



Energy Viewpoints

Developing Energy Markets

Issue 2 – Spring 2005

Developing Energy Markets

Contents

- Pages 02-03 **Editorial from APX - Bert den Ouden, Chief Executive Officer**
- Welcome to the second edition of APX's quarterly market bulletin. This summarises the results of the latest quarterly European Energy Market Trends Survey, sponsored by APX in association with the European Federation of Energy Traders (EFET). In this issue, the special topic for discussion and analysis is the security of energy supply in Europe.
- Pages 04-09 **Securing Energy Supplies in a Liberalised Market**
- Serious blackouts in the USA, Italy and the UK have focussed attention on the risks to security of energy supply. However, Moffatt Associates' recent survey of market participants reveals a significant divergence of opinion on who should be responsible for ensuring supply and the role of the market in providing signals to ensure adequate investment in new capacity.
- Pages 10-12 **Growing Threats to Energy Security**
- Dr Fatih Birol, chief economist at the International Energy Agency, believes recent events highlight the need for government to take a more proactive role in dealing with energy security risks.
- Pages 13-18 **European Energy Market Trends Survey - Spring 2005**
- This regular, quarterly survey, sponsored by APX and produced in association with EFET, summarises expectations about future energy market prices based on responses from senior market participants, analysts and policy influencers from across Europe. The survey has been devised and conducted by Moffatt Associates, an independent research and energy market consultancy based in London.
- Page 19 **APX News - "a vital link in energy trading"**
- Recent developments at APX - new products and services.
- Page 20 **APX Indices**
- NL power and gas, UK power and gas indices from APX.
- Page 21 **Disclaimer**



Dear Reader,

Welcome to the second issue of *Energy Viewpoints*. This quarterly bulletin, launched in January, is sponsored by **APX Group** in association with EFET (European Federation of Energy Traders), and aims to keep you updated on relevant developments in power and gas, as identified by senior European market participants.

Each *Energy Viewpoints* issue has a special topic that is looked at in depth. This quarter we look at **security of supply**, and its importance in the European market scene.

Many industry observers are now pointing to security of supply as one of the highest risks to Europe's power and gas markets but I see it slightly differently. The most significant threat to Europe's energy supply is the inconsistency of national regulatory frameworks between countries within Europe which, combined with the time differences in their evolution, creates all kinds of uncertainties for investors. These differences in national policies limit possibilities for investment and could contribute to artificial cross-border constraints; from this perspective, security of supply is best addressed at the European level. The threat to security of supply is further compounded by the lack of long-term political security. In response to this we strongly advocate a positive measure, namely striving for the harmonisation of European policies, something that is already starting to happen in our "home" markets in Northwest Europe.

When it comes to power, I imagine that nuclear can play a role. But one should bear in mind that when one looks at the total global primary energy use (including transportation, heating, feedstocks and so on), the share of nuclear is relatively low. We should keep this perspective in mind in the future. ▶

Looking at infrastructure, the strain on some systems is increasing, notably on the international electricity grids due to unscheduled flows, and this issue should be addressed with some urgency. On a more macro level there is a need for additional infrastructure both for improvement of supply and for improvement of markets - however, one should be cautious to invest when constraints are caused by political inconsistencies. In certain cases, it's more cost effective to solve constraints by taking away the causes of those inconsistencies. On the other hand, there are possibilities that should be explored and governments should take a proactive role on strategic issues and in stimulating new technologies and new energy resources, but without distorting the market by interfering in it directly.

APX Group is in a unique position to comment on whether the market will provide the right price signals to stimulate new investment in power generation and gas supply: our independence and neutrality in the Northwest European energy market provides us with the ideal platform. But it's still too early to judge, as markets have been developing price signals only over the last five years, and this is a relatively short period compared to other markets, such as stock and bond markets. Confidence in market-based solutions will grow as we progress, something we are seeing early evidence of.

Security of supply is the end result of a well-functioning European market that is underpinned and supported by sound and consistent policy. The political goal should be an adequate level of consistency and stability so the market can function properly. The major risk is that political inconsistencies could create or bring about a sub-optimal market, by not giving the right price signals. We should encourage politicians to create the right framework to develop security of supply but then insist they let the market do its job.

We hope that you enjoying reading *Energy Viewpoints*, and please continue sending your feedback to us at apx@apxgroup.com.

Bert den Ouden
CEO

Securing Energy Supplies in a Liberalised Market

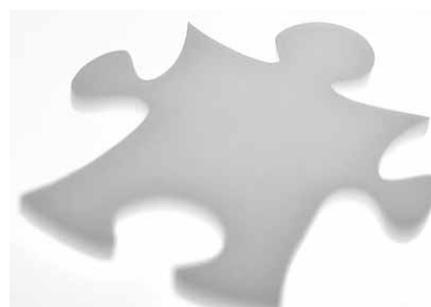
Serious blackouts in the USA, Italy and the UK have focussed attention on the risks to security of energy supply. However, Moffatt Associates' recent survey of market participants reveals a significant divergence of opinion on who should be responsible for ensuring supply and the role of the market in providing signals to ensure adequate investment in new capacity.

Security of energy supply has been in the headlines many times over the last few years. Serious blackouts in the USA, Italy and the UK focused attention on the risks of an inadequate energy supply, and the dangers resulting from a failure of the electricity grid system. In the early part of 2005, low temperatures in Europe caused problems in France, when demand peaks resulted in rolling power cuts on the island of Corsica, and led to France having to import 3% of national demand for the first time for 20 years. The key issues affecting security of supply in the power sector are the adequacy of generating resources, and the state of Europe's grid infrastructure.

