prices in **Scandinavia** will rise; 30% of respondents estimate that **UK** gas prices will increase compared to 25% last quarter and in the **Netherlands** 46% expect gas prices to rise over the next 12 months compared to only 25% last quarter.

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





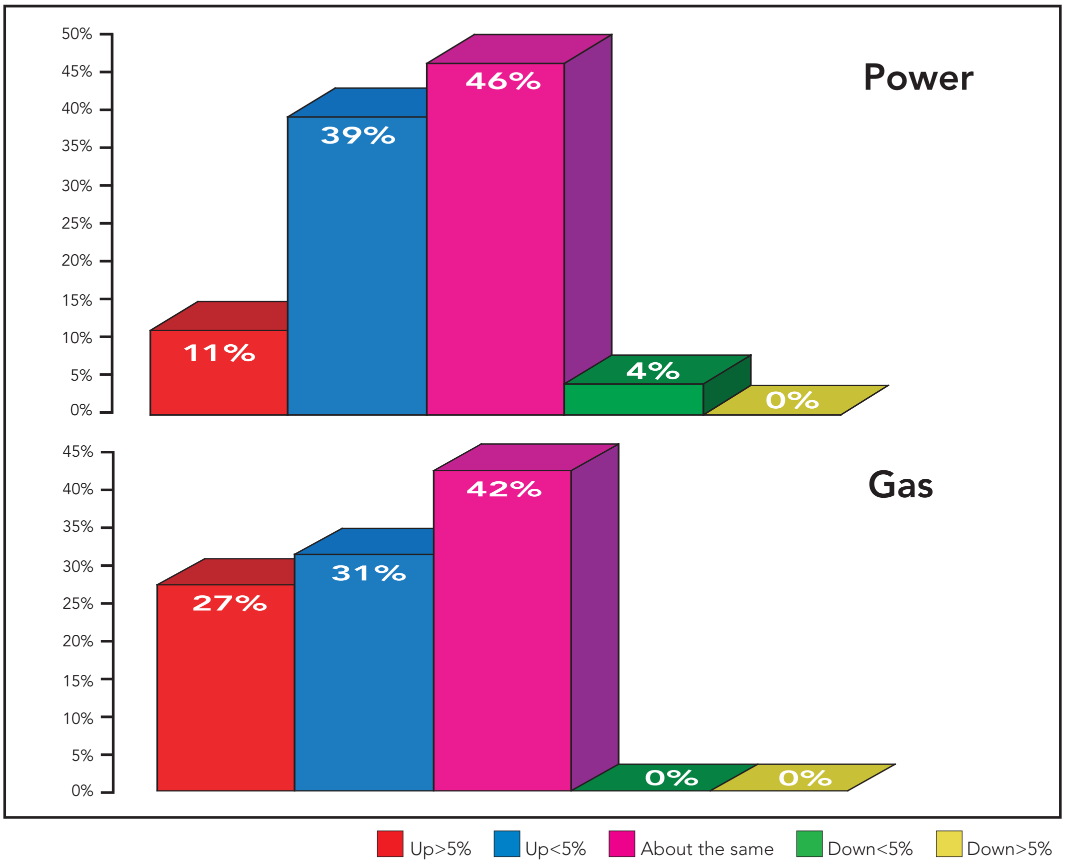
Key factors Influencing Energy Prices

For each of the following issues our Panel were asked to say whether the issue 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.

- On important issues likely to be at the forefront of energy the market in the next 12 months, the response to the **EC's proposals** on ownership unbundling, ISOs and market transparency were the most important issues. In addition, the integration of the European market, competition, M&A activity, targets for CO_2 emissions and the ETS trading scheme as well as the commissioning of LNG gas facilities were also important issues that respondents thought would impact the market over the next year.

