



Quarterly Report on European Gas Markets

- MARKET OBSERVATORY FOR ENERGY

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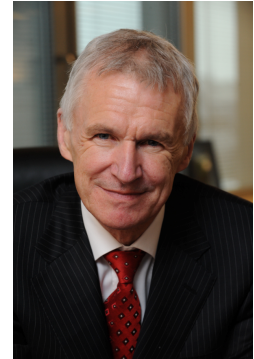
Directorate-General
for Energy





EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ENERGY

Director-General



Dear readers,

The fourth quarter of 2010 signalled a return to pre-crisis levels of natural gas consumption in the EU, supported by inordinately cold weather and continued economic progress. The consequence was a considerable increase in traded prices of natural gas, such that by the end of the year, the large gap that had been observed in the previous quarters between traded prices and Long Term Contract prices had all but disappeared in a number of markets.

In contrast, prices for LNG delivered to EU shores remained relatively low. This further contributed to the attractiveness and importance of LNG as a supplementary source of natural gas to the EU, and the consequent decoupling between US and EU traded gas which we highlighted in previous issues was therefore still very much apparent.

An important new regulation on the Security of Gas Supply entered into force on the 2nd of December 2010. It calls on Member States and gas companies to be fully prepared in case of supply disruption, through clear and effective emergency plans involving all stakeholders and incorporating fully the EU dimension of any significant disruption in the spirit of solidarity. In addition, Member States and gas companies are encouraged to coordinate their preventive actions and emergency plans at regional and European levels, while companies will have to be able to deliver gas for at least 30 days of average demand as well as in the case of an infrastructure disruption under normal winter conditions. The regulation, which we present in our "*Focus on*" section, should allow the EU to better cope in instances of disrupted gas imports by fostering a more coordinated approach in order to guarantee citizens across the EU stable and secure energy supply.

On behalf of the editing team, I would also like to kindly invite you to fill in the questionnaire on *Quarterly Reports on European Gas Markets* in case you have not done so yet. The questionnaire is available here:

http://ec.europa.eu/energy/observatory/index_en.htm

Philip Lowe

HIGHLIGHTS

- Ø Historically low temperatures and continued economic progress brought about strong increases in demand for gas as well as day-ahead gas prices across Europe in the fourth quarter of 2010. EU27 gas consumption for the quarter was equivalent to pre-crisis levels. Day-ahead price levels by the end of the quarter of between 24 and 25 €/MWh across European hubs had last been recorded at the beginning of 2009, before the crisis had a significant impact on European gas consumption and prices.
- Ø The increases in hub day-ahead prices in the fourth quarter, from averages of less than 19 €/MWh to close to 25 €/MWh, exceeded increases in long term oil-indexed gas contract prices. The increases were such that the significant gap that had been observed between the two types of gas contracts since 2009 up to the third quarter of 2010, closed considerably. In some instances, hub day-ahead prices even exceeded certain Long Term Contract gas prices by the end of December 2010. This could for instance be observed in Germany, France, Austria and Italy.
- Ø In contrast to LTC and hub day-ahead prices, prices for LNG delivered to Europe remained competitive, in particular in the UK and the Iberian Peninsula, where these averaged over the quarter at between 16.8 €/MWh and 19 €/MWh.
- Ø Gas storage was heavily relied upon in order to meet the high gas demand. Gas storages in many parts of Europe were however far short of being fully replenished ahead of the period of high demand experienced in the fourth quarter. This led to uncertainty over whether the necessary gas supplies could continue to be maintained during the course of the cold season, which further added pressure on both the day-ahead and the near-term forward curve, such as Q1 2011 prices. By the end of 2010, storage levels were particularly low in places such as the UK and France, which registered less than 50% storage levels. In comparison storage levels were above 80% at the end of 2009, despite the cold winter conditions that were also experienced in Europe at that time.
- Ø The new Regulation on the Security of Gas Supply entered into force on the 2nd of December 2010. The new regulation calls on Member States and gas companies to be fully prepared in case of supply disruption, through clear and effective emergency plans involving all stakeholders and incorporating fully the EU dimension of any significant disruption in the spirit of solidarity. In addition, Member States and gas companies are encouraged to coordinate their preventive actions and emergency plans at regional and European levels, while companies will have to be able to deliver gas for at least 30 days of average demand as well as in the case of an infrastructure disruption under normal winter conditions.

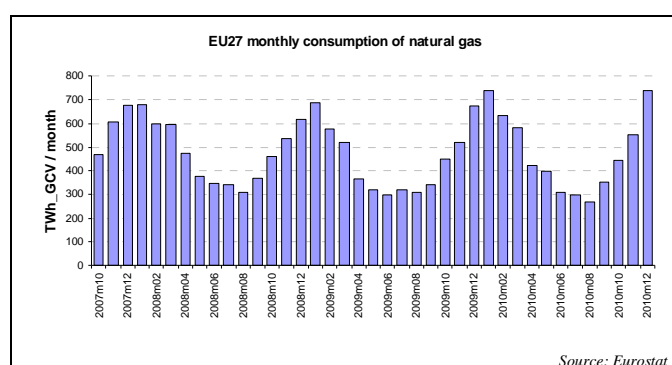
QUARTERLY REPORT ON EUROPEAN GAS MARKETS

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A. Recent developments in the gas markets across Europe

A.1 Gas consumption, production and imports

2010 fourth quarter EU gas consumption reached 1,734 TWh, well in excess of the fourth quarter consumption levels recorded in the two previous years, of 1,641 TWh in 2009 and 1,612 TWh in 2008. This contributed to EU 27 gas consumption for the whole of 2010 which reached 5,734 TWh, comparable to pre-crisis levels. For comparison, EU gas consumption reached 5,370 TWh in 2009 and 5,700 TWh in 2008.



Consumption was particularly high in December, exceeding levels recorded in previous years for the same month by nearly 10% compared to 2009, and by as much as 19.6% compared to 2008. November consumption levels also exceeded that recorded for the same month of the two previous years.

Cold weather was an important driver of gas consumption, as can be seen in the table below, which shows that the number of heating degree days (HDD¹s) in the fourth quarter of 2010 exceeded not only the equivalent quarter of the two previous years, but also the 25 year long-term average.

| EU 27 Heating Degree Days in Q4 Values for 2008, 2009, 2010 and 1980 – 2004 average | | | |
|---|---------|----------|----------|
| | October | November | December |
| 2008 | 221.93 | 372.18 | 483.96 |
| 2009 | 249.62 | 318.69 | 520.91 |
| 2010 | 269.28 | 385.58 | 609.43 |
| LT avg. | 236.95 | 391.82 | 512.14 |

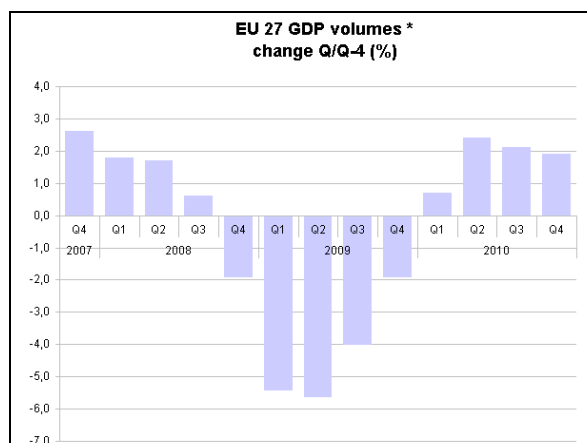
Source : Eurostat / JRC

Another driver of gas consumption besides the weather was the continued economic recovery. In the fourth quarter of 2010, EU-27 GDP increased by 2.1% compared to the same period in 2009.

EU imports of natural gas in the fourth quarter of 2010 reached 1,291 TWh, exceeding levels reached in the equivalent quarter of the three previous years. Gas imports for the quarter were lower than gas consumption levels, in contrast to the previous quarter, when import levels

¹ Heating degree days (HDDs) express the severity of a meteorological condition for a given area and in a specific time period. HDDs are defined relative to the outdoor temperature and to what is considered as comfortable room temperature. The colder is the weather, the higher is the number of HDDs. The 'long term average' is the average HDD value for the years between 1980 and 2004. These quantitative indices are designed to reflect the demand for energy needed to heat a building.

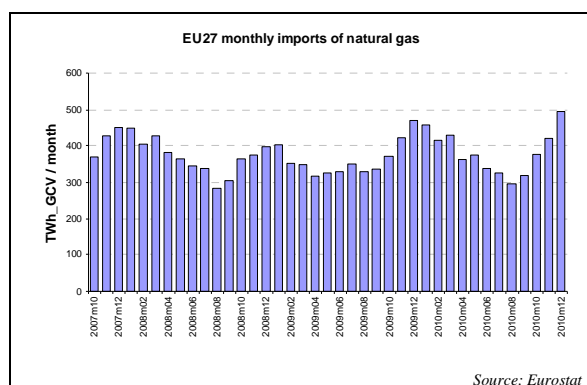
exceeded consumption as gas storages were being replenished in preparation for the high demand of the winter season.



Source : Eurostat.