In gas, meanwhile, recent increases in wholesale prices in the UK have raised concerns about the effect of declining indigenous gas supplies from the North Sea, and an increasing reliance on gas imports from the rest of Europe. Europe as a whole is facing a growing dependence on supplies located in potentially unstable regions, such as Russia and the Middle East. The long distances needed to transport these supplies also raise questions about investment in the European pipeline network.

Rising demand is placing an increasing strain on Europe's electricity system, and the changing nature of power generation, with smaller, decentralised units springing up across the continent, represents a new challenge for Europe's power sector. EU energy consumption is likely to increase by 44% between now and 2020, and decisions to close nuclear power capacity in Belgium, Germany and Sweden have raised questions about what will replace this.

Even before the two major power failures in Italy in 2003, the Commission had been working on new legislation designed to improve security of supply. A package of measures was produced in December 2003 aimed at strengthening the EU's energy independence. ▶



This included a directive (COM 2003 740) that aims to improve supply security and avoid blackouts in several ways. These include defining the roles and responsibilities of Transmission System Operators (TSOs), setting and ensuring network performance standards for TSOs and Distribution System Operators (DSOs), and facilitating transmission and distribution network investment and interconnector construction. The package also includes a directive on improving energy efficiency and energy services (COM 2003 739), which is also still under discussion.

The proposals attracted criticism from the European electricity industry because of plans to give governments the power to require TSOs to invest in transmission capacity. ETSO (European Transmission System Operators) called the plan "inappropriate, contradictory, overly bureaucratic and also potentially very counter-productive."

Environmental groups have also been critical of the focus on generation and infrastructure, believing that, despite the inclusion of the energy efficiency directive, the emphasis remains on building new capacity, and not enough on demand side management.

EU energy ministers subsequently made changes to the original proposal, deleting some of the most interventionist elements in the draft legislation, and simplifying the reporting requirements for TSOs. The directive has now been sent to the European Parliament for a first official reading.

The Trans-European Energy Networks initiative, which promotes the construction of a number of new electricity and gas interconnections across Europe, is also intended to strengthen the European grid network, although these are long-term projects.

A recent report by UCTE (Union for the Coordination of Transmission of Electricity), the association of TSOs in continental Europe, highlighted the precarious nature of Europe's grid system. The latest UCTE System Adequacy Forecast (2005-2015) aims to give early warning signals on system reliability. It concludes that, although no threat to network security in Europe is likely over the next three years, supply shortages will become an increasing problem after 2007 unless substantial new generating capacity is scheduled.

The UCTE's assessment is based on estimates of "Remaining Capacity" (RC) - the capacity that the system needs to cover the difference between the peak load of each country and the load of the UCTE synchronous reference time (so-called "margin against peak load"), as well as exceptional demand variation and longer term unplanned outages which the power plant operators are obliged to cover with additional reserves. ▶



For some countries, RC at peak load representing 5% of the national generating capacity is regarded as enough to provide a reliable supply. For other countries more vulnerable to factors such as load variations or unavailability of generation, RC should represent about 10% of national generating capacity. This level of remaining capacity plus the difference between peak load and reference load is the Adequacy Reference Margin (ARM).

The UCTE report warns that although RC represents 10%-15% for total generating capacity for the whole UCTE system between 2005 and 2010, this figure falls to only 5% in 2015. This means that new power plants will have to be built, over and above capacity that is already scheduled to be built.

The report claims that there should be adequate capacity on the system between 2005 and 2007 because of expected new generating capacity coming on-line, and strengthening of the national and international transmission grids. During the period in question, generating capacity is scheduled to rise by 6 GW, of which over half (3.7 GW) will be in Germany.



However, 5 GW of this 6 GW will come from renewable sources, and this could cause a problem, a fact mentioned by some members of our panel. Because of the reduced availability of renewable generation compared to other forms of generation, the RC is expected to decline from 35.5 GW in 2005 to 32.4 GW in 2007.

The tight supply situation in Italy is well-known, but problems could also occur in France where, despite its recent position as Europe's main power exporter, there could be difficulties in meeting peak demand from 2007 onwards. France's huge nuclear baseload needs to be complemented by the construction of smaller plants able to be called on at short notice to meet sudden power demand.

A lack of investment in power plants and in grid infrastructure was seen as the main threat to security of supply by some respondents to our survey. Congestion on the cross-border interconnectors and a general shortage of interconnector capacity in some regions was also identified as a major threat to security of supply. As Europe becomes a more integrated market, power flows across borders are likely to increase. This should in theory help security of supply since it enables the exploitation of different generation sources and different consumption patterns in order to meet demand. ►

However, difficulties in obtaining authorisation to build transmission lines have limited progress in this area in some countries. The project to strengthen cross-border lines between France and Spain, for example, has long been hampered by environmental objections.

Extreme weather conditions, similar to those experienced in much of Europe in the summer of 2003, are a concern for many respondents. If there were no extreme conditions, Europe's energy infrastructure could probably cope, but a repeat of the 2003 heatwave, or extremely cold weather, could have dire consequences for security of supply.

The rise in the use of wind power, particularly in Germany, poses a new challenge to Europe's grid operators. Wind power is intermittent, and there has to be backup generating capacity available for those times when the wind does not blow. The view of one of our panel members, that: "Renewables are not an answer, we have to look beyond this, it is not a controllable source", was shared by several other panel members.