	Upward, Downward, Stable	Mean Significance
Environmental Pressure	Upwards	3.8
Movements in fossil fuel prices	Upwards	3.7
Market liberalisation	Downwards	2.4
Industry consolidation	Upwards	2.2
Infrastructure Developments	Downwards	2.6

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



- In the last survey, 65% of respondents expected an increase in **market trading activity** over the next 6 months in **power.** This current survey shows that, for power, only 50% believe that trading activity will increase by any percentage.

- The trading activity for **gas** is similar. Although the projected increase in activity was 75% last quarter, this quarter only 58% of respondents expect there to be an increase in market trading activity.

- As has been the case over the last year, a very low percentage (8%) of respondents estimate that market trading activity will decrease over the next 6 months in either power or gas.

- In our last survey an average of 34% of the respondents' companies traded volumes were cleared. The percentage this quarter is not too dissimilar with the figure rising to 38%.

- Concerning the proportion of market activity going through the exchanges in the next 6 months, the percentages are pretty much the same in **power** with only a slight reduction from 58% to 53% believing a higher proportion of market activity to go through the exchanges. There was a more significant rise in **gas** with 74% of respondents this quarter expecting a higher proportion of market activity to go through the exchanges over the next 6 months compared with only 61% last quarter.

Special Topic: Energy Market Reforms – Survey Responses

(a) Ownership Unbundling

1. In general terms do you support the EC's proposals for ownership unbundling of TSO networks? If YES, why? If NOT, why not?

Yes	No
84%	16%

Selected Comments

'Yes as I think it helps to establish a free energy market in Europe.'

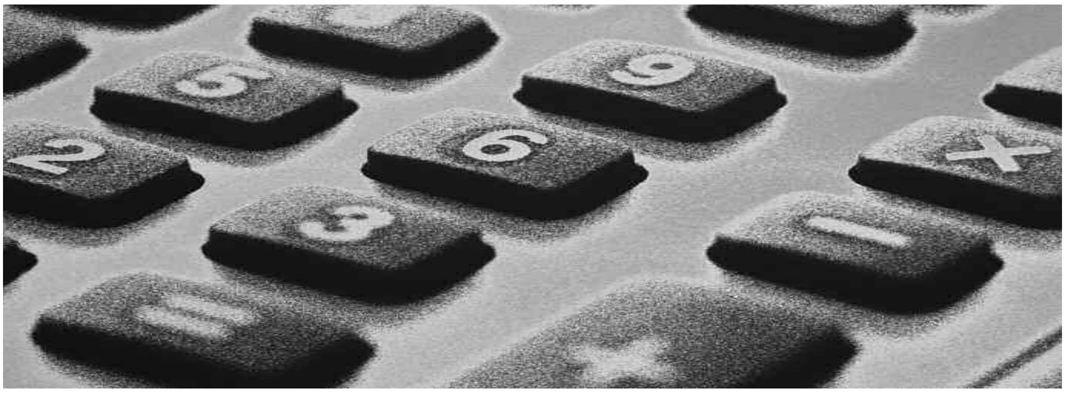
'Yes because it is the only way to get workable competition. You have to separate out the networks.'

'Yes in general terms but I think it will be politically complex and problematic… through ownership, you get an independent operator for each country. Regional ISOs can be more feasible and more effective.'

'No because legal unbundling with strong regulation is enough. The UK model works, and ownership unbundling would be a distortion of the market.'

2. Please state whether you agree or disagree with the following statements relating to network unbundling for gas and power.