Selected Principal European Economic Indicators

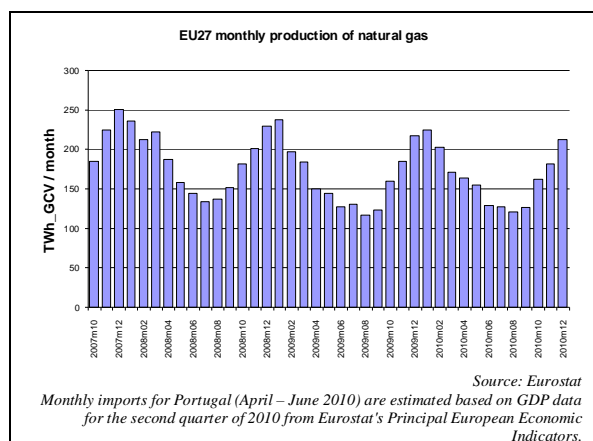
* Gross domestic product (GDP) at market prices is the final result of the production activity of resident producer units. It is defined as the value of all goods and services produced less the value of any goods or services used in their creation. Data are calculated as chain-linked volumes (i.e. data at previous year's prices, linked over the years via appropriate growth rates). Growth rates with respect to the same quarter of the previous year (Q/Q-4) are calculated from raw data.



Source: Eurostat

Fourth quarter 2010 levels of gas production in the EU were lower for the third consecutive fourth quarter, thereby further extending the trend of declining levels of EU gas production. Falling domestic production in combination with higher levels of consumption than imports meant that storage withdrawals were

heavily depended upon during the fourth quarter to meet demand. This is examined in more detail in the section on storage.



A.2 Wholesale markets

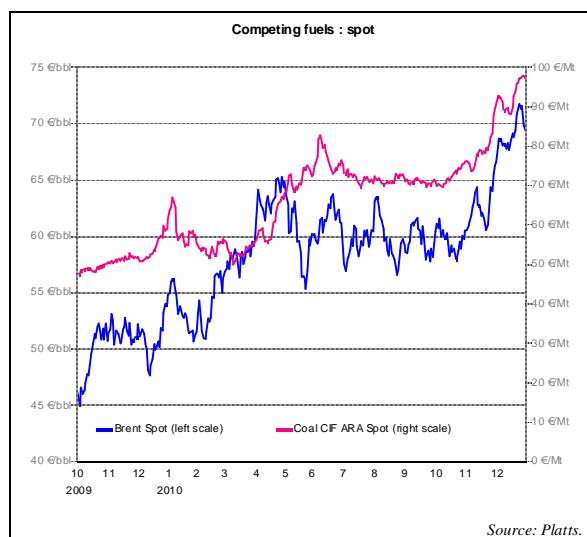
A.2.1 EU spot gas markets

A.2.1.1 Overview

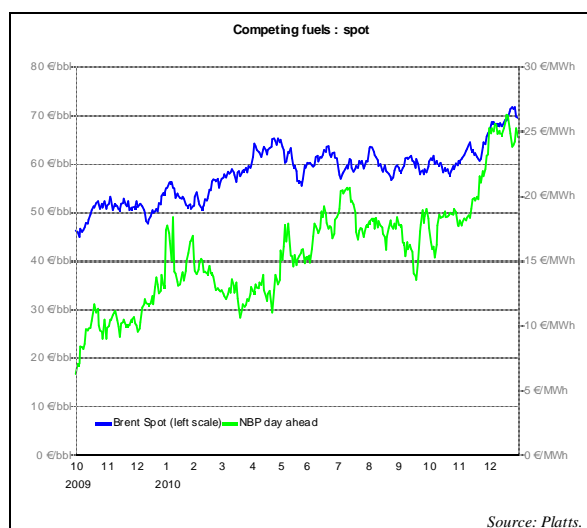
After a stable third quarter, the price of Brent and the price of Coal CIF ARA² increased quite significantly in the fourth quarter. The monthly average price of Brent reached 69 €/barrel by December, up from slightly less than 60 €/barrel in September. Coal increased by more, recording a December average price of 92.7 €/Mt compared to 71 €/Mt in September.

The graph below which plots the price of NBP spot gas against Brent spot also

shows an increase in spot gas prices, in line with other energy commodities.



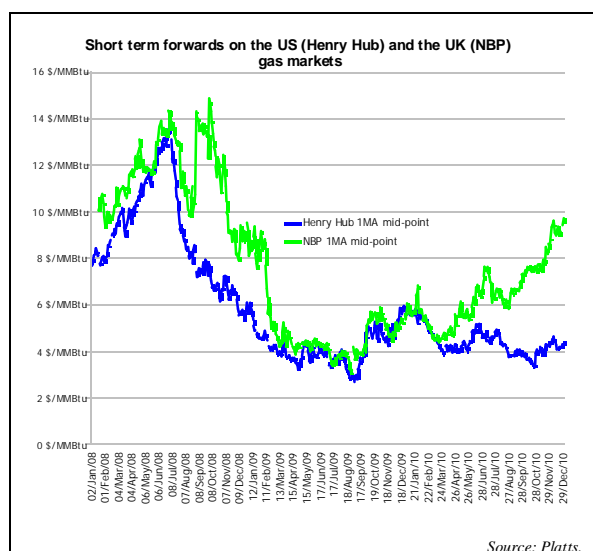
The NBP spot price achieved an end of year level of close to 25 €/MWh, after trading at less than 19 €/MWh for most of the preceding quarter.



² Price for a metric tonne of coal (calorific value of 6,000 kcal/kg) delivered at the Amsterdam-Rotterdam-Antwerp area including the cost of the coal, insurance cost and the cost of freight to the estimation.

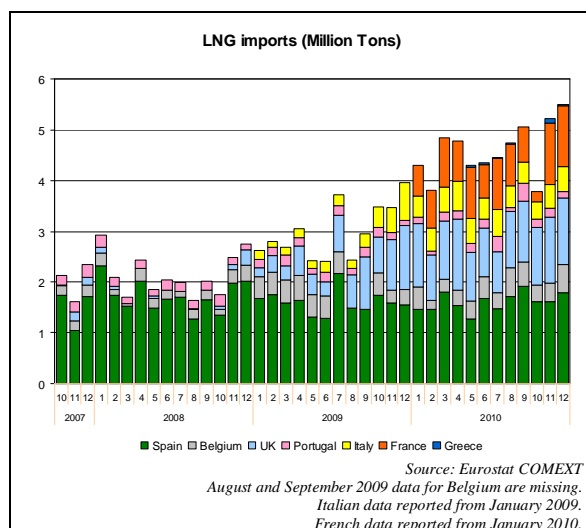
The key common justification for this drive in gas prices during the final quarter of 2010 was the early onset of winter and cooler than average temperatures across Europe.

In contrast, US gas prices have remained subdued, with the more accentuated upward trend in the NBP having further contributed to the decoupling between the two hubs which was reported in the last issue.



The growth of natural gas production in the US was highlighted as among the reasons for this decoupling, and for contributing to a reduction of the US demand for imported LNG. The consequence has been that more LNG has been available for the European markets, providing additional supply to spot gas traded on the European hubs.

While monthly volumes in LNG imports grew in November and December compared to the preceding quarters, strike action during the month of October to protest against pension reform in France led to significant falls in LNG deliveries to the country as strikers blockaded two LNG terminals there for a number of days during that month.

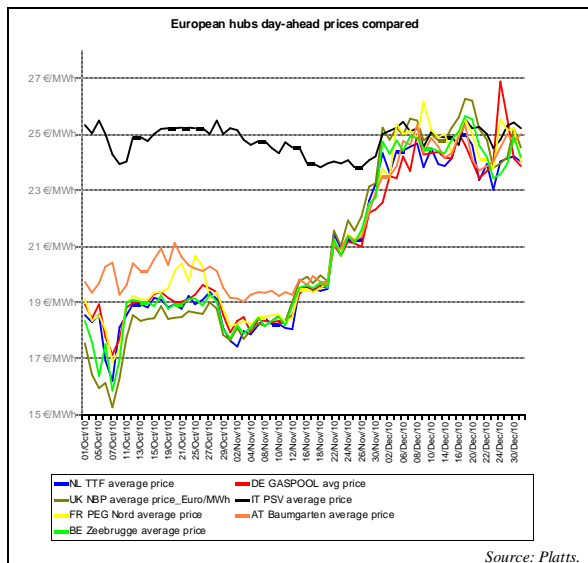


Looking at the evolution of prices of spot gas on European hubs during the fourth quarter, it can be seen that these followed a generally upward trend, as was the case for the NBP spot price which was highlighted above. Thus, after a third quarter of relative stability, the price of spot gas across the EU once again recorded impressive gains, as in the second quarter.

Observing the data for each month individually, it could be seen that price levels went up during the month of November, while October and December prices, though more volatile, did not change significantly between beginning and end of month.

The usual exception was the Italian PSV price level, which began the quarter at a much higher level than other hubs, and continued to trade for the remainder of the quarter at a relatively comparable level. This means that by the end of the quarter, prices on other hubs had caught up with the PSV hub price.