The scattered nature of wind power has implications for the management of the grid system, but could also help with security of supply because wind turbines are relatively cheap and fast to build, certainly compared to the more traditional power plants.

The survey revealed a widespread acknowledgement of the role of nuclear power in the energy mix and the need for this to continue. As well as phase out plans, ageing nuclear power stations will start to close in the next 10-15 years, and with few countries, apart from France and Finland, planning to build new nuclear capacity, the question of replacements is becoming more urgent.

As well as public opposition, nuclear now has to contend with a lack of investment interest because of the economics of nuclear power in the liberalised market. Market liberalisation is a new challenge for security of supply, and the dynamics between the two are still evolving.

Liberalisation has led to the emergence of new generators in some markets, and this could be beneficial for supply security because it should stimulate the construction of new capacity. However, difficulties in market access in many Member States, and a lack of real investment incentives, have limited the number of new power plants being built. Much of the problem has been the inability of some of the new entrants to secure adequate financing for power plant construction. In addition, economic returns for generators to make their plant available to improve reserve margins are often not high enough. ▶



Markets make the costs of security of supply more transparent. This leads to the question of whether consumers are willing to pay a premium for higher security of supply, or accept lower supply security in exchange for lower prices.

Liberalisation has to a certain extent shifted responsibility for security of supply to other market participants. Whereas in the past this was seen as the responsibility of national governments, the EU is increasingly the framework within which this issue is addressed, as the European dimension becomes more important.

National governments and regulatory bodies are important in terms of managing individual countries' security of supply, but because of increasing cross-border flows, the EU authorities and the European grid organisations are also crucial. Fully competitive markets reduce the potential for intervention by governments, but liberalisation can create incentives for firms to build new capacity. Much depends on whether prices will rise sufficiently to make investment attractive. Even if the market does work, however, there may still be occasions, for example to meet the highest demand, when governments may have to take further measures to ensure that adequate capacity is available.

Respondents were divided over who should be responsible for security of supply, although many believed that ultimately this should lie with the state. However, there was a widespread belief that all market players, including international institutions and business, should have a role in ensuring

security of supply, while some believed that the market would provide the right signals to ensure sufficient investment.

In the European gas sector, concerns over security of supply are mainly related to a growing reliance on potentially unstable sources of supply; in this case the Middle East and Russia. As with power, there is clearly a need for more investment in the gas grid across Europe, particularly in view of the distance that gas often has to be transported, but on the whole our respondents did not believe that this need was as urgent as it is for electricity.

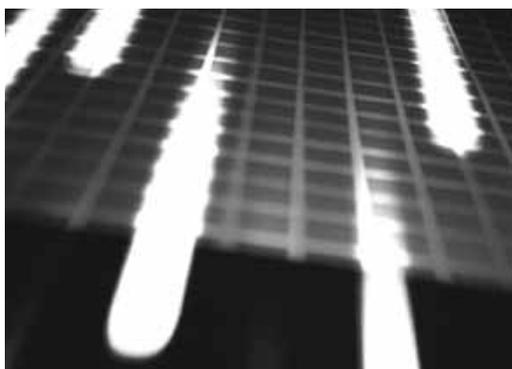
The UK, Europe's largest demand market for gas, is experiencing growing dependence on gas imports, as North Sea fields start to be depleted, and this is a key factor driving security of supply concerns at present. Britain's position at the end of the supply chain raises concerns for the future, particularly since gas currently provides 38% of power generation, and these concerns are certain to be addressed when the government conducts a review of its energy policy, assuming that it is re-elected in May. ▶



High wholesale gas prices have already been the subject of an investigation by the energy regulator Ofgem. The review concluded that these were the result of high oil prices feeding through to British prices, mainly via the pipeline link to the rest of Europe, as well as declining gas supplies. Although Ofgem did not believe that this fall undermined security of supply, it does mean that the UK will be more dependent on more expensive gas from other European markets to replace British supplies.

With this in mind, Ofgem and the government are stepping up the pressure on the European Commission to ensure that there is genuine market liberalisation in continental gas markets. The concerns are that prices should be more transparent, and that there are certain obstacles which may be preventing gas from flowing to the UK market.

In Europe as a whole, there are a number of challenges for security of supply in the gas sector. These include a greater dependence on supplies from outside Europe, which results in gas being physically transported over long distances. Investment in transmission infrastructure is therefore of prime concern here.



Within Europe itself, gas flows across borders are increasing. Over 65% of flows cross at least one border, compared to only 9% of electricity. Harmonisation of transit procedures should help to improve the situation still further, while the body representing gas transmission operators, the GTE (Gas Transmission Europe), also believes that in order to improve security of supply, there is a need for clear allocation of responsibilities between market players, as well as an incentivising investment climate for production and transmission.

As in electricity, the EU has taken steps to address growing concerns over security of supply, particularly in view of Europe's increasing dependence on gas supply sources from outside Europe. To this end, it has introduced Directive 2004/67, which entered into force on May 19 2004 and must be implemented by May 19 2006. The Directive is aimed at establishing a common framework within which Member States can define general security of supply policies. This leaves the responsibility for security of supply of gas at the national rather than at the European level.

In conclusion, recent events have focused attention on security of supply in the energy sector, and this issue will continue to dominate energy policy in the months and years to come. National governments and the EU are taking steps to address these concerns, while market involvement is also now a factor in the equation.

