



Energy Viewpoints

Developing Energy Markets

Issue 4 – Autumn 2005

Developing Energy Markets

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Dear Reader,

Emissions trading is a hot topic. UKPX will launch carbon trading on 9 November as part of a co-operation with the company New Values, which has specialised in spot carbon trading. Moreover, we have built a broader alliance across Europe to trade this product.

I am pleased with APX being involved in this new international initiative. The role of the exchanges is growing, as the value of clearing is more and more appreciated. Thus far, we have seen significant growth in carbon trading volumes – and in the number of traders involved – in the EU Emissions Trading Scheme, which shows a total of 150 million allowances traded so far this year. It is still early days to draw conclusions, though. Recent surveys show that prices have gone up, much higher than many expected. As a result, a lot of debate is still going on in the market all over Europe. Some more analysis is clearly needed in order to assess what the full impact of this market might be, and what the shortcomings possibly are. If possible, we will come back with more analysis later on.

For now, see what you think about the outcome of the attached survey, produced by Moffatt Associates, an independent research and energy market consultancy.

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

Bert den Ouden
CEO

EU Emissions Trading – Review and Prospects

Moffatt Associates latest European Energy Trends Survey reveals, emissions trading is a 'hot topic' in energy circles at the moment. The huge rise in the price per tonne of carbon since the start of the EU Emissions Trading Scheme (ETS) on 1 January 2005 has stimulated debate about how the new scheme is developing and how successful it has been so far, provoking a wide range of views amongst market participants.

Objectives and targets

Since the launch of the ETS, volumes have grown significantly, as has the number of traders. This year, a total of 150 million allowances have been traded in the scheme, with a financial value of 2.5 billion. So far the main participants have been utilities, but banks and other financial institutions are also stepping up their involvement. About 8-9 million allowances are now being traded every week on the ETS, although daily volumes vary significantly.

The first phase of the ETS runs from 2005 to the end of 2007 and caps emissions at 2001 levels. The scheme covers between 12,000 and 16,000 factories and plants, which account for 40% of emissions in the EU. The ETS includes power generation, glass, ceramics, steel, paper and packaging, oil refining, some chemical plants and lime and cement, but in practice most of the burden falls on the power industry.

Our survey respondents were divided in their views about whether the CO₂ emission reduction targets for the EU are plausible or not. While some thought they were, others believed that they were not achievable. However, there was no disagreement about the impact that the ETS has had on power prices so far. Almost all of those surveyed agreed that it has pushed prices upwards, and that the scheme will continue to have a bullish effect up to 2008.

Price drivers

Much of this is predicated on how short the market is expected to be. Carbon market analysts Point Carbon have estimated that the market will be 11 million tonnes short in 2005, 67 million tonnes in 2006, and 95 million tonnes in 2007, and it is this perception that is helping to drive the price.

Another noticeable trend has been the relative volatility of prices since the start of the ETS. This has been caused by several factors, including the weather and the publication of the last of the Member



State National Allocation Plans (NAPs). For example, at the start of the ETS in January 2005, heavy rainfall in northern Europe caused prices to fall to €6 a tonne of CO₂, after an initial price of €8-€9 per tonne.

Later in the year, drought conditions in Spain contributed towards prices of almost €30 a tonne at the beginning of July. As of early October, EU Emission Allowances (EUAs) were trading for about €23 a tonne of CO₂. Although it was expected that emissions trading would raise prices to encourage investment in low-carbon technologies, the scale of the increase is still surprising.

A number of factors have been pushing up EUA prices since the start of trading. Coal, gas and crude oil markets are now tied to the emissions market, and each influences the ETS, with the European

power market most closely linked to price movements. As mentioned, the lack of rainfall and high temperatures in southern Europe this summer have also contributed towards the high prices. This upward trend is expected to continue, and if Spain's hydro power generation remains affected by low rainfall, and particularly if this coincides with a cold winter, carbon prices are likely to carry on rising. If oil prices also continue to rise, there could be a significant impact on the price of carbon. Intra-day trading has largely been driven by the differential in price between coal and gas prices, where it is possible to switch between the two for power generation.

Reducing CO₂ emissions

The increase in gas prices over the last year has provided food for thought for those contemplating building more



gas-fired power stations to comply with the ETS. Gas prices in the UK, for example, have been at record levels because of expected supply constraints in the coming winter, while long-term gas contracts in the rest of Europe tend to follow oil prices. In contrast coal is becoming cheaper because of falling freight rates. This means that the carbon price may have to double before switching becomes economically viable.

Another element that has also played a role in the most recent price surge include the Commission's hard-line position on several of the NAPs, in particular those of Poland, the Czech Republic and Italy. The cuts in emission allowances required by the Commission in the NAPs helped to push prices up in July.

In terms of lessons learned so far, most respondents believe that the power industry has been able to profit from the fact that it was given free allocations of allowances, and the consensus is that this free handout should not be repeated in the next phase of the scheme, post-2008. This was also the principal change that respondents wanted to see in the second stage of the ETS. Many of those questioned believed that the best way forward is to introduce an auction mechanism, something that the European Commission is actively considering.

Many power companies have benefited from high CO₂ prices, and this effect has been most noticeable in Germany, where there is a lively debate about to what extent the high CO₂ prices are affecting power prices for end consumers. The power industry has rejected claims by the former Schröder government that it is profiting from free allocations by passing on the higher costs

to consumers, but with the current political uncertainty, this dispute is not expected to be resolved in the near future.

Future EU policy

On the whole, our panel of experts believe that emissions trading is the best policy for reducing Europe's CO₂ emissions, although some feel that this should be just one of a range of initiatives, including for example taxation.