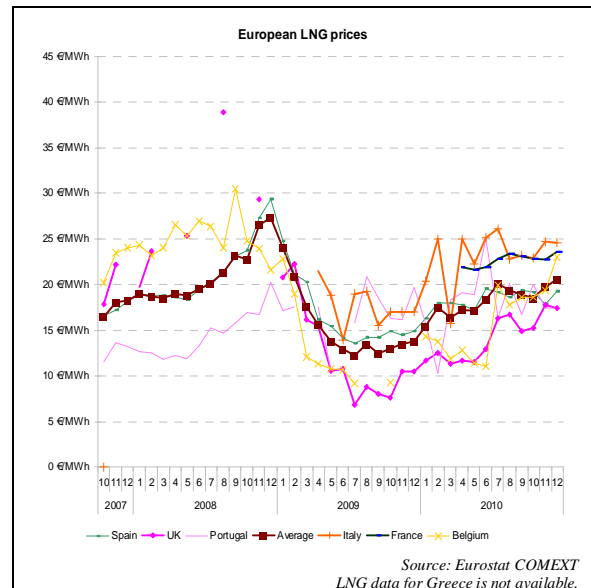
Thus, at the beginning of the fourth quarter, while European hubs (excluding PSV) traded in a relatively tight range of between 16.4 and 19.7 €/MWh, by the end of the quarter, all hubs had reached a price level of between 23.9 and 25.2 €/MWh. Such a level of prices across European hubs was last recorded at the beginning of 2009, before the crisis took its toll on European gas prices.



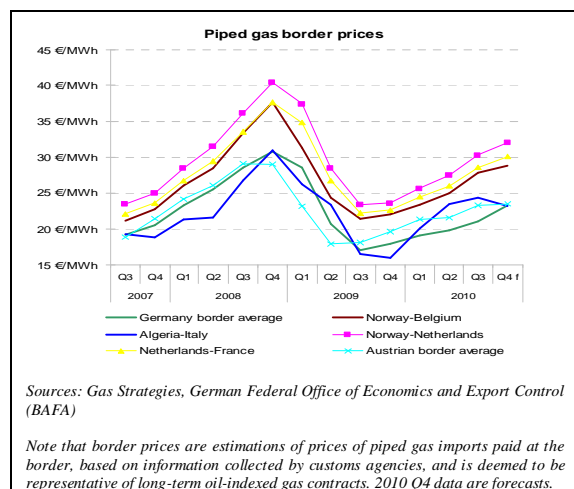
A.2.1.2 Gas contracts and pricing mechanisms

As was said above, European spot gas prices reached fourth quarter highs of around 25 €/MWh from lows of less than 20 €/MWh recorded at the beginning of the period.

In contrast, monthly average spot LNG in the EU for the fourth quarter of 2010 traded in a price range of between 18.5 and 20.6 €/MWh and an average price of 19.6 €/MWh for the period. This is only slightly above the previous quarter's average price of 19.4 €/MWh.

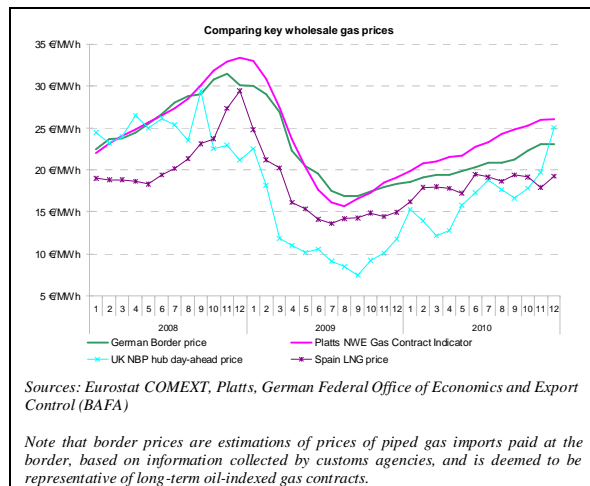


Looking at a selection of border prices for piped gas in Europe, shown in the graph below, reveals an average price of 26.8 €/MWh for the quarter, from a fairly wide range of between 23.3 and 32 €/per MWh. The range for the same selection of border prices in the third quarter was between 21 and 30.3 €/per MWh, for an average price of 25.9 €/MWh.



In the following graph, a selection of different wholesale price contracts for

natural gas in Europe are plotted against each other for a closer comparison.



In the last issue, it was observed that prices for spot gas on European hubs in Q3 2010 traded at levels comparable to LNG prices, both of which were significantly cheaper than border prices of piped gas, generally considered to be representative of long-term oil-indexed gas contracts.

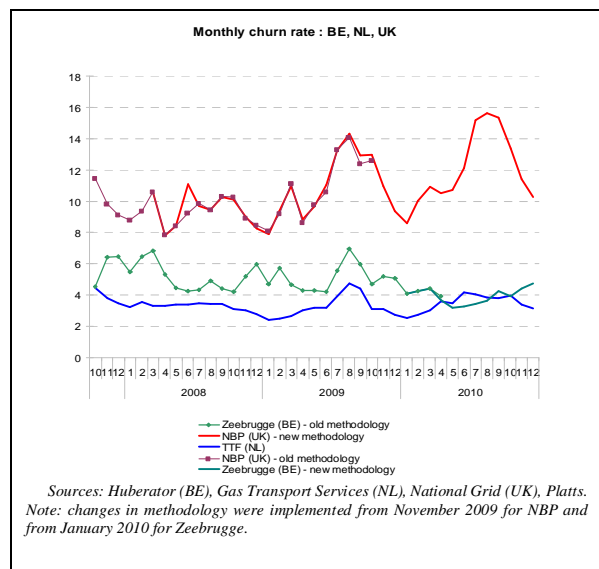
However, the rapid rise in spot gas prices on European hubs in the fourth quarter has contributed to a considerable narrowing of the gap between hub prices and border prices.

The graph above illustrates that the increase in the NBP day-ahead was much steeper than that of both the German border price and the Platts NWE gas contract indicator (GCI), an indicator of long term contracts (LTC) gas prices indexed to oil prices. By december 2010, the NBP day-ahead even exceeded the German average border price.

In contrast, the price of LNG delivered in Spain during the course of the fourth quarter was generally lower than either hub

or border prices for piped gas as shown in the selection.

With regard to liquidity, developments in the fourth quarter of 2010 did not bring about significant changes in terms of the churn rates³ observed. The Zeebrugge hub churn rate improved slightly, from an average over the last quarter of 3.8 to a fourth quarter average of the monthly rate of 4.4. Typically, the Zeebrugge churn rate oscillates between 3 and 6. That of the TTF hub came down slightly, from 3.9 in the third quarter, to 3.5 in the fourth quarter.



The UK NBP experienced a relatively large change in churn rate relative to the previous quarter. After achieving a churn rate above 15 in the third quarter, the NBP churn fell to a level of 11.70. The change between the third and the fourth quarter on the NBP hub which led to this fall in churn was that physically delivered volumes

³ The churn rate is an indicator of the liquidity of a market/ hub. It represents the ratio between the total volume of trades and the physical volume of gas consumed in the area served by the hub.

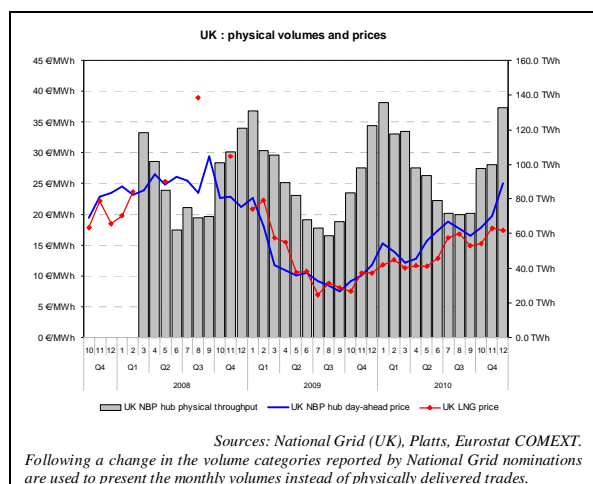
increased significantly (by 54%), while traded volumes still increased, but by much less (15%).

A.2.1.3 Regional markets

North-Western Europe

United Kingdom

Physical day-ahead volumes on the UK's National Balancing Point (NBP) in Q4 2010 increased by 54% in comparison to the previous quarter and by 9% year on year. It reached a volume of 133 TWh for the month of December, surpassed only once in the last 24 months, in the month of January 2010.



Fourth quarter physical throughput on the NBP equated to 330 TWh, compared to consumption of natural gas in the UK of 325 TWh for the same quarter, which illustrates the order of magnitude of spot gas trading on the NBP.

The average monthly NBP spot price over the fourth quarter was 20.9 €/MWh, although the average December price

reached 25.02 €/MWh. This compares to previous quarter averages of monthly prices of 17.7, 15.3 and 13.8 €/MWh respectively for each of the three preceding quarters of 2010.

In comparison, monthly prices for UK deliveries of LNG reached a fourth quarter high of 17.8 €/MWh, and averaged 16.8 €/MWh over the period. The gap between hub spot and LNG price was thus further extended during the last quarter of 2010.