What the responses of our panel have shown, however, is that opinions are very much divided on the best way to secure Europe's energy supplies in the future. ■

Growing Threats to Energy Security

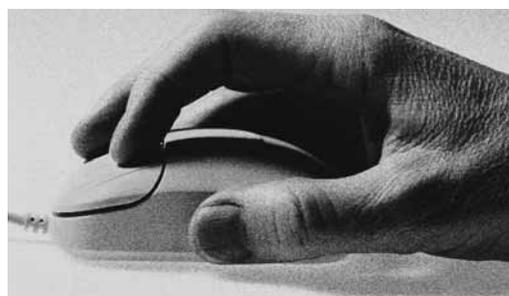
Dr Fatih Birol, chief economist at the International Energy Agency believes recent events highlight the need for governments to take a more proactive role in dealing with energy security risks.

The World Energy Outlook 2004 - the latest edition in the IEA's landmark series - appeared last November during an extremely volatile and uncertain moment in modern energy history. Soaring oil, gas and coal prices, dwindling spare oil-production capacity, exploding energy demand in China, war in Iraq and electricity blackouts across the world were among the signs and causes of the profound transformations through which the energy world was (and is still) passing.

The report painted a sobering picture of how the global energy system is likely to evolve from now to 2030. In the absence of new government policies or accelerated deployment of new technology, world energy demand is set to rise by 60%. Some 85% of this increase will be in the form of carbon-emitting fossil fuels: coal, oil and natural gas whilst two-thirds of the new demand will come from developing countries. The world will need to invest a staggering amount of money to maintain and expand energy supply to ensure this demand is met. Serious concerns emerge from these projected market trends. Perhaps most pressing of which is that short-term risks to energy security will grow.

Greater dependency on imported oil

Major oil importers - including most OECD countries, China and India - will become ever more dependent on imports from distant, often politically-unstable parts of the world. This trend results from the steady growth in demand in all regions and the increasing concentration of production in a small number of countries with large reserves. The terrorist threat combined with political instability and conflict in key producing regions has brought home to everyone the dangers of becoming overly reliant on imports of oil from unstable regions. World oil demand is projected to reach 121 million barrels/day in 2030. OPEC countries, mainly in the Middle East, will meet most of the increase. By 2030, they will supply well over half of the world's oil needs - an even larger share than in the 1970s. ▶



In response to the growing mismatch between demand and supply, net inter-regional oil trade will more than double. Booming trade will strengthen the mutual dependence among exporting and importing countries. But it will also exacerbate the risks that wells or pipelines could be closed or tankers blocked by piracy, terrorist attacks or accidents. Of particular concern is the growing traffic through a small number of critical chokepoints. These include the Straits of Hormuz in the Persian Gulf and the Straits of Malacca in Asia through which a total of 26 million barrels of oil currently pass every day. Traffic through these and other vital channels will more than double by 2030. A disruption in supply at any of these points could have a severe impact on oil markets. Maintaining the security of international sea-lanes and pipelines will thus take on added urgency.



Power security and gas supplies

Energy security concerns are not confined to oil. Power failures in North America and in several European countries and incidents at Japanese nuclear reactors have reminded us that energy security extends to other forms of energy. In terms of gas, all regions that are currently net importers will see their imports rise, and a growing number of countries and regions will become net importers for the first time. Gas production is set to increase most in Russia and in the Middle East, which between them hold most of the world's proven reserves. Much of the incremental output in these regions will be exported to North America, Europe and Asia, swelling the surge in international energy trade.

Liquefied natural gas, the bulk of which will be used in power stations, will account for most of the increase in traded gas. OPEC countries will continue to dominate the supply of LNG. The recent disruption in liquefied natural gas supplies from Indonesia demonstrated the risks of relying on imports of gas from politically sensitive regions. On the other hand, the expected expansion of international LNG trade could alleviate some of the risks of long-distance supply chains if it leads to more diversified supplies. Increased short-term trading will also make LNG supplies more flexible. ►

Liberalisation of downstream gas and electricity sectors also raises concerns about energy security. In promoting efficiency and increasing the diversity of supply, market reforms should, in principle, reinforce energy security. But this depends on the design of those reforms and the incentives for investors to provide the degree of security demanded by consumers. Pressures to reduce costs could also compromise security.

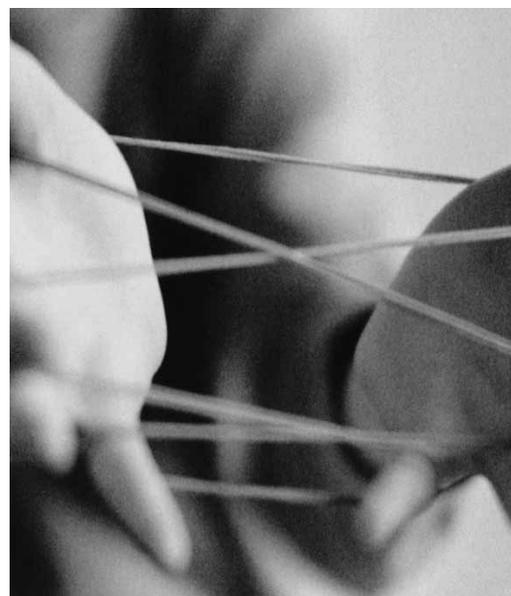
Need for concerted effort

These developments point to a need for the governments of IEA members and of non-member oil- and gas-importing countries to take a more proactive role in dealing with the energy-security risks in fossil-fuel trade. Measures to deal with short-term supply emergencies or price shocks will have to be stepped up. Improving relations with energy suppliers will also need to form a central plank of their security strategies. Governments will have to look at new ways of diversifying their fuels, as well as the geographic sources of those fuels. They will also need to devise new, cost-effective approaches to securing reliable gas and electricity supplies within a competitive market framework. In particular, they will need to lower regulatory and market barriers and ensure that the investment climate is sufficiently attractive.