	Agree	Disagree	Don't Know
FOU will lead to an immediate and sustainable reduction in the cost of network access.			
a) gas	**64%**	**22%**	**14%**
b) power	**63%**	**24%**	**13%**
FOU will improve the availability of market information (e.g. production/flows).			
a) gas	**78%**	**11%**	**11%**
b) power	**83%**	**14%**	**3%**
Under FOU the total shareholder value of those integrated businesses which "split off" and sell their TSO network would increase.			
a) gas	**36%**	**28%**	**36%**
b) power	**37%**	**33%**	**30%**
Creating not for profit regional TSOs jointly owned by national TSOs to either; a) manage cross-border flows and/or b) invest in cross-border capacity would remove the need for FOU.			
a) gas	**29%**	**54%**	**17%**
b) power	**23%**	**60%**	**17%**
An Independent System Operator (ISO) combined with strong regulation is a solution that would reduce the scope for access discrimination and avoid costly and time consuming asset sales and reorganisation.			
a) gas	**65%**	**14%**	**21%**
b) power	**63%**	**23%**	**14%**



(b) Market Transparency

1. In general do you believe that the disclosure of more supply data to all market participants will improve gas and power market liquidity? If YES, why? If NOT, why not?

Yes	No
94%	6%

Selected Comments

'Yes because it will encourage market liberalisation.'

'Yes because it will mean more confidence in the reliability of the system.'

'Yes because if a market is transparent and all have access to data, this will lead to liquidity.'

'Yes, because everybody trading in the market needs access to the same information, not just the big players.'

'No, it will not improve liquidity because the reason people are not trading is not a lack of information. Those who want to trade e.g. banks, utilities are already trading, and more information will not bring more people to the market.'

2. Which of the following data do you regard as essential for improving transparency and liquidity in the wholesale market?

Electricity	Essential
Aggregate demand levels	71%
Planned cross-border transmission capacity availability	90%
Charges for balancing services	52%
Historic transmission flows and generation by plant and fuel type	58%
Planned generation availability aggregated by plant and fuel type	68%
Plant maintenance schedules	77%
Plant and network outages promptly upon occurrence	82%
Congestion management methodologies in force	63%
Supply and demand forecasts used by TSOs	65%

Gas	Essential
Aggregate demand levels and the level of the line pack	65%
Planned cross-border transmission capacity availability	74%
Charges for balancing services	61%
Historic flows at entry and exit points	71%
Maintenance and outages of pipelines and storage facilities	76%
Gas storage capacity availability and flexibility in storage facilities and LNG terminals	71%
Congestion management methodologies in force	47%
Supply and demand forecasts used by TSOs	55%

3a. What level of aggregation on gas storage and LNG-terminal data should be available?

i)	Individual location	70%
ii)	By operator	4%
iii)	By balancing zone	26%

3b. On what time-basis should the information on flows and aggregated demand be made?

i)	Real time	37%
ii)	Every hour	22%
iii)	Dependent on balancing regime	41%

(c) Role of Exchanges

1. In general do you believe that trading via exchanges will increase significantly in the next few years? If YES, why? If NOT, why not?

Yes	No
77%	23%

Selected Comments

'Yes, a qualified yes as it depends on its relation to other forms of trading. I don't expect it will remain stable related to other forms of trading.'

'Yes because the cost of trading will fall as more people take advantage, so it is not a natural barrier. Also, and more importantly, it is much safer because of credit issues. People are aware of credit risk and will be prepared to pay a higher price because of this.'

'Yes as many new market participants will come into the markets that have not yet had any connection to these markets (funds etc).'

'Yes because there is a very low barrier to entry and lots of new entrants looking to enter the European market who are attracted by the existence of exchanges.'

'Yes but it will be a mixed system. What will increase is clearing facilities on the exchanges, but it doesn't necessarily mean that execution will increase.'

'Yes with the increasing share of LNG, spot volumes are increasing. The demand side will be dominated by power producers, whereby risk will increase since volume risk in the competitive power market is an important factor.'

'No because I don't have faith in the people running the exchanges, they don't understand what the market is about. The OTC market is much more flexible, brokers do a better job. The exchanges believe they own customers. There are also too many exchanges, and we need consolidation, one for power, one for gas and one for oil.'

'No because counterparty transparency is not provided. Therefore this will make certain players reluctant to trade on platforms that do not offer name give up.'