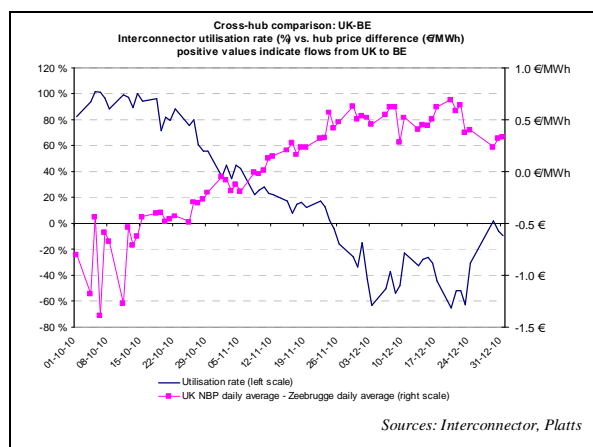
As was highlighted in the previous issues, looking further back in time, prices paid for LNG deliveries in the UK have tended to be close to, and since the fourth quarter of 2009 have been less than, UK NBP day-ahead prices.

The fourth quarter experienced a flow reversal in the UK-Belgium Interconnector. Relatively lower prices at the UK NBP hub compared to other European hubs during the second quarter of 2010 had led to high levels of gas exports out of the UK into continental Europe. This continued into the third quarter, as the NBP continued to trade at a discount to the Zeebrugge day-ahead, and to other European hubs.

Gas continued to flow from the UK to Belgium at the beginning of the fourth quarter, but the flow rate decreased progressively as the discount of NBP gas to the Zeebrugge day-ahead was slowly reduced.

From the 10th of November, the price situation between the two hubs reversed, such that UK day-ahead gas began to trade at a premium to the Belgian day-ahead. This situation persisted throughout the

remainder of the quarter. By the 25th of November, gas was flowing from Belgium into the UK, and this continued also until the end of the quarter, though by the end of December, the situation reversed very briefly.



The flow reversal came about as a result of unusually high demand for gas in the UK due to very low temperatures there. UK gas demand levels attained such high levels in the fourth quarter that by late December, system operator National Grid issued two gas balancing alerts in the space of a few days as demand was forecast above its trigger level, the main driver being continued cold weather, pushing up central heating use.

The purpose of the Gas Balancing Alert is to provide a signal to the market that demand-side reduction and/or additional supplies may be required to avoid the risk of entering into a Network Gas Supply Emergency.

High levels of flows between the UK and continental Europe via the Interconnector at the beginning of the fourth quarter had led some market commentators to

speculate on the possibility of continued flows of UK gas to Europe over the course of the winter, supported by plentiful LNG supplies. But the situation was eventually reversed, with flows going to the UK as the cold winter temperatures set in, as per usual.

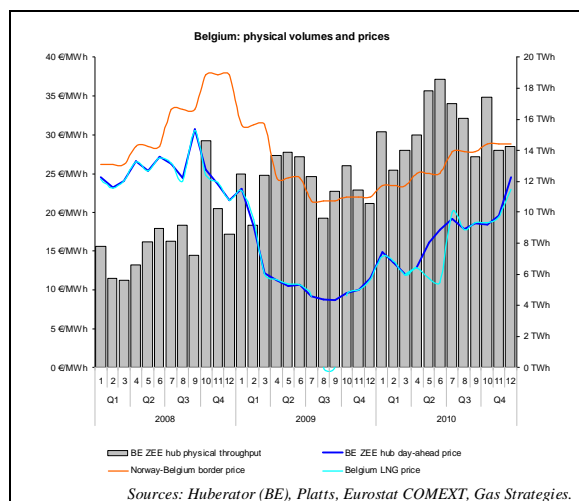
This also coincided with a gradual closing of the gap between spot gas prices on the NBP and LTC oil-indexed border prices on the continent. With spot gas trading at levels comparable to LTC prices, it is feasible to consider continued flows of gas purchased on the continent at oil-indexed levels towards the UK even beyond the colder season.

Belgium

After falling by 9% between the second and third quarters of 2010, physical volumes delivered at the Belgian Zeebrugge (ZEE) fell only slightly in the fourth quarter (by 2%). In total, 45.6 TWh of natural gas were delivered through the Zeebrugge hub in the fourth quarter of 2010, compared to 46.6 TWh in the preceding quarter and a historical high of 51.4 TWh in the second quarter of 2010 (when large volumes of UK gas were being exported to the higher prices continental area). In contrast, Belgian consumption of natural gas amounted to 56 TWh in the fourth quarter of 2010.

In spite of this significant fall in throughput however, prices on the Belgian hub continued to grow for the fifth consecutive quarter, attaining a fourth quarter average monthly price of 20.8 €/MWh.

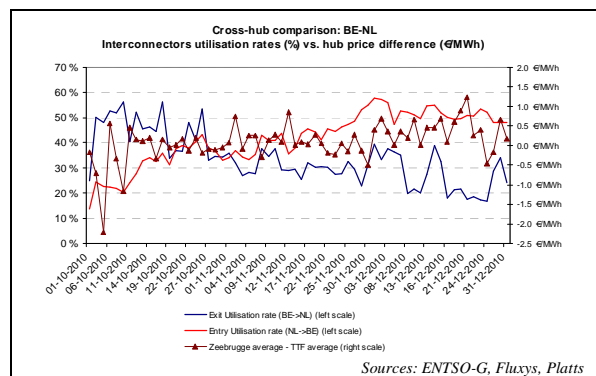
As for the UK NBP, day-ahead prices on the Zeebrugge hub attained especially high levels by the end of the quarter, the December prices averaging at 24.5 €/MWh, which represented the highest monthly average price of the last 26 months, since October 2008.



In comparison to Belgian hub spot prices, spot LNG deliveries to Belgium continued to stay on par with the Zeebrugge day-ahead, on a monthly average basis, though registering a slightly lower December average price of 23 €/MWh.

Compared to the third quarter, the difference between on the one hand hub spot and LNG prices and piped Norwegian gas to Belgium on the other very much receded in the fourth quarter. The latter had on average exceeded spot price by 60% over the course of the first three quarters of 2010. By the end of the fourth quarter however, the gap was reduced to just 17% (comparing the December average day-ahead price to the fourth quarter average price for Norwegian gas delivered to Belgium).

Comparing the Belgian hub to the Dutch TTF hub, it can be observed that the price differential was again quite variable with frequent reversals of the relative position of one market trading at a premium or discount to the other. There were more occurrences of the Zeebrugge day-ahead trading at a premium to the TTF day-ahead by the end of the quarter, with the consequence that Belgium's exit utilisation rate to the Netherlands progressively fell, as its imports of Dutch gas were conversely increased. This can be attested to by looking at the trend of the entry utilisation rate in the graph below, which went from less than 20% at the beginning of the quarter to reach occurrences of above 50% utilisation by the second part of the period.

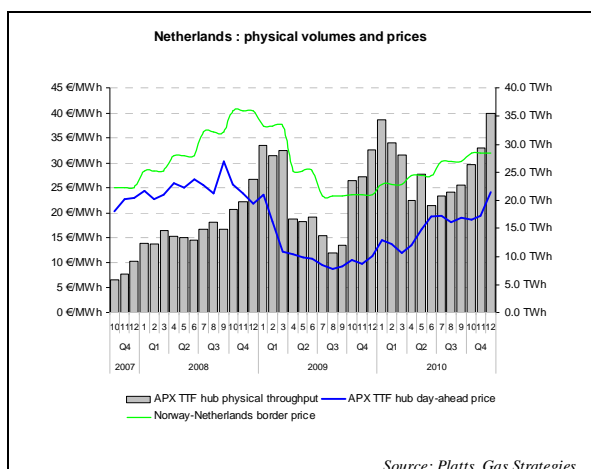


Netherlands

On the Dutch TTF hub, monthly physical volumes of gas continued to increase progressively throughout the fourth quarter, as the previous quarter, again in sharp contrast to volumes on the Belgian hub, and for the second consecutive quarter. 91 TWh of gas were traded on the Dutch hub in the fourth quarter, compared to 77 TWh in the equivalent quarter of the previous year. This almost equalled the record level attained for the first quarter of

2010, of 92.6 TWh. In comparison, 155 TWh of natural gas was consumed in the Netherlands in the fourth quarter of 2010, which shows the importance of spot gas purchased on the TTF to Dutch gas supplies.

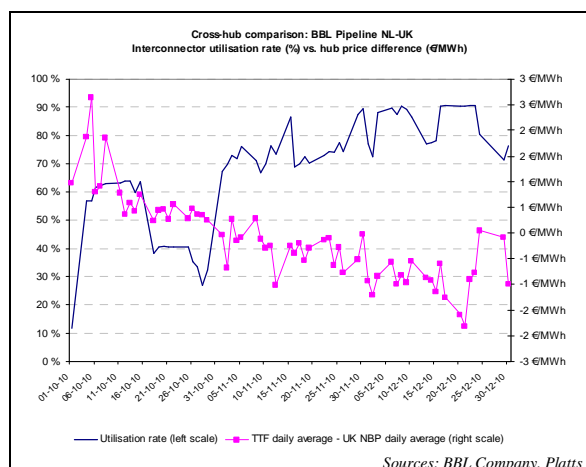
Spot prices followed the same trend to that noted for the Belgian and UK hubs, registering a fourth quarter average of monthly prices of 20.7 €/MWh, and reaching 24.2 €/MWh in December, a level comparable to the Belgian and UK hubs.