There was some disagreement about whether emissions trading will stimulate investment in more efficient forms of power generation, although there was a view that the ETS is already having the desired effect of persuading power producers to choose lower carbon solutions such as gas and renewables, especially for new plants. With the price for fuel switching from coal to gas around €21-€26 per tonne of carbon, current prices do give some incentive to power companies to switch from coal to gas, although this also depends on technology and power plant efficiencies.

There was general agreement that power producers are now having to consider CO₂ emissions when deciding on future investment. However, it is often more difficult for existing power stations to comply with the ETS, since the investment required to achieve the targets is very high. ▶



The first phase of the scheme runs until 31 December 2007. What will happen in the second phase of the scheme, which will last from 1 January 2008-31 December 2012, is currently under discussion. A review of the existing ETS is underway and the results of the review are scheduled to be published towards the end of June 2006.

The Commission is looking at how the scheme has functioned in practice and whether changes should be made, including the extension of the scheme to other sectors and gases, beyond CO₂. Brussels has recently said that aviation should be included in the scheme, if possible in the second phase of the ETS. However, the relatively short timescale for the review means that drastic changes to the ETS are not expected, and most likely the main focus of the review will be the set up for the post-2012 phase.

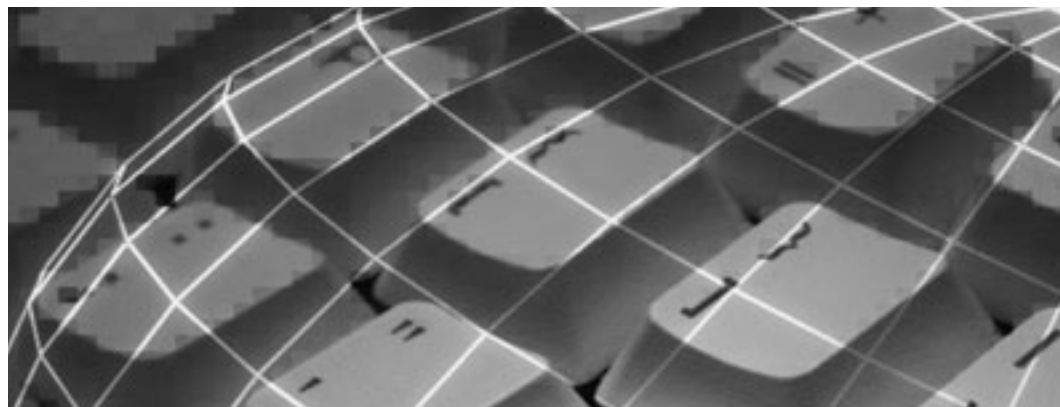
The Emissions Trading Directive (2003/87/EC) allows for other greenhouse gases and more sectors to be included in the next phase of the scheme, and the present consultation gives member states the right to determine unilaterally what they wish to do in this area. There are concerns that this could add to the current non-homogeneity of the ETS across Europe. Such a development could be particularly detrimental for new entrants, who need

certainty for investment decisions. The treatment in the second phase of the scheme of allowances that EU member states have put aside for new entrants will influence prices in the short and medium-term. However, few countries are expected to exercise their right to 'opt in' to different sectors over the next few years.

Different national interpretations of the definition of a plant have also caused some problems in the first phase, and will need to be resolved. Political considerations will also be a key price driver in the next few years. The new NAPs for phase 2 of the ETS have to be submitted to the Commission by the end of June 2006, and member states are now drawing up their new plans.

Interested parties are keen to ensure that their views are taken into account. For example UK power producers believe that their sector has had to shoulder most of the burden for cutting CO₂ emissions in the first phase, and is looking for other sectors to make an 'equitable contribution' towards emission reduction targets in the next stage of the scheme. The outcome of the new NAPs will influence company expectations on how the ETS will develop over the next few years.

After 2012 there may be further, more significant changes. Brussels is



considering the inclusion of road transport and shipping, as well as sulphur dioxide and nitrogen oxide emissions.

Market liquidity

Those questioned in our survey were divided over how important carbon trading on exchanges would be in the medium-term, compared with the OTC market. Emissions trading in spot or futures contracts in Europe is already available through Powernext in France, Nord Pool in Oslo, the European Energy Exchange in Leipzig, the European Climate Exchange in Amsterdam, the Climex Alliance across Europe and markets in Austria and Spain, and opportunities for trading are expected to grow.

By offering clearing, exchanges can in principle make it easier to trade for a growing number of market participants whose credit status and arrangements may vary widely. At present, however, brokered deals still remain more popular, with only 16% of total market share going through the exchanges in September, compared to over 30% in July and August.

New companies and new players are entering the market, and liquidity is

improving. Financial institutions such as investment banks are increasingly interested in emissions trading and are offering services to package risks for buyers and seller. Several have begun trading in recent months. One key question is whether industrial players will enter the market, since in general these are less accustomed to trading than energy companies and are also more risk-averse.

Summary

In conclusion, our panel seem agreed that the ETS has so far worked relatively well, but that the scheme has had the effect of pushing up power prices, possibly more than had been expected. The overall consensus seems to be that the EU ETS will continue to keep prices high, leading to better margins and larger incentives to reduce emissions, and that liquidity will continue to improve. Even though it is still early days in the life of the scheme, emissions trading is widely regarded as a good way of helping to achieve the Kyoto targets.

*Moffatt Associates
October 2005*



Evaluating the Performance of the EU ETS

The ETS officially started on 1 January 2005. Andrei Marcu, president of the International Emissions Trading Association (IETA), argues that the priority now is to demonstrate that the cap and trading system (ETS) can deliver a credible reduction in CO₂ emissions while ensuring that the EU remains competitive.

Setting the scene

The EU ETS has become the focus for the global debate between those advocating different approaches to addressing climate change. Therefore, a lot hangs on the success or failure of the scheme. We must therefore be able to define how the scheme should be measured. We must not be afraid to learn from the current 2005-7 phase in order to improve its performance in the 2008-12 period and beyond.