In closing, I would like to underline the threat to energy security faced by developing countries. As economies in such regions are often far more energy intensive, they are even more vulnerable to high-priced fuel supplies than the industrialised economies. In recognition of this I believe it is crucial that we keep working with these countries to share experiences and knowledge on the importance of energy security and help them develop policies to design appropriate response plans and strategies. After all, the sustained economic growth these countries need will not be possible in the absence of secure energy supplies. ■

International Energy Agency

April 2005



European Energy Market Trends Survey - Spring 2005

This edition of **Energy Viewpoints** includes the results of our latest quarterly survey researching current European energy market trends.

This regular survey is run in association with **EFET** (the European Federation of Energy Traders) and is conducted by **Moffatt Associates**, an independent marketing and energy market research 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 liberalisation, and to monitor changes in market perceptions over time.

Results are based on the views of an established Panel of leading market participants and policy influencers. The survey itself consists of an online questionnaire and a follow-up in-depth telephone interview, and is conducted on

a strictly confidential and non-attributable basis. Respondents were interviewed in March 2005.

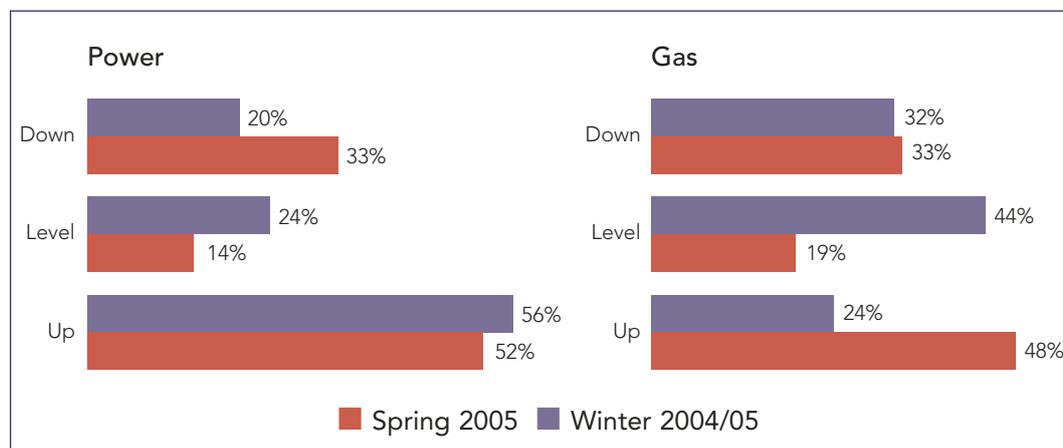
This quarter we received contributions from 25 senior market participants from 10 European countries (Austria, Belgium, France, Germany, Italy, the Netherlands, Norway, Spain, Switzerland and the UK).

The key findings are as follows:

Price Trends

- Expectations for **power prices** across Europe over the next year are that spot prices will continue to rise (according to 52% of respondents) rather than fall (33% of respondents), and that forward prices will also probably increase (said 57% of respondents). The most popular view for European **gas prices** over the next year was that they would show an upward trend, especially for spot but also for forwards. ▶