As with the preceding hubs, the increase in the Dutch spot price decreased the gap with border prices, though the average Q4 price for Norwegian gas piped into the Netherlands still exceeded the average monthly spot price over the quarter 1 by more than 11 €/MWh, as the preceding quarter. It exceeded the average December price of Dutch spot gas by just below 8 €/MWh.

In comparison to the NBP day-ahead, the TTF day-ahead was initially traded at a premium at the beginning of the quarter, which progressively reversed into a discount, with the utilisation rate of the

BBL UK-bound pipeline increasing in reflection of the change in the price dynamics in favour of increased exports of gas towards the UK.



Germany

Combined physically delivered volumes on Germany's NetConnect (NCG)⁴ and Gaspool⁵ hubs for Q4 2010 amounted to 2.52 TWh, much higher than any of the previous quarters in 2010 (the highest previously recorded volume was 1.92 TWh in the first quarter). This is however still a very small amount compared to hubs such as NBP or TTF, or to the amount of natural gas consumed in Germany (322 TWh in the fourth quarter of 2010).

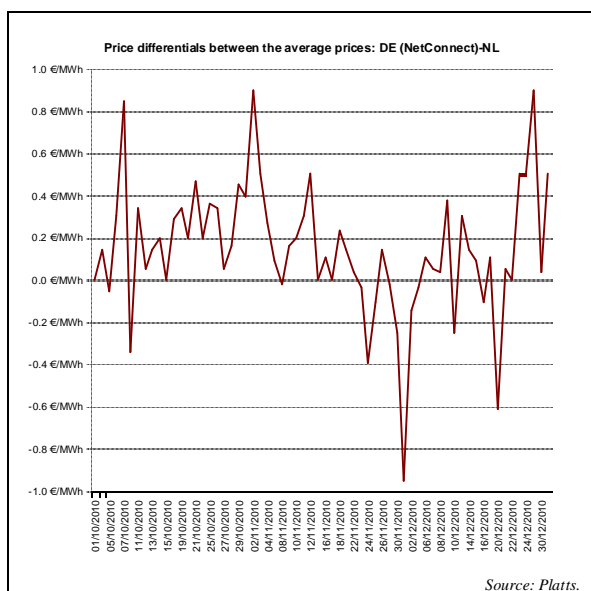
The evolution of NCG and Gaspool hub day-ahead prices in the fourth quarter was comparable to that reported for previous hubs, increasing respectively to levels of 24.2 and 24.6 €/MWh by December 2010 (average monthly level). This compares to monthly averages of typically less than 19

⁴ NCG is formerly known as E.ON Gastransport (EGT).

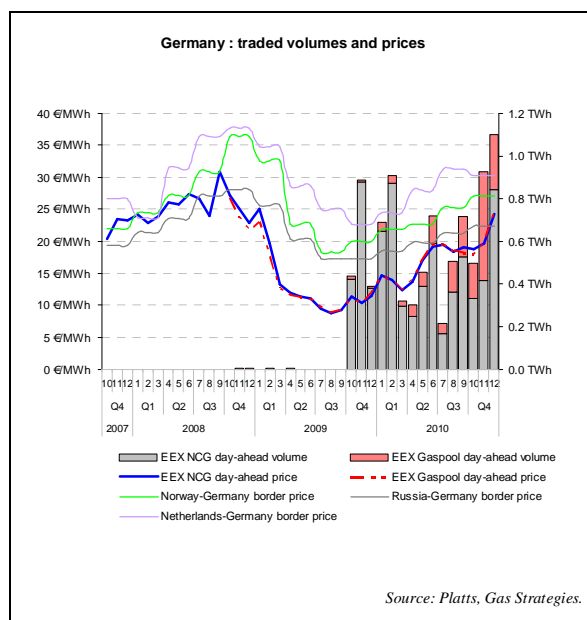
⁵ Gaspool is formerly known as BEB. The new market area started on the 1st of October 2009.

€/MWh in the previous quarter, and of between 10 and 11 €/MWh in the fourth quarter of 2009. These new price levels were on a par with prices reached in the winter of 2008/2009.

Comparing the German spot evolution to the Dutch hub spot price (see graph below) for the fourth quarter shows that the German price was slightly above the Dutch price for most of the quarter but that the variability rarely exceeded 1 Euro and most typically was less than 50 Eurocents.



A number of German border prices are plotted in the graph below alongside the German spot prices, and it can be observed that, similar to other hubs, while the former tend to be higher than German spot prices, the gap between spot hub and border prices for piped gas has been narrowing. Notably, in the fourth quarter of 2010, the average quarterly price for gas imported from Russia was less than the average (of the monthly average) prices of spot gas traded on either of the two German hubs.



Imported gas from the Netherlands continues to trade at a level exceeding 30 €/MWh, as was the case already in the third quarter of 2010.

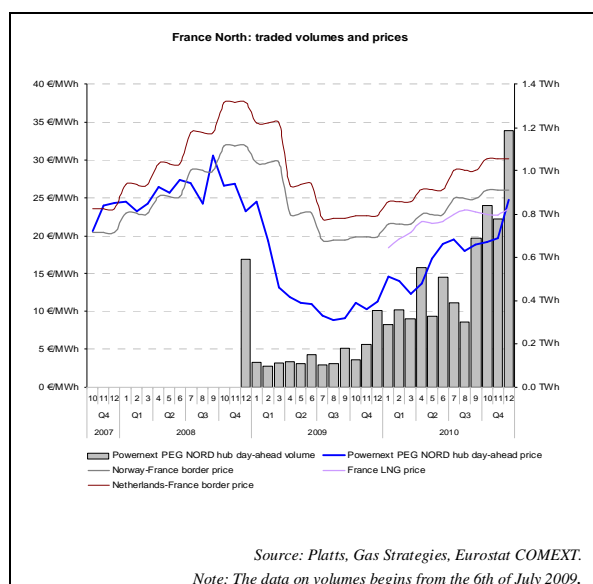
France North

Volumes traded on France's Powernext Point d'Echange de Gaz (PEG) Nord continued to increase significantly, reaching a level for the fourth quarter (of 2.8 TWh) which largely exceeded any of the previous quarters (the largest volume traded, 1.39 TWh, had been achieved in the second quarter of 2010). As with Germany however, such levels remain very modest if compared to other hubs such as the UK, the Netherlands or even Belgium. Also, if compared to consumption for France of 170 TWh of natural gas in the same quarter, it shows that a relatively small proportion of the country's gas is delivered via the Powernext platform.

With regard to prices, Powernext assessments of PEG Nord day-ahead prices

continued to follow the same pattern as other continental hubs, reaching a December monthly average level of 24.8 €/MWh), and registering a quarterly average (of 21.2 €/MWh) also in line with day-ahead prices on the other continental European hubs.

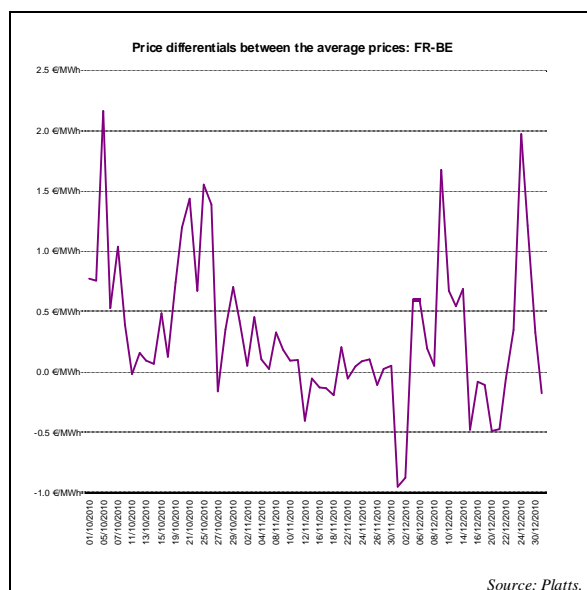
Strike action during the month of October to protest against pension reform led to significant falls in LNG deliveries to France. Though this added to the volatility of prices on the PEG Nord hub during the month of October, the day-ahead on the French hub continued trading at levels close to other European hubs during the course of the quarter.



The story is again similar to other hubs on the PEG Nord hub with regard to the relative levels of various contract gas prices and the price of hub spot gas. The important increase in the PEG Nord day-ahead relative to other contracts meant that by the end of the quarter it traded at levels close to the Norwegian border price for the quarter, though the Dutch-French border

price still exceeded the PEG Nord day ahead by over 5 €/MWh.

Compared to the price of LNG deliveries to France however, while this exceeded PEG Nord spot by some margin in the third quarter, this was no longer true by the end of the year, when the latter exceeded the former by just over 1 €/MWh.