In addition, the Conference of Parties to the Kyoto Protocol (COP) in Montreal is rapidly approaching and with it the start of a round of negotiations for the post-2012 period. The success of the EU ETS will be an important component in the future of market mechanisms in the post 2012 trading environment.

Success criteria

How do we define the success of the EU ETS? Its objectives are clearly environmental, but its success will depend on more than meeting these objectives. This means helping the EU meet its targets under the Kyoto Protocol, while at the same time addressing the EU's Lisbon Agenda on competitiveness. A basic measure of success will be to ensure that company culture in Europe changes and that carbon prices are taken into account when operational and asset investment decisions are made.

In essence, the success of the EU ETS will rest on whether it can deliver; price discovery; put a price on a tonne of CO₂ reduction; provide price signals for the development and deployment of low carbon technologies; and enable the EU to move forward on the path to a low carbon intensity economy.

An additional criterion for judging the success of this approach is the vote of confidence that it will/will not receive from society at large, in Europe and elsewhere. Poor functioning of this market, including real or perceived abuses, the credibility of environmental delivery, and the risk of significant economic disruptions will affect the outcome. Excessive price volatility will have to be explained to the public – it is not just another market, it is a bold but still fragile experiment, closely scrutinised by friend and foe, but for opposite objectives. ▶



The experience of the National Allocation Plans (NAPs) is behind us, with some important exceptions. The experience and success of operating the market, of getting the infrastructure in place, of getting all the players in the market is yet to come. So far there is a lot that still needs to be done.

The operation of the emissions trading market

It is too early to judge the outcome at this stage. On the critical issue of company behaviour there is little doubt that the price of carbon is now a key consideration when business decisions are made in Europe.

We are seeing some significant changes. In the past the market responded to political and regulatory signals but what we see now is a market driven by fundamentals – gas and coal prices and weather conditions. Figure 1 shows the CO₂ certificate (EUAs – EU Emission Allowances) traded volumes and prices for 2005. There has been price volatility and a price spike but that is something that was experienced in the UK ETS with prices settling at much lower levels once all systems were in place. Such volatility is also typical in new and thinly traded markets.

We still see limited liquidity with some of the main players being natural traders, especially the power companies covering their positions. The entry of a number of liquidity providers is an important signal. While volumes are increasing in exchange trading there is likely to be the need to rationalise the number of existing exchanges – there are simply too many of them for the level of trading to support this level of infrastructure.

This fragmentation does not help in a market that is short of liquidity.

The lack of liquidity can be attributed to a number of factors. The lack of a complete infrastructure is an important one. Many of the new Member States, which are long on CO₂ certificates, do not have registries in place, and as such no certificate users in their registries. The credit rating of companies in that part of the world is not well established, if at all, which makes forward trading more complicated. In addition, there is a lack of experience and staff to handle trading. The fact that the International Transactions Log (ITL) has not come on line to verify transactions of emissions reduction units (ERUs) and certified emissions reductions (CERs) will inhibit the emergence of a spot market. This clearly impedes many of the companies that are long from entering the market.

It is unclear to what degree industrial companies that may be long have been selling into the market at the current price. Many of them are not inclined and may not have the experience to participate at this time, but there is anecdotal evidence that they are testing the waters, via their energy traders or by retaining financial institutions or others that have more experience of trading.

By and large, it seems that power companies are selling forward and



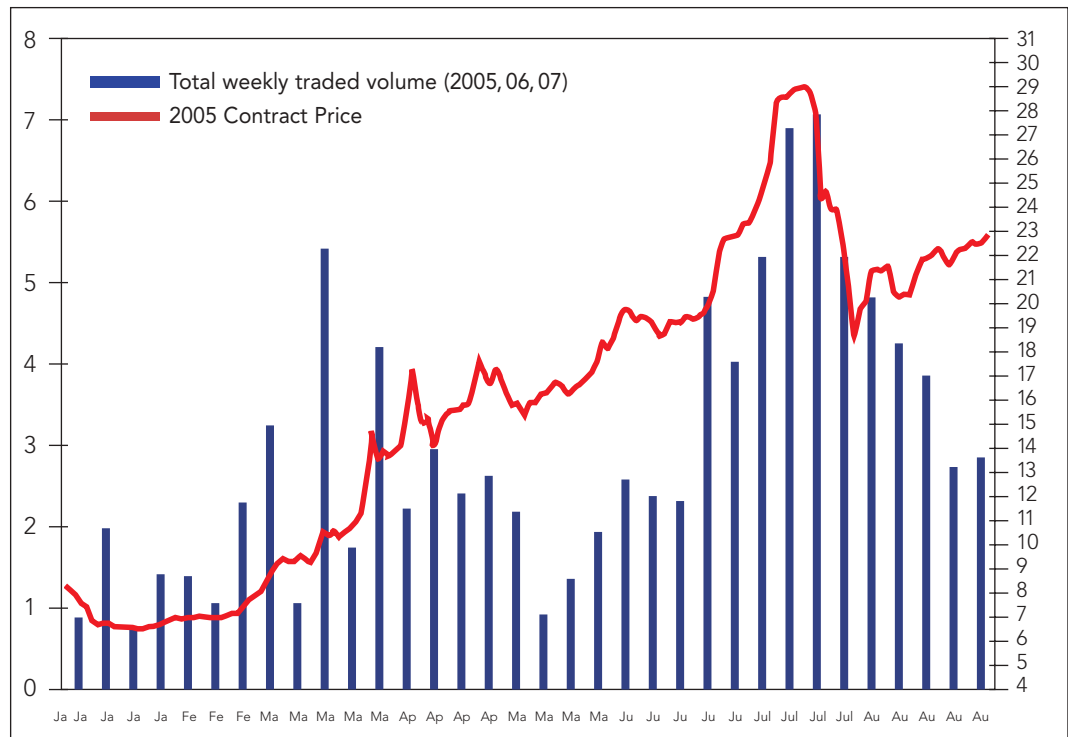
covering their positions. Given the high price of gas there has been no switch between gas and coal and the argument has been made by respected market players that prices will have to hit 70 euros for that switch to take place. Industrial companies in Europe will not be able to absorb such a high energy cost and stay competitive.