APX News

Results Financial Year 2006

In May 2007, the APX Group announced its 2006 financial results. 5.3 billion EUR worth of energy contracts were cleared and notified in 2006, marking a significant rise compared to 3.8 billion EUR in 2005. The EBITA (Earnings Before Interest Taxes and Amortisation) increased by 67% to 9.5 million EUR compared to 5.7 million EUR in 2005, while the 2006 Net Profit increased to 8.8 million EUR up 267% compared to 2.4 million EUR in 2005. APX Group's 2006 revenue totalled 41.4 million EUR, a 64% rise year-on-year. The revenue increased due to volume and member growth on the APX Group exchanges, as well as increased third-party services. Pure business growth contributed significantly to the net income, while some one-off effects, such as the recognition of deferred tax assets in the UK market, also contributed to the financial result.

In 2006, the traded volumes on all APX exchanges totalled 178 TWh, up 20% on the previous year. By the end of 2006, the APX exchanges counted 193 Memberships from 15 countries.

APX Gas NL & ZEE Volumes Growing

The first quarter of 2007 showed significant growth of APX's continental gas markets; GasTerra and Distrigas were welcomed as key players on the APX Gas NL and APX Gas ZEE exchanges respectively. APX Gas NL and APX Gas ZEE exchanges had record volumes in April 2007 reaching 67 GWh and 32 GWh respectively.

APX Group to Deliver BritNed Trading Solution

In May 2007, the APX Group announced the signing of a contract for the development of a trading solution for the new BritNed electricity interconnector cable. The contract was signed by APX and BritNed, the joint-venture between TenneT Holding and National Grid, the Dutch and British operators of the high voltage electricity grids on both sides of the North Sea.

According to the contract, the APX Group will develop a market coupling, or "exchange-to-exchange" method for a certain part of the cable capacity, linking their spot markets in the United Kingdom and the Netherlands in the most efficient way. The APX Group already operates electricity and gas markets in both countries. The 1000 Megawatt undersea cable is planned to be in operation in 2010.

APX Gas Migration

In 2007, the APX Group will further integrate its trading systems. In June 2007, the APX Gas UK, APX Gas NL and APX Gas ZEE exchanges will be integrated to the same trading screens on EuroLight.™ Preparations for the Trayport GlobalVision 8.5™ connection, a price aggregation screen that is connected to many trading platforms, were also started in the first quarter of 2007.