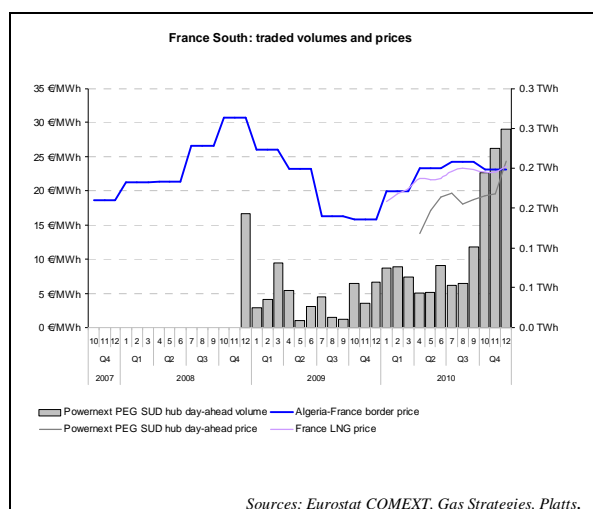
South-Western Europe

France South

As was the case in the third quarter, Powernext assessments of day-ahead prices on France's Point d'Echange de Gaz (PEG) Sud followed the same trend as prices on PEG Nord, ending the quarter at a slight discount to the latter.

In comparison to the border price for Algerian gas to France, PEG Sud day-ahead contracts were trading at a premium by the end of the fourth quarter of 2010. This is in contrast to the situation in the previous quarters, as Algerian gas had been

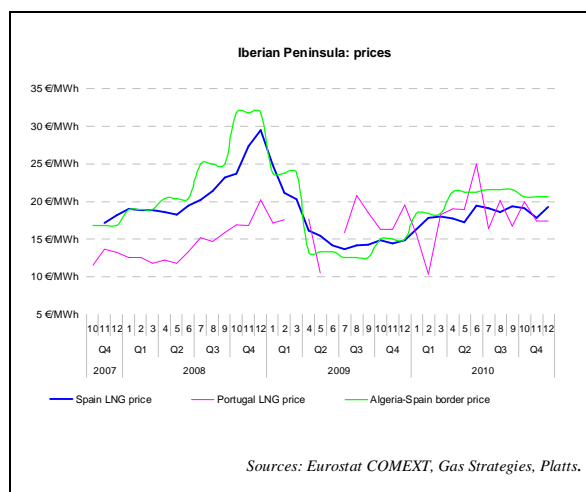
trading at a significant premium to the spot price since April 2010. French LNG prices also traded at a discount to PEG Sud day-ahead prices by the end of Q4 2010, which had not been the case in the previous quarter.



Iberian Peninsula

Compared to the third quarter, when LNG prices paid in Spain and Portugal averaged 19 €/MWh and 17.7 €/MWh respectively over the quarter, prices in the fourth quarter slightly decreased in Spain (to 18.7 €/MWh), while they increased slightly in Portugal (to 18.3 €/MWh).

In comparison to fourth quarter prices of LNG in other European markets such as France (23.05 €/MWh) and Belgium (20.3 €/MWh), the prices of LNG deliveries in the Iberian Peninsula were competitive. However, these exceeded the price of LNG in the UK (16.8 €/MWh).

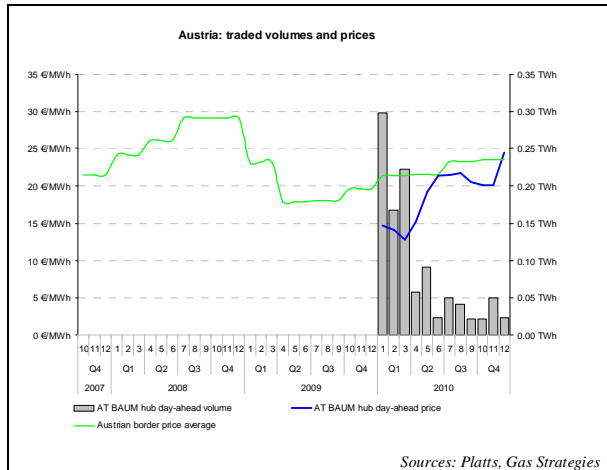


Central and Eastern Europe

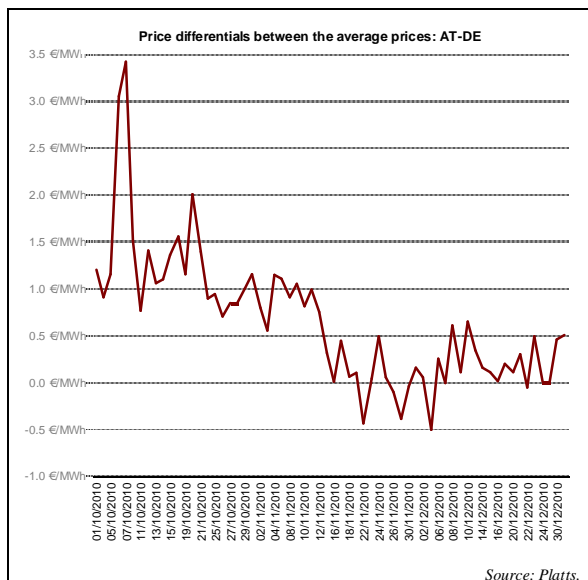
Austria

Volumes at Austria's Baumgarten hub in Q4 2010 continued to register very low levels, in comparison to the first quarter of the year. The quarter saw 95 GWh (0.095 TWh) of volumes being traded, in comparison to 33 TWh of natural gas consumption in Austria during that quarter.

Monthly average prices in Baumgarten evolved in line with other hubs, reaching a quarterly high in December of 24.4 €/MWh. This exceeded the quarterly average border price of gas imports to Austria for the quarter, which amounted to 23.5 €/MWh.



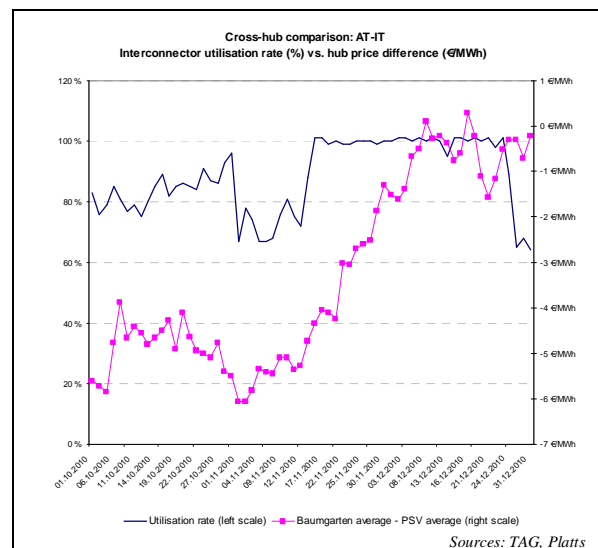
The Baumgarten day-ahead price began the quarter at a higher level than the German NCG day-ahead, though spent the second part of the quarter at very comparable levels.



This is in contrast to the second quarter, when the Baumgarten day-ahead traded at levels close to the Italian PSV hub. The relationship changed in the third quarter, when the latter traded at a high premium during much of the period. At the same time, the utilisation rate of the Austrian-

Italy interconnector increased progressively to attain highs of 80% plus by the end of the third quarter.

This increased utilisation, which was at least partly due to the Transgas outage as Italy needed to compensate by importing gas from elsewhere, was maintained into the fourth quarter.

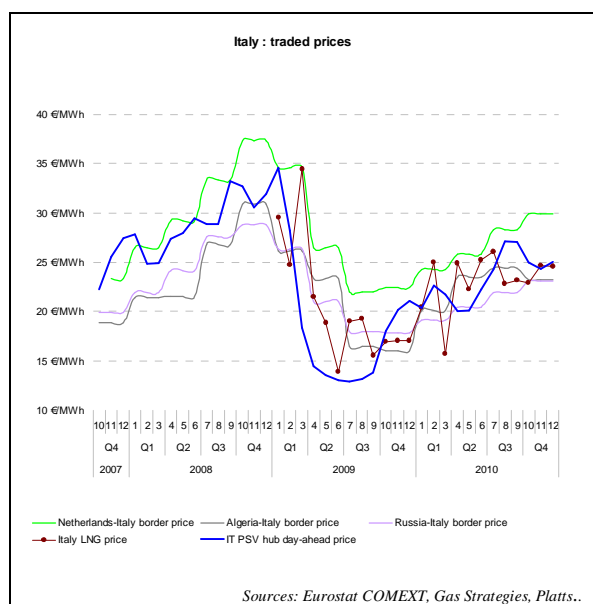


Italy

The price of the day-ahead gas contract at Italy's Punto di Scambio Virtuale (PSV) was stable over the course of the fourth quarter of 2010. It had however already reached a high level in the third quarter (averaging 26.2 €/MWh), which was well in excess of the prices on other European hubs. Prices first fell in the beginning of the fourth quarter, after which they stabilised to attain an average monthly level by December of 25.05 €/MWh, which was only slightly higher than other European hubs, such that the gap between the PSV and the rest was unusually small.

Compared to other gas contracts, the price of the day-ahead on the PSV still remained more attractive than the border price of gas from the Netherlands though it traded at higher levels than either the border price of gas from Algeria or Russia.

The Swiss Transitgas pipeline began flowing gas into Italy at the end of December after five months of outage. In the last issue, it was explained that the pipeline, which delivers gas from North West Europe into Italy via the Passo Gries entry point (through which some 17% of Italian gas imports enter the country), had suffered damage as the consequence of a landslide.