One could argue that as markets respond to the signals they get at any time, this market is showing an imbalance between demand and supply. Demand is expected to be about 220 million tons for the period 2005-7 in the EU. This does not suggest a significant shortage.

The main reasons for supply shortages have been outlined above. Another factor

restricting supply is the lack of CDM and JI credits (i.e. emissions credits derived from investing in emissions reduction technologies in developing economies). While there is an expectation that 50 million CERs are waiting to get in the market, regulatory uncertainty means that the market is not recognising this potential supply. One exception may be CERs from industrial gases. Given the methodologies approved, the risk seems much lower and there could be temptation to go short on certificates at a price of around 20 euros on the expectation of CERs at seven to ten euros. One encouraging development is the increasingly strong presence of the private sector in the CER market, a reversal from the time when the World Bank was the only player.

Figure 1 – CO₂ Certificates (EUAs)
– Volume (in millions) and Price (in euros)



Source: Natsource Europe Ltd

Looking to the future

The coming months are critical for a number of reasons. 1 December 2005 is the first contract settlement date and we will then see how physical delivery is expedited. Part of the push for completing the infrastructure will have to take place at the COP in Montreal – specifically the ITL. Business will lobby hard to get this done ahead of the current 2007 timeline. It is hoped that the registries will be on-line soon and that the COP will unlock the CDM and will give prompt start to Joint Implementation. In addition, the demand/supply imbalance will be alleviated if there is strong indication that Green Investment Schemes will become reality and will be used for sovereign compliance, thereby freeing CERs and ERU for corporate compliance.

The last few COPs have been uneventful but the Montreal COP has an important agenda for the business community, especially those who believe in the use of market signals to tackle climate change.

Andrei Marcu is President and CEO of the International Emissions Trading Association, a business association with offices in Geneva, Switzerland and Toronto, Canada.

IETA includes organisations such as bp, Shell, Tokyo Electric, Ontario Power,

Dupont and TransAlta, and is dedicated to the creation of an efficient and environmentally robust market for greenhouse gases to address the issue of global warming and climate change.

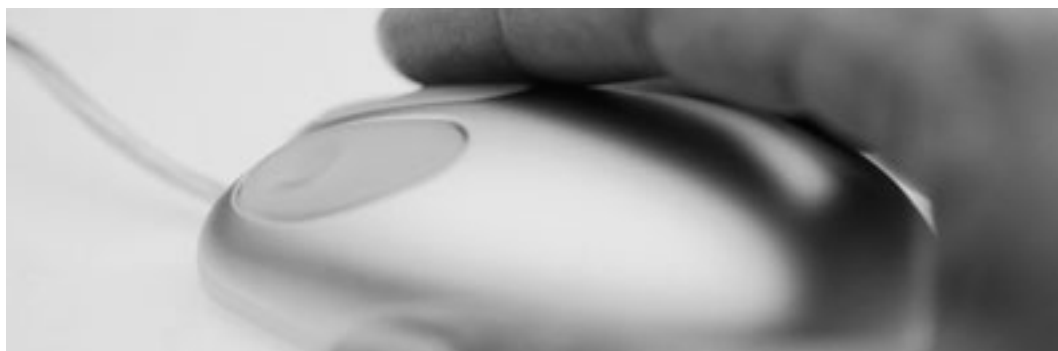
Andrei spent most of his career in the power industry with Ontario Hydro in Toronto, Canada where he was involved in contracts, energy efficiency, regulatory affairs, and international operations.

As Deputy Managing Director of the E7 and Chair of the Climate Change Subcommittee he has had the opportunity to work on issues related to sustainable energy development in a sector critical to development and in implementation of Agenda 21.

He has also worked in the field of development as Manager of Private Sector Co-operation in the United Nations Development Programme, where he has pioneered co-operation between the UN and multinational corporations.

Andrei holds a degree in electrical engineering from McGill University in Montreal and an MBA from the University of Toronto.

Please note that the views expressed in the above paper are those of the author and do not necessarily represent the views of IETA or its members.



Will the ETS Survive its own Success

Europe is leading the way in using market forces to reduce environmental pollution. However, according to Axel Posthumus, CEO of New Values, the current high price of CO₂ certificates means that Governments are under pressure from industry to take steps to minimise the impact of the EU ETS on power costs and competitiveness.

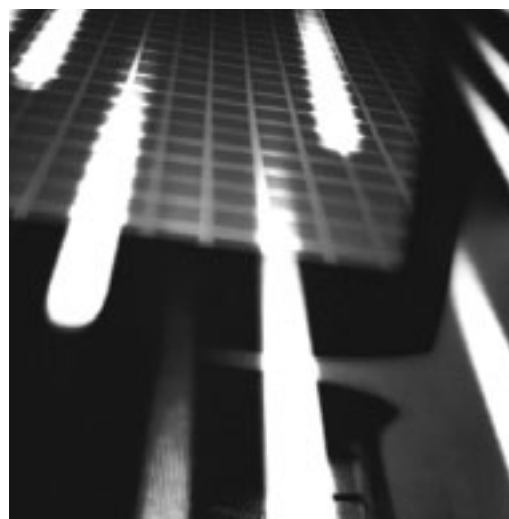
It's a great idea to control the freedom of industry to pollute the environment – by allocating a limited number of free, transferable CO₂ certificates and creating a market with the intention of allocating a cost associated with emitting CO₂ and therefore incentivising industry to use cleaner technology.