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

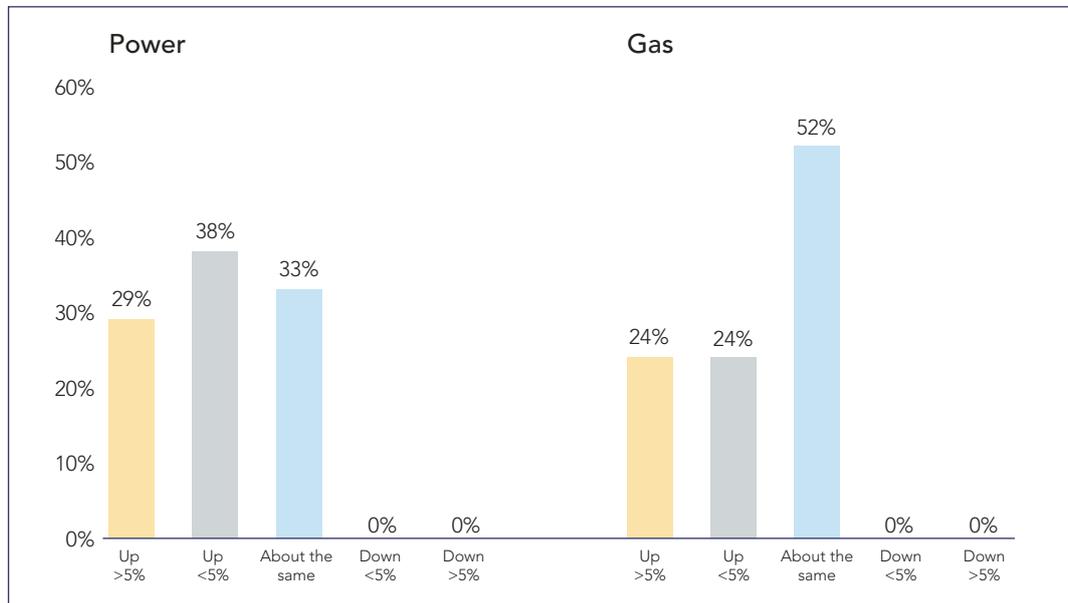


- Looking at the four regional markets covered in-depth by the survey, opinion was divided on the short-term future of **German** energy prices. The most popular contention was that prices would fall slightly (i.e. <3%) over the next 6 months: 38% said this would be the case for power, and 43% said so for gas. Many respondents, however, continue to predict increases instead. There was more consensus that German energy prices would rise significantly over the longer term, especially for power. Both gas and power prices in **Scandinavia** are expected to show little change over the next 6 months, but the next 3 years there will see higher power prices. Our expert Panel was divided on the future of **UK** energy prices, with 38% predicting lower power prices in 6 months time and 53% expecting them to be higher; expectations were likewise split for gas. Over the longer term, however, UK power prices will rise steadily. A similar pattern was identified for the **Netherlands** in both the short- and the long-term.

Market Developments

- A large number of **market developments** were expected throughout the next 6-12 months, although none of these were seen as highly significant. The most popular were increased unbundling of national energy markets, further growth of the European Emissions Trading Scheme, industry consolidation and the impact of carbon on power prices. Also mentioned were growth in interconnectors, more cross-border auction activity, growth of the LNG market and security of supply.
- Five factors were identified that exert **pressure on energy prices**: environmental pressures, movements in fossil fuels and infrastructure developments would all drive up prices over the next 5 years, whilst market liberalisation would lead to lower prices and industry consolidation would have an ambiguous effect. Of these factors, changes in fossil fuels would continue to have the most significant impact, again followed by environmental pressures.
- As per last quarter, respondents on average said that 28% of their company's traded volumes were **cleared**; excluding those who had none of their volumes cleared, the figure is 34%.
- Fewer people than last quarter expected **market trading activity** to increase for power over the next 6 months - but this was still a majority view (67%, down from 76%), and 48% expected an increase in gas trading. Significant numbers thought trading activity would be constant over the next two quarters, with none of our respondents expecting it to drop. ►

How much do you see market trading activity across Europe changing over the coming 6 months?



- As in the previous quarter, the most popular view on the pace of pan-European **consolidation** was that it is steady, both in the power (43%) and gas (62%) sectors, although there was also significant support for the view that consolidation was still increasing in power (38%).
- Whilst a majority of respondents think that the **European Commission** should be doing more to help the development of energy markets, a higher percentage than before were satisfied with its achievements (38%, up from 28%).
- Energy market liberalisation will continue to be delayed by several **constraints**, especially political constraints and resistance by key incumbents.
- National **network access regimes** continue to be seen as a constraint in European energy trading, although more so for gas than for power.

Special topic: Security of Supply

Each quarter a special topic is examined, with additional questions put to the Panel. Last quarter congestion management was looked at in-depth, and this time our focus is on **security of supply**.

What are the most significant threats to Europe's power and gas supplies?

A total of ten different perceived threats to security of supply were mentioned, of which two were identified by a high percentage of respondents: lack of investment and adverse or extreme weather conditions. A typical comment complained of a "lack of correct planning on investment" and a general "absence of people looking ahead." ►

Maintenance of the transmission grid and pipelines was in danger of being neglected, and some respondents wanted to encourage a better "regulatory framework for good planning" which would "incentivise investment in both power plants and grids." Concern about weather conditions was based on issues such as "grid users not subscribing enough transport capacity for a '1 in 20' winter," and the fact that "extreme weather conditions, or at least peculiar weather conditions, can have a powerful effect on prices."

Amongst other perceived threats to European power and gas supplies were a fear of "political meddling," instability of "our two major supply sources, the Former Soviet Union and the Arab world," ageing nuclear power plant, terrorism and depletion of fossil fuel reserves.

How likely is it that one or more European countries will experience significant supply failures in the next few years?

The most popular view was that European countries were "unlikely" to experience significant supply failures within the next few years - although some respondents did disagree. Only four countries were mentioned as possibly being vulnerable (and even then only by one or two people), namely France, Italy, Greece and

the Netherlands. Two of the country-specific responses were "France was getting close [to supply failure] in February, so it is possible but not extremely likely" and "relatively unlikely, although it could happen in extreme weather conditions in Italy." More general comments included "it depends on extreme things happening, possibly together... prolonged outages are not likely," "not very likely" but "it could happen." The highest probability given by any respondent was a 70% likelihood of significant black-outs. Nearly all respondents were confident that supply would meet demand in their own country.

What fuel mix would best guarantee secure energy supplies for Europe?

Our survey revealed a very strong preference for greater use of nuclear power as a source of energy able to guarantee European energy supplies: nearly 70% of respondents mentioned it unprompted. Having a mixture of fuels was widely seen as a wise strategy, whilst opinion was split on the usefulness of renewables in this context. Nuclear was a popular option since "it is good for Kyoto and does not leave us beholden to gas imports" and several people stressed thoughts such as "in the long-term only nuclear could be a real guarantee" and "without nuclear it would be difficult [to guarantee supplies]." ▶