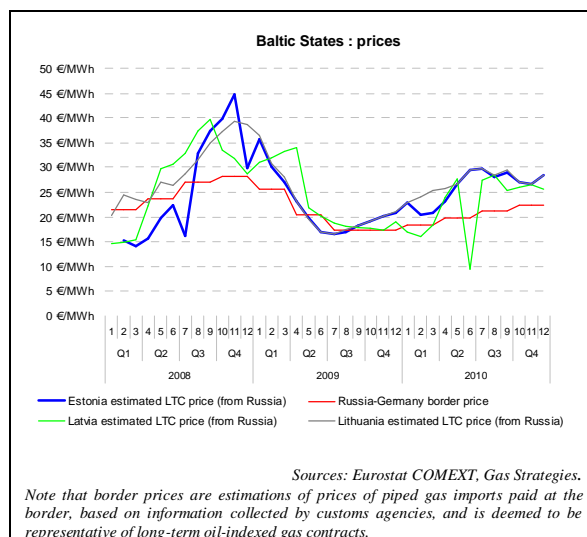


The pipe began flowing gas under a temporary emergency plan agreed with the authorities, due to be reviewed in February 2011. In the meantime, a new route is being built, which should be finalised by May 2011.

Baltic States

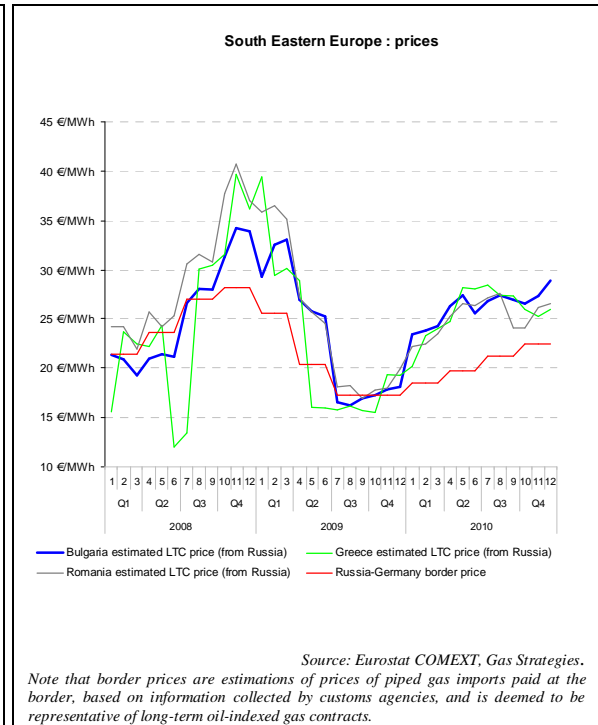
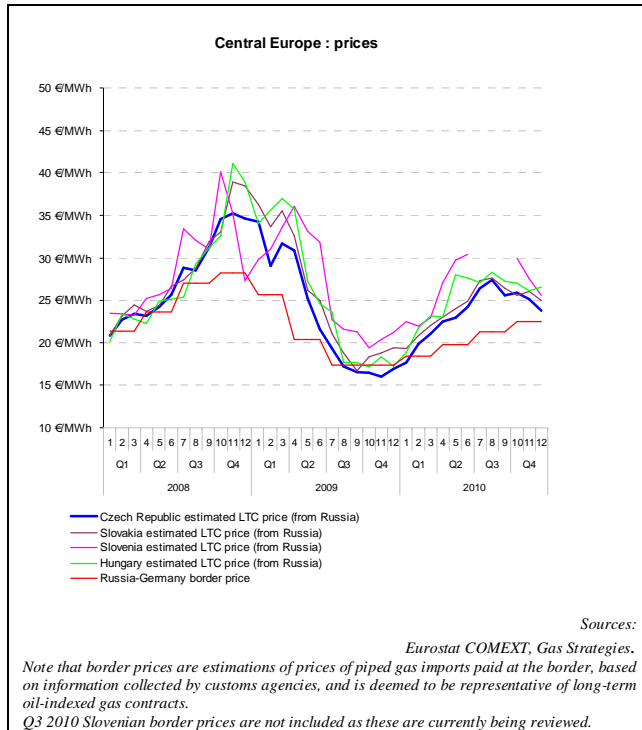
Compared to the third quarter, estimations of LTC prices of Russian gas to the different Baltic States of the EU for the fourth quarter of 2010 reveal general falls in prices. The monthly average price of gas paid in Lithuania, Estonia and Latvia for Russian gas in the fourth quarter was 27.4, 27.4 and 26 €/MWh respectively. These were all more than 1 €/MWh higher in the third quarter.

In comparison, the average monthly German border price paid in the fourth quarter was 22.5 €/MWh.



Other Central EU Member States

The estimated monthly average LTC price of Russian gas in Central EU Member States in the fourth quarter of 2010 ranged from 24.9 €/MWh in the Czech Republic to 26.6 €/MWh in Hungary.

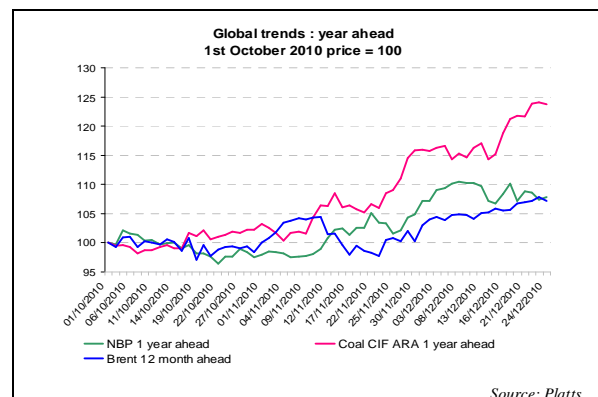


Other South-Eastern EU Member States

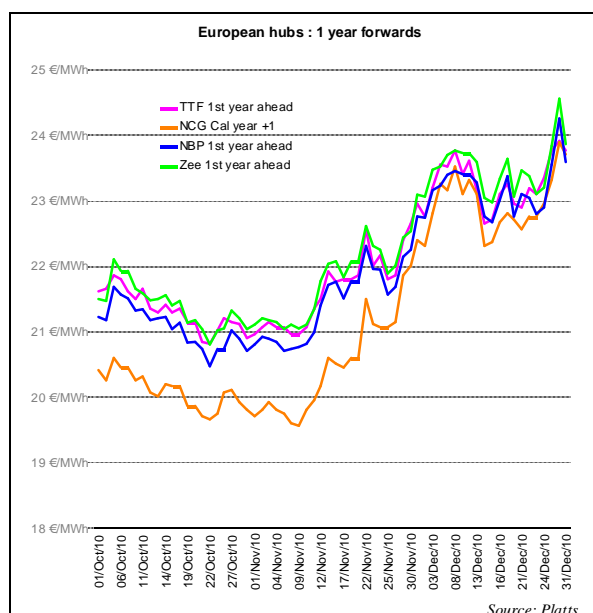
The average quarterly price of Russian gas in South-Eastern EU Member States varied between 25.6 €/MWh in Romania and 27.6 €/MWh in Bulgaria. For both Greece and Romania, this represented a fall in prices since the third quarter, with Greece in particular experiencing a 2 €/MWh fall, registering an average quarterly price in the fourth quarter of 25.7 €/MWh.

A.2.2 EU forward gas markets

Comparing fourth quarter year-ahead prices for different commodities, it can be seen that while prices were fairly stable at the beginning of the quarter, and even fell slightly in the case of gas and crude, by the second half of the quarter, all commodities were increasing, with coal prices registering significant gains by the end of the quarter.



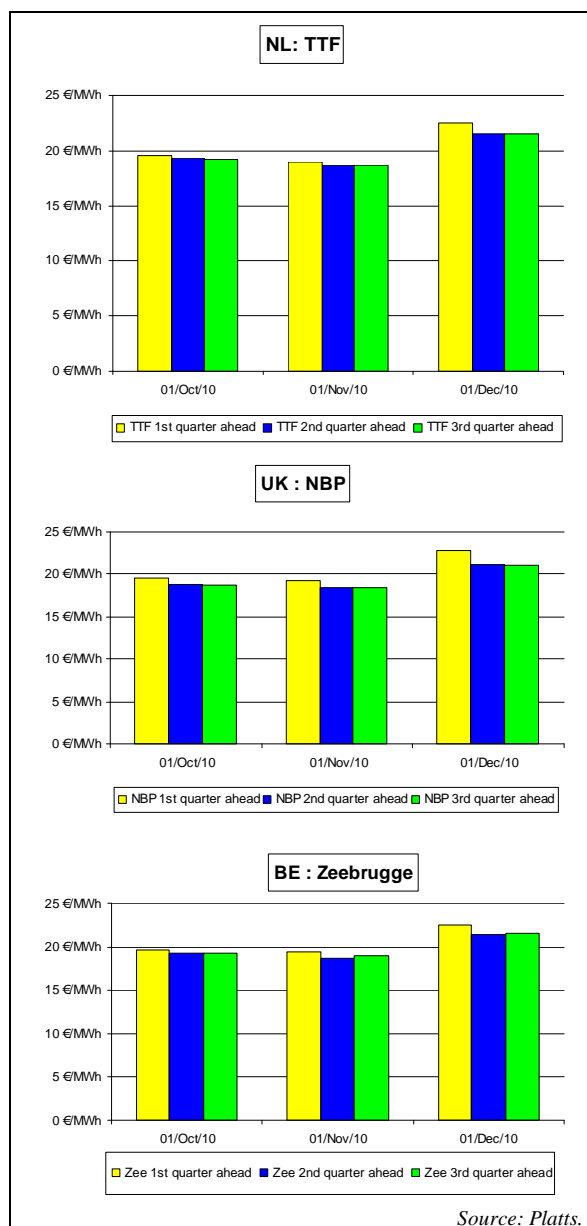
Looking at one year forward gas prices traded in the fourth quarter of 2010 on the European hubs, it can be seen that as the quarter wore on, expectations progressively were for future gas to become dearer, which is a change from one year forward expectations in the third quarter, which were for prices to remain in a band between 19 and 21 €/MWh.