The new EU ETS started 1 January 2005 and in total 2,273 million tons of CO₂ certificates (EUAs) have been issued to companies throughout Europe. 94 million tons of EUAs have so far been traded up to September 2005 (4%). This is a good result, considering the fact that only 11 out of 25 registries are active, which results in a large number of EUAs not being available combined with the fact that most industries are not yet actively trading. Nobody can deny that the CO₂ emissions market has arrived.

It is clear that only a small part of industry has been active so far, but banks in general have jumped at the opportunity to get their share of this new market. Prices are much higher than expected. Around 6 Euros in January, but in May, prices had increased to over 30 Euros per tonne of CO₂. Since then, prices have fallen again down to 22 Euros but are still a lot higher than expected. European Commission research has showed that it

should not cost the EU more than 20 Euros per ton to comply with "Kyoto".

The link to other related products is also becoming more apparent. Because of the rise in oil prices, the price of gas increased as well. Therefore, it is cheaper to burn coal instead of gas. But by burning coal, pollution increases and more CO₂ emission certificates will be required. Not only is it necessary to buy more EUAs but the price is rising because of the increase in demand. Should this continue, and the general expectation is for oil prices to remain high, then more companies, particularly in the power sector will all fall short of EUAs. This will force up the price of EUAs even further. Already, power producers are warning of further rises in power prices. ▶



An increase in prices was what politicians intended when they introduced the system. But the extent of price effect, can lead to second thoughts in politics, especially when the consumer (read: the voter) is hit financially. And there is also the impact on economic growth which leads to more production, more pollution and an increase in the demand for EUAs.

Plenty of reasons therefore for Governments to want to tinker with the ETS. However, the potential adverse effect on the market is evidenced by what happened with the Green Certificates in the Netherlands. This was also a successful market, but there were a few adverse side effects and because of Government intervention, the price of a Green Certificate dropped from 30 Euros to 30 Eurocents per MWh and the market collapsed. Let us hope Europe is not going in the same direction. The

environment and therefore all of us, would be the main loser.

Axel Posthumus is CEO of New Values, a network organisation to which various parties contribute their expertise. It is owned by the Rabobank and TenneT.

The trading platform "Climex", launched by New Values, offers free of risk spot trading in CO₂ allowances and Kyoto certificates and bilateral forward trading and has been operational from the end of June 2005.

Climex is unique because it is easy to use, and at low cost, for both small and large traders through a secure internet connection. Climex provides anonymous matching between buyers and sellers and functions as a central counter party covering settlement risks. ■



Trends in European Energy Quarterly Survey (Autumn 2005)

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

This regular 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 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 September and October 2005.

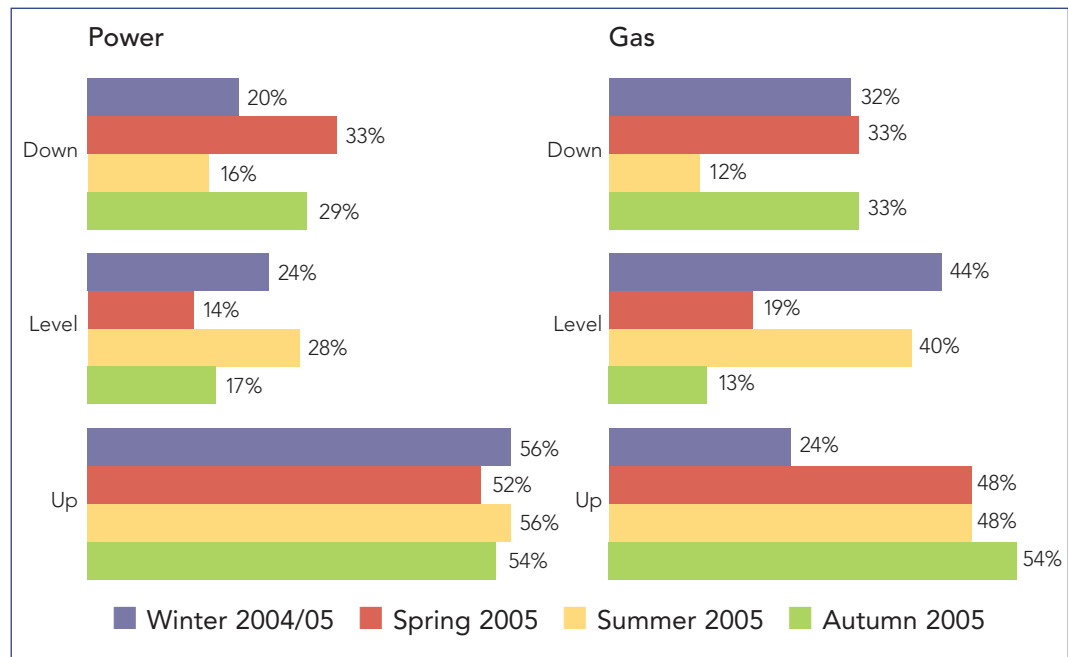
This quarter we received contributions from 25 senior market participants from 9 European countries (Austria, Belgium, Germany, Italy, the Netherlands, Norway, Spain, Switzerland and the UK).

The key findings are as follows:

Price Trends

- A growing number of energy market experts predict that spot power prices across Europe will fall over the next year (so said 29% of respondents, up from 16% last quarter) but the majority view continues to be that **spot power prices** ▶

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



will rise further (said 54%). **Forward power prices** will continue to rise (said 46%, down from 60%). The most popular opinion for European **gas prices** over the next year was again that they would increase – both for spot (said 54%) but also for forwards (said 38%, with 33% saying they would be level).