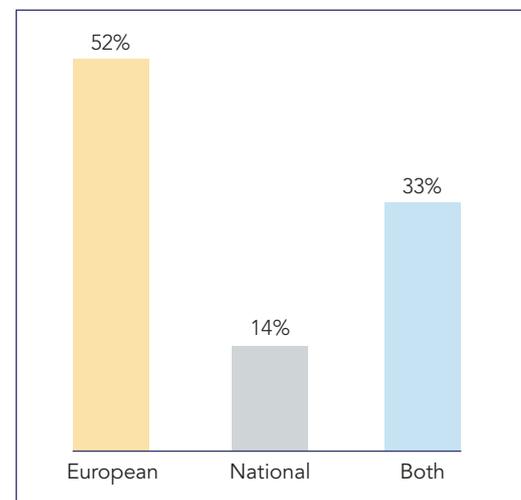
A wide fuel mix was advocated, along the lines of "some coal, some nuclear, some wind etc." or "nuclear, coal and gas, supplemented by hydro in those countries that have it, and by wind in general." There was disagreement on the usefulness of wind power in terms of helping guarantee energy supplies, though with some claiming that "wind is not particularly useful for security of supply" against those arguing that "growth in wind power is the only plausible solution." Some dismissed renewables altogether as "not an answer - it is not a controllable source," concluding that "renewables won't be important."

Does Europe's power and gas distribution infrastructure require higher levels of investment to guarantee consistent supply?

There was a strong consensus that energy infrastructure requires higher levels of investment in order to guarantee consistent supply: those arguing that this was the case outnumbered dissenters by a ratio of 5:1, as shown by the following comments: "it is necessary to increase the level of distribution infrastructure in power and in gas," "more investment is needed in border crossings, etc." and "the grid wasn't designed for the amount of trade currently being undertaken."

Is security of supply an issue best addressed at the national or European level?

Security of supply was seen by relatively few respondents as being an issue which ought to be addressed at just the national level: only 14% of respondents claimed this. A small majority argued that the European level was most appropriate, but there was also considerable support for the view that both levels were relevant. For example, "from a political point of view, national; from a logistical point of view, European" and "it has to happen at both levels. There needs to be responsibility at national level within a European framework because the grid is looked at as the European grid, so there needs to be European coordination."



Who should be responsible for guaranteeing security of supply?

This question highlighted diverging opinions and philosophies as to how markets should operate, and how interventionist governments ought to be. The most popular view, expressed by one-third of respondents, was that ultimately governments are responsible for security of supply; one-quarter said markets were responsible; and others pointed to international institutions and system operators. Pro-market comments included "the government should set parameters but the market should deliver," "security

of supply should be left to the market because it has always delivered solutions," and "energy companies are responsible." Pro-government comments included "it is the state who must give the appropriate signals to invest," "governments take responsibility as a macro-political issue, politicians have to make the liberalised market work," and "states have the most important role here." One respondent pointed out that, "according to Public Service Obligations, TSOs are responsible for building and operating the necessary capacity" and another said that "all have to play a role together in a complex way – there is no one responsibility." ■



APX News – “a vital link in energy trading”

APX Gas launches two new Exchanges

On 3 February 2005, APX Gas launched new prompt trading products at the Dutch TTF and at the Zeebrugge hub in Belgium. Individual days, weekends, balance of week and working days next week are all facilitated on the existing EnEx trading platform, championed by the On-the-day Commodity Market (OCM) in the UK. Additionally, within day markets at both exchanges, named APX Gas NL and APX Gas ZEE, were subsequently launched on 14 April. This joint launch of gas exchanges was made possible due to the close co-operation with the Belgian and Dutch Gas Transmission System Operators: Fluxys and Gas Transport Services (GTS). The new exchanges will create transparency in the market and provide price indices, which can be used as market benchmarks. APX has signed liquidity provider agreements on both exchanges to guarantee valid trading opportunities.

On 20 January 2005, the Dutch Minister of Economic Affairs appointed APX as Gas Exchange Operator in the Netherlands. APX Gas NL is the new Dutch Gas Exchange, which enables parties to trade on the TTF, the virtual trading hub of GTS. APX Gas Zeebrugge B.V. is a limited liability company owned by APX and Huberator, the Zeebrugge Hub Operator and a subsidiary of Fluxys.