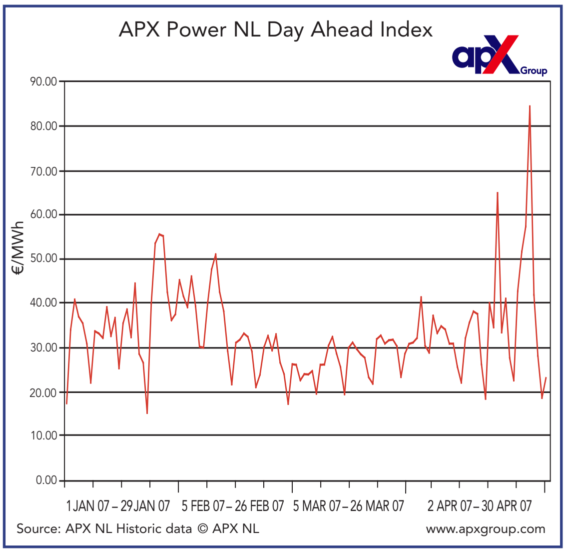
Trilateral Market Coupling

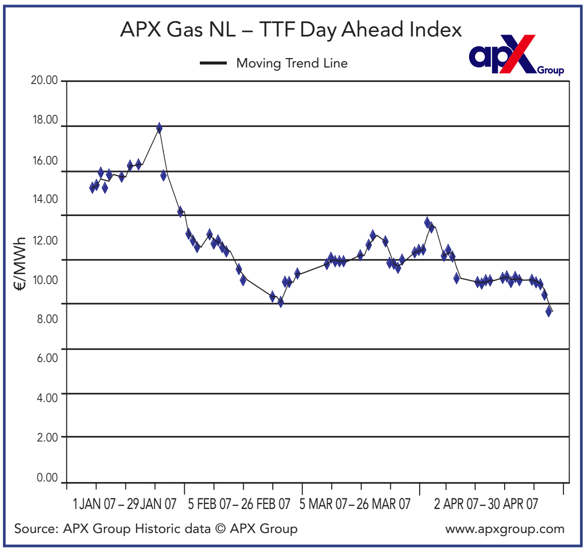
Power prices for the Dutch, Belgian and French day-ahead markets converged after the successful introduction of market coupling on 21 November 2006 between APX, Powernext and Belpex. During the first quarter of 2007 a single price zone for the three day-ahead power markets occurred in 73% of the time. There was also more efficient use of cross border capacity during this period.

Catriona Davey Appointed UK Sales Manager

In May 2007, the APX Group announced the appointment of Catriona Davey as Sales Manager, UK. Miss Davey started in her new function on 1 May 2007 and is responsible for leading the UK sales team of account managers based in the London office. The newly created position underscores the growth in APX Group's UK gas, power and carbon businesses. Miss Davey joins APX Group from Wingas where she worked for the last five years in the positions of commercial manager with Wingas Storage UK and prior to that, gas trader with Wingas GmbH.

APX Indices





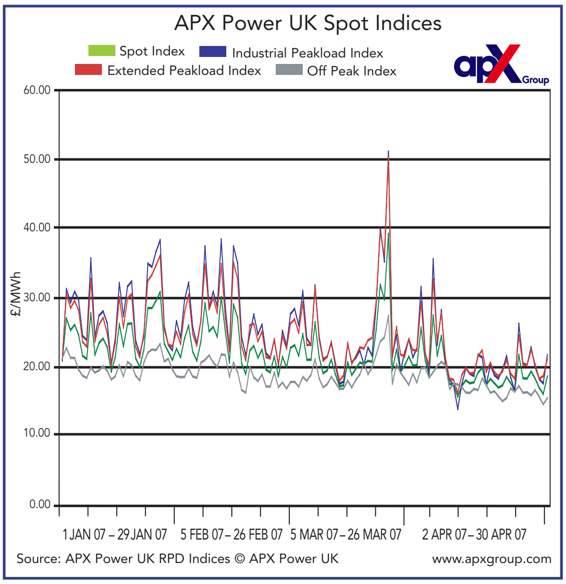
APX Power NL Day Ahead Average Prices

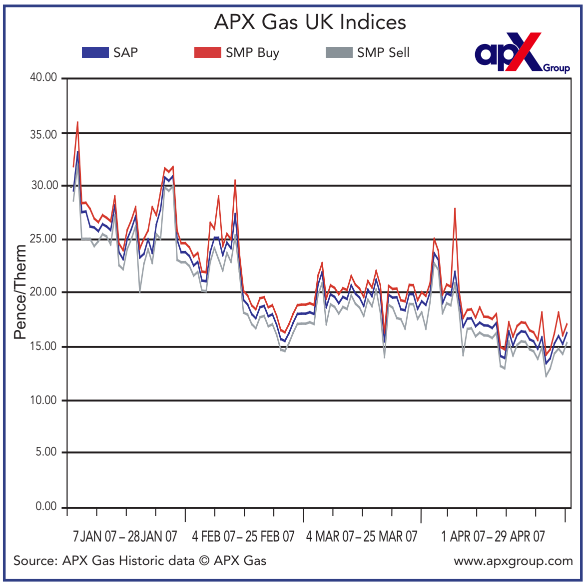
The APX published average prices are comprised of base load, off peak and peak load (07.00 - 23.00) prices based on the average price (in Euro/MWh) of Dutch power traded every day on APX for delivery the next day. Weekend prices are only comprised of base load prices and volumes.

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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