Looking at **power prices** in the four regional markets covered in-depth by the survey, **Germany** was expected to have sharply rising prices both in the short-term (the next 6 months) and in the long run (the next three years). Predictions for **Scandinavia** were for there to be modest increases in the short-term and fairly stable prices throughout the next three years. In a slow-down from the previous quarter, the **UK** was forecast to experience only moderately rising power prices both in the short-term and the medium-term, while the **Netherlands** will experience slight increases in the medium-term, followed by steeper increases in the long-run.

- For **gas prices**, it was anticipated that **Germany** would have sharply rising prices over the next 6 months but would see much smaller increases, or even no increases at all, over the next three years. **Scandinavia** was thought to be due stable, or slowly increasing gas prices in both the short- and the long-term. The **UK** was expected to have

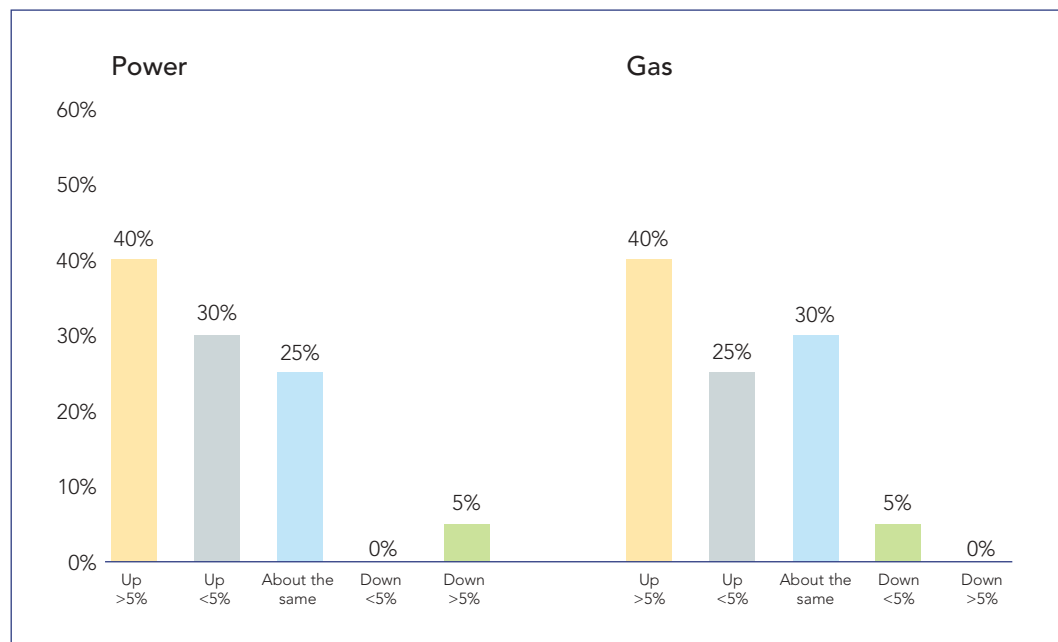


moderate (or, possibly, quite sharp) increases in both the short- and the long-term. The **Netherlands** would witness gradual price increases in the short-term, and a similar trend was also predicted for the next three years.

Market Developments

- Fewer market developments than usual were expected throughout the next 6-12 months, with no single issue being seen as paramount. One feature which attracted several comments was development of the Belgian Power Exchange, and how that should accelerate market convergence and integration; overall, it was expected that power exchanges could see greater volumes traded – and possibly consolidation. Other themes were continuing high prices, the EC's probe into liberalisation, and the politics surrounding carbon trading.
- Five key factors exerting **pressure on energy prices** were analysed, and three were seen to be driving up prices over the next five years: environmental pressures, movements in fossil fuels, and industry consolidation. Against this, both market liberalisation and infrastructural developments were contriving to depress prices. Of these five influences, movements in fossil fuel prices was easily thought the most influential, followed by environmental pressures.
- As per last quarter, respondents said that, on average, 33% of their company's traded volumes were **cleared**.
- Expectations continue to be held that **market trading activity** will increase for power over the next two quarters – a view subscribed to by 70% of

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



respondents. Those expecting an increase in gas trading represented 65% of respondents.

- The pace of pan-European **consolidation** was that it continues to be steady in the gas industry (so said 70%) and is still increasing in the power sector (said 55%).
- Further energy market liberalisation will be obstructed by several **constraints**, led by political constraints and followed by resistance by key incumbents, and to a lesser extent by legal constraints.
- The national **network access regimes** continue to be regarded as a constraint in European energy trading – both for power (said 85%) and even more so for gas (90%).

Special topic: Emissions Trading

Each issue a different special topic is examined, with additional questions put to the Panel. Last quarter LNG (Liquefied

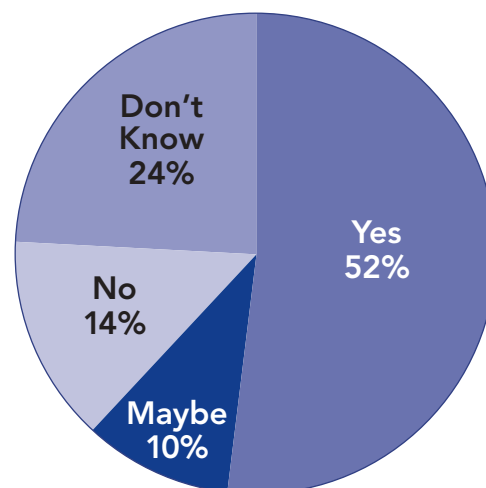
Natural Gas) was considered, and this time our focus is on **Emissions Trading**.