APX Group record volumes for First Quarter

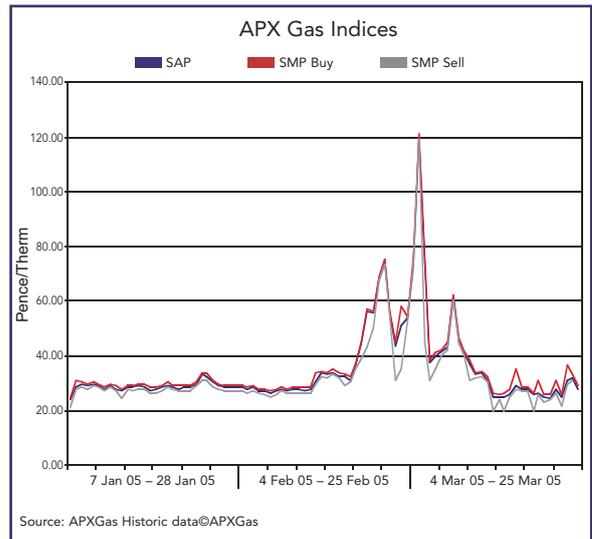
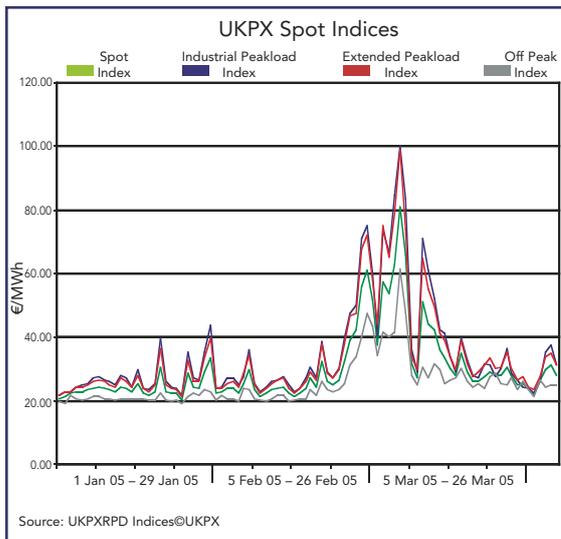
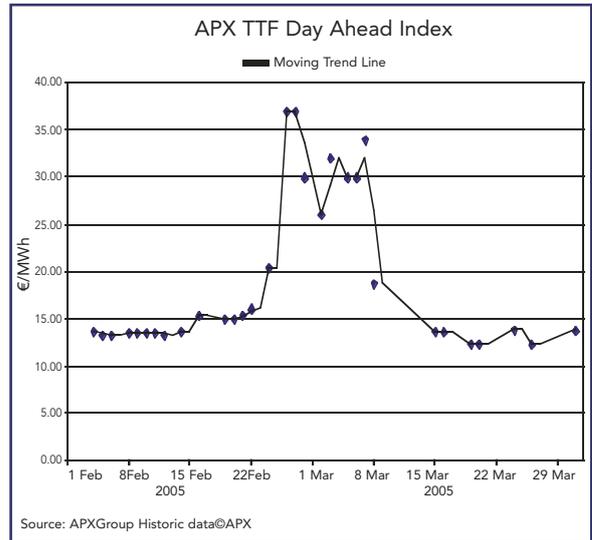
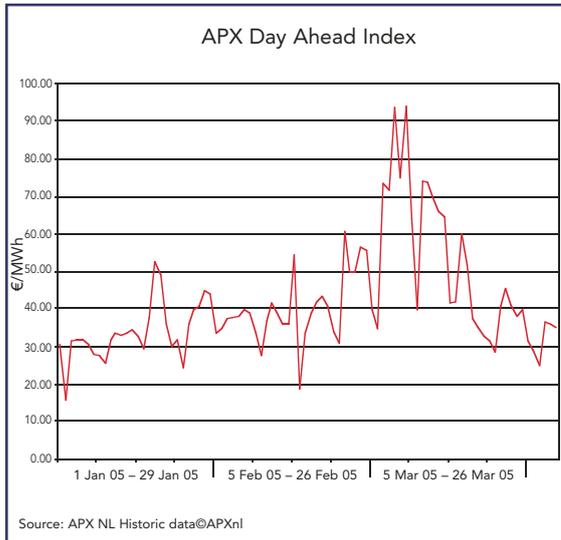
Q1 05 has recorded an impressive start for the year for APX Group. In the Netherlands, the APX day ahead power market experienced first quarter 2005 volumes of 4,138 GWh, compared with 3,141 GWh for the previous year - a 31% increase. In the UK, UKPX experienced a 39% rise in its spot and prompt power markets with first quarter volumes of 2,149 GWh, up from 1,546 GWh in Q1 04. Finally APX Gas in the UK continued to perform well with first quarter volumes on the OCM reaching 993.5 million therms (29,117 GWh), up by 25% on the previous year.

FLAME Conference

APX was proud to be a sponsor at the recent FLAME 2005 conference in Amsterdam, the premier event for networking opportunities in the European gas markets. This was perfect timing for APX, enabling a showcasing of the new TTF/ZEE gas exchanges, reinforced by a presentation from the COO of APX, Mr Pieter Verberne. Additionally APX Gas sponsored a cocktail party on the first night and a trader event the following evening, ensuring that everyone was able to join APX in celebrating its continued success. ■



APX Indices



Disclaimer

Energy Viewpoints is published by APX Group free of charge and is provided on an 'as is' basis for general information purposes only. The information provided by *Energy Viewpoints* is of a general nature, not intended to address specific circumstances of any individual or entity and does not contain professional or legal advice.

While APX Group undertakes every effort to provide accurate and complete information, *Energy Viewpoints* may not necessarily contain comprehensive, complete, accurate or up-to-date information. It is not intended to constitute and should not be relied upon as advice to the merits of investment in any commodity, market, contract or other product and may not be used for advertisement or product endorsement purposes.

APX Group makes no representations and disclaims all express, implied and statutory warranties of any kind to the recipient, and/or any third party including warranties as to its accuracy, completeness, usefulness or fitness for any particular purpose. The exclusion of liability includes any consequential damage, loss or additional costs of any kind suffered as a result of any material published in *Energy Viewpoints* unless caused by intentional default or gross negligence on the part of APX Group's employees.

The layout of *Energy Viewpoints*, graphics and pictures used and the collection of third party contributions are protected by copyright. APX Group reserves all rights in respect thereof. The reproduction of pictures, graphics, information, text and extracts of *Energy Viewpoints* shall be allowed upon prior consent of APX Group only.

APX Group has no influence on the contents or reliability of information or opinions contributed by third parties. Such third party contributions do not necessarily express opinions of, or information generated by, APX Group. APX Group disclaims all express, implied or statutory liability for third party contributions and provides such information or opinions for general information purposes only.

Any claims or disputes arising by virtue of the use of *Energy Viewpoints* shall be exclusively construed in accordance with and be governed by the substantive laws of the Netherlands. ■