- The CO₂ emissions reduction targets for the EU were generally agreed to be plausible, indeed some said “*perfectly so*” arguing that, in fact, they have to be plausible “*because it’s the law. They will be plausible as long as people stick to the agreement*” – but there were a few strong dissensions, such as “*no, they are not credible, unless you want to bankrupt the whole energy sector!*”
- The EU’s Emission Trading Scheme (ETS) has broadly been regarded as a success to date, with many respondents feeling that it has been “*very successful.*” Some qualified their answer, saying that the launch was a success, and the Scheme has “*been implemented correctly and functions well*” but that it has not actually started to achieve its stated aims. A number of respondents thought that the principal lesson to be learned ►

was *“that it’s not a very good idea to give free allocations to utilities,”* especially at a time when consumer prices were rising.

- The ETS has had *“a significant impact”* on power prices, causing (some say) *“an enormous”* rise this year as *“the value of emissions has been factored into power prices.”* There was also a strong consensus that, after the second phase of the ETS from 2008, prices will continue to increase: *“it’s having a heavy impact on energy prices, and this will be even more so after 2008”* and *“if politicians stick to the targets, I expect power prices to rise more.”*
- When considering recommended changes to the next phase of the ETS, two points were widely articulated: *“one thing is for the power sector not to have any free allocation,”* and *“there should be more transparency in the allocation process,”* for example, *“with countries declaring their allocation at the same time, rather than in a staggered way.”* There were also calls for a more long-term perspective: *“There should not just be a 4-5 year window – if you want to abate you need a view going forward over 20 years, and decisions need to be taken over this period.”*
- Supporters of emissions trading argued that *“it is the most efficient policy because the market can decide on the most efficient facilities”* and *“it is a good market-driven idea.”* One detractor, however, thought *“No, it is not the best: Taxation is the best,”* while others noted that emissions trading had to exist along with *“other incentives as well.”*

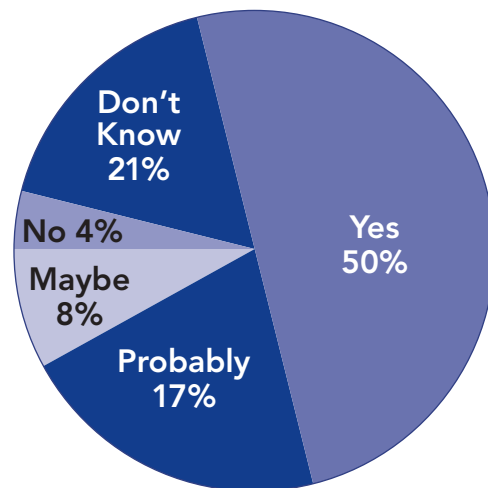
Is emissions trading the best policy for reducing Europe’s CO₂ emissions?



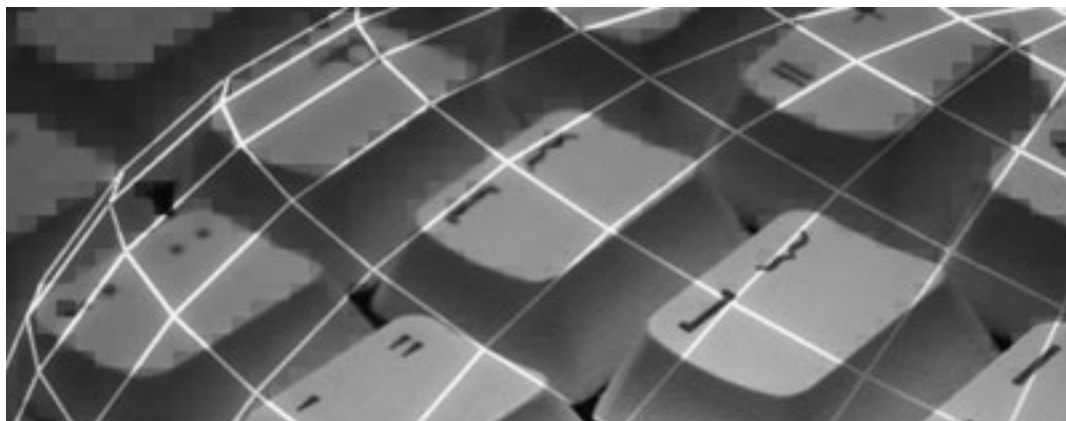
- Respondents were also asked whether emissions trading will stimulate investment in more efficient forms of power generation, and the majority thought that this would be the case: *“This is happening already,”* *“Yes, but in the longer-term,”* and *“Yes, once the market reaches equilibrium”* were typical comments. Some respondents stressed that such investment would only materialise in the long-term, since *“existing power plants will find it more complicated to adapt to the new targets because the investment required to achieve the targets is very high.”* Among the few who dissented, there were claims that it was impossible *“to build any kind of power plant based on a 4 year window... there has to be a longer-term political decision.”* ▶



Will emissions trading stimulate investment in more efficient forms of power generation?



- There was a mix of opinion concerning the importance of carbon trading on the exchanges compared to the OTC market. Whilst some argued that “we are stuck in an OTC world,” which is “quicker and dirtier because of the credit issues,” an equal number countered that “most players like to go through the exchanges as it costs less,” and “exchanges will be better than the OTC market,” but that this might only emerge after “a battle between the big players [from which] one predominant player will emerge.” ■



APX News

Continued growth of APX Group volumes in Q3

APX Group again saw growing volumes in Q3 2005 compared to the same quarter for the previous year. September was a record month for APX Gas UK, with a total traded volume of 11,861 GWh gas, an increase of 39% compared to September 2004 (8,484 GWh). The total volumes for the third quarter, 29,359 GWh, were up by 28% on Q3-2004 figures. The UK power exchange UKPX saw a raise of its volume by 11% this third quarter. Where 1,802 GWh was traded in Q3 a year ago, a total volume of 2,000 GWh changed hands over the UKPX Spot and Prompt market this year. In the Netherlands, the power exchange APX saw its growth continued as well, with a rise of its volumes by 5.5% on the third quarter last year.

The continental Gas Exchanges APX Gas NL and APX Gas ZEE welcomed many new members, including Gazprom Marketing & Trading, ENI UK, Huberator and BP bringing the total respectively to 15 and 8 members. For more details, please visit the new integrated website www.apxgroup.com



BELPEX Day-Ahead: 12 January 2006 conference

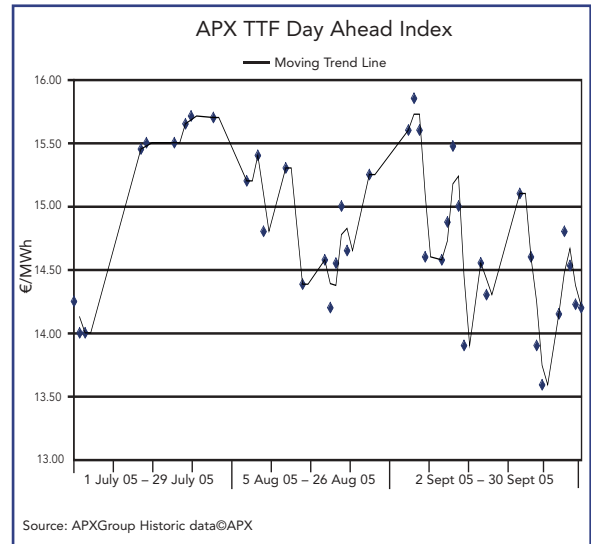
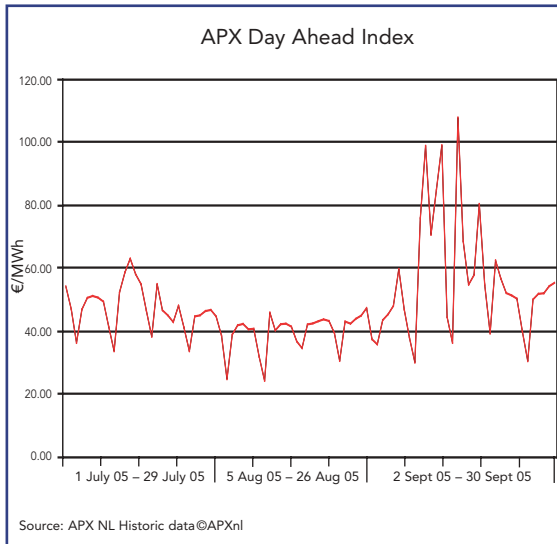
Start of Day-Ahead Market planned in Q2,
Belpex will deliver VPPs from 1 Jan

The start of the day-ahead trade of electricity on Belpex, together with the market coupling with APX and Powernext is planned in the second quarter of 2006. A conference day on these issues, including information on the procedure and how to become a member to the Belpex day-ahead market, will be organized on January 12, 2006 in Brussels. The actual launch of the coupled day-ahead market and, prior to that, the start of the procedure for the Belpex day-ahead market, is subject to certain regulatory and governmental approvals.

Belpex starts offering the VPP services in Belgium from 1 January 2006. The details will be explained during the bidders conference on December 1, 2005. Electrabel offers VPP capacity to the Belgian market through the organization of auctions.

Belpex' main shareholder is the Belgian TSO Elia with a 70% participation, whereas the Dutch and French energy exchanges, respectively APX and Powernext and the Dutch TSO Tennet hold 10% each. The French TSO RTE is considering acquiring a 10% participation from Elia. ■

APX Indices



APX Day Ahead Average Prices

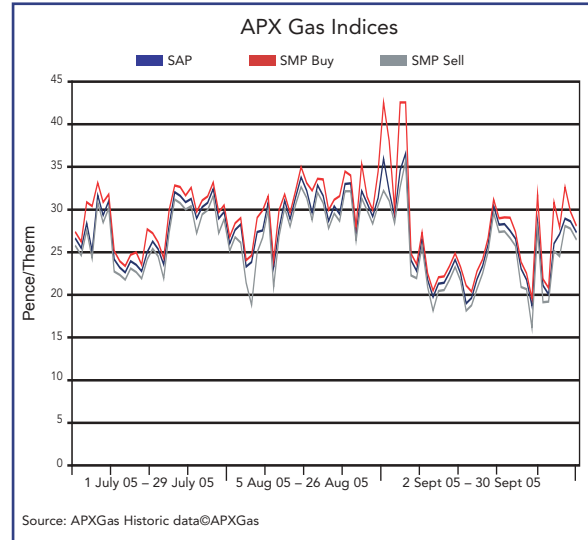
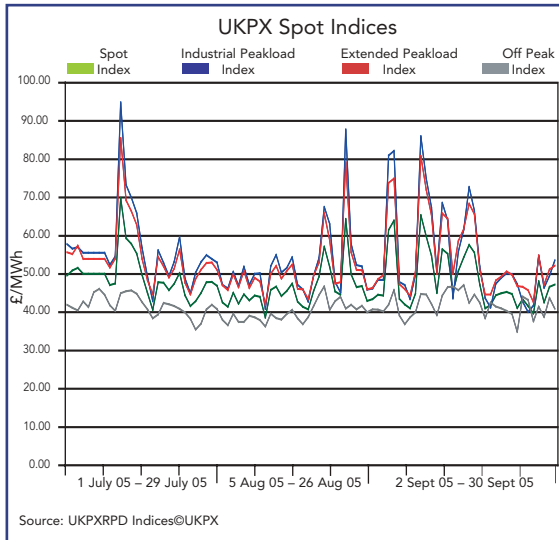
The APX published average prices are comprised of base load, off peak and peak load (07.00-23.00) prices based on the average price (in Euro/MWh) of Dutch power traded every day on APX for delivery the next day. Weekend prices are only comprised of base load prices and volumes.

APX 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



UKPX Spot Indices

The UKPX Spot Indices are based on UKPX 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 UKPX.

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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