This being said, the one year forward curve seems to have evolved pretty much in line with changes in day-ahead prices, such that by the end of the quarter, expectations were of prices for gas one year ahead being equivalent to prices at which day-ahead gas was being exchanged, i.e: between 24 and 25 €/MWh.

The charts further below also show an upward trend in quarter-ahead prices in various European hubs. Cooler than usual temperatures, even for this time of year, led to earlier than expected storage withdrawals, which meant less storage gas

available for Q1 2011. This provides an explanation for the 2011 contract prices being driven upwards.

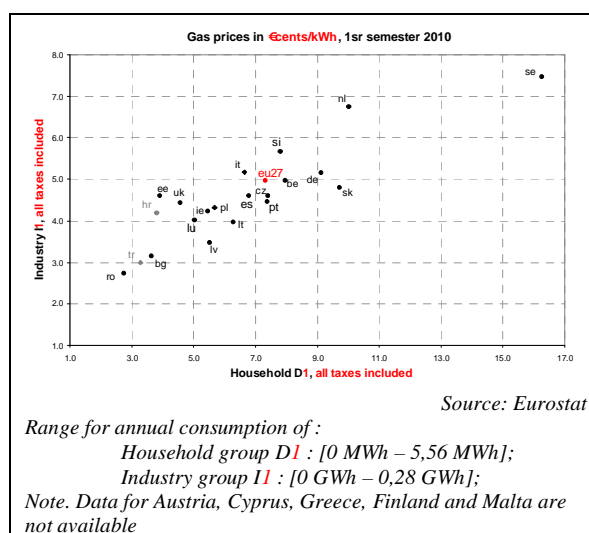
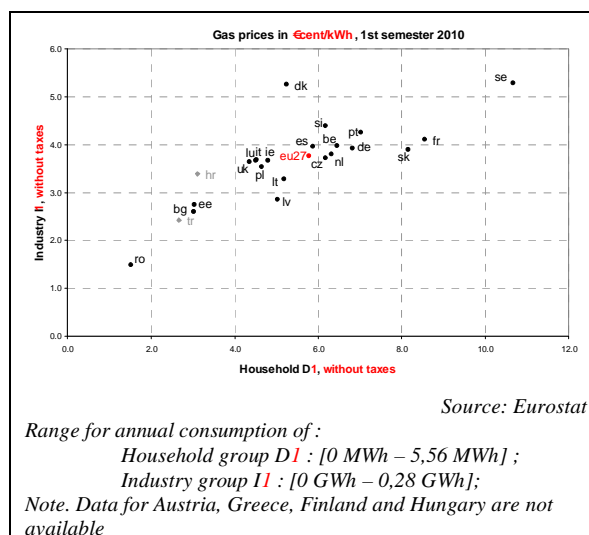


A.2 Retail markets⁶

A.2.1 Price levels

The first two charts below show prices of natural gas paid by households and industrial customers in the 1st half of 2010. For both household and industrial customers, the prices of low annual consumption bands (corresponding to household consumption band D₁ and industrial consumption band I₁) are illustrated here. The first chart shows gas prices without taxes (net prices) in the EU Member States, Croatia and Turkey. The second chart shows prices including all taxes (gross prices).⁷

As in the previous semester, the variations between Member States' gross prices increased again in the 1st half of 2010, both for household and for industrial consumers. In the observed period, the ratio between the highest and the lowest price stood at 5.9 for households and 3.9 for industrial consumers. This corresponds to variations of 13 €cents and 8 €cents respectively. Thus, the retail prices of gas in the EU paid by industrial customers appear to be more integrated than the retail prices paid by households.

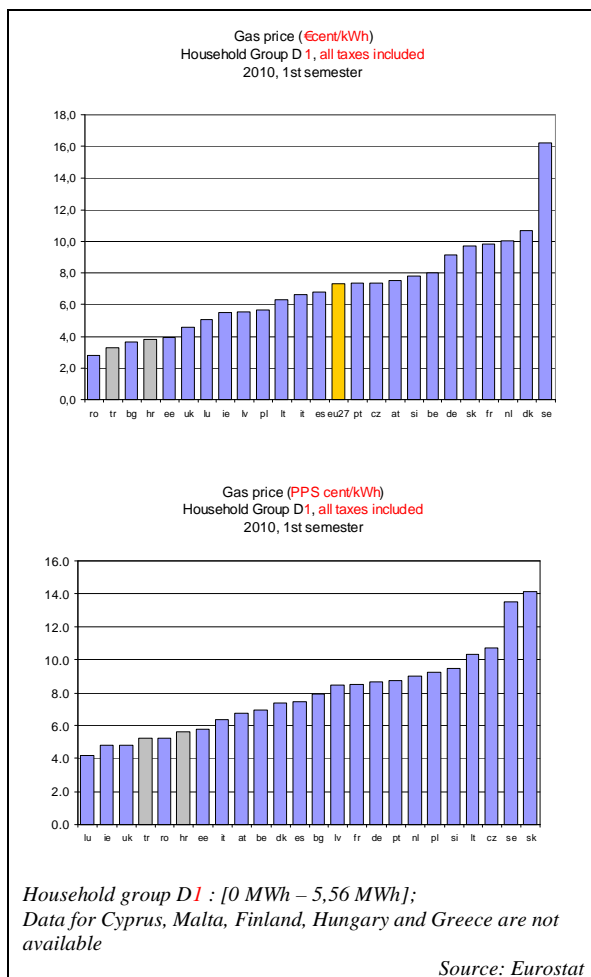


The EU27 average gross price for household consumers was 7.34 €cents/kWh. The most expensive country by far was Sweden. Household consumers there paid 16.25 €cents/kWh, which equates to more than twice the European average. Denmark (10.69 €cents/kWh) and the Netherlands (10.03 €cents/kWh), paid the second and third most highest prices in the EU. Households in Romania, paid only 2.76 €cents/kWh, which was the cheapest retail price for gas in the EU.

⁶ Eurostat only provides data on retail market prices on a biannual basis. For this reason the QREEM alternate between reporting on prices for median level consumption bands consumers in the first and third quarter and on prices for low level annual consumption band consumers in the second and fourth quarter of a given year.

⁷ It should be noted that the indicative Eurostat categories of household and industry consumers are not necessarily representative of the average customer for a given Member State due to different consumption patterns across the EU.

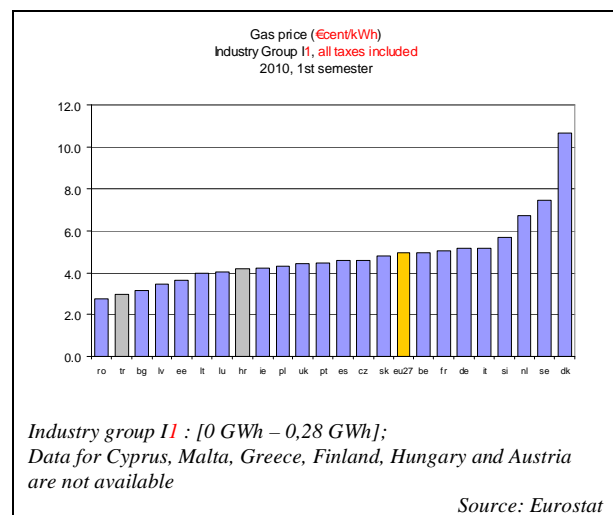
Although the 12 New Member States (NMS) that joined the EU in 2004 and 2007 still pay lower prices than the old Member States on average, there are also a number of exceptions: Slovakian households for instance pay almost the same price as households in France, while prices in the Czech Republic and in Slovenia are above the EU27 average.



When correcting for purchasing power by measuring prices in PPS⁸, the relatively high prices in such countries are even more

⁸ Purchasing power standards.

apparent, Slovakia being the most expensive and the Czech Republic the third most expensive country in PPS, with Slovenia not far behind. Generally, calculations of prices for gas in PPS renders gas prices in NMS more expensive than in absolute terms.



When considering industrial consumers, the highest prices were paid in Denmark (10.69 €/cents/kWh), in comparison to a EU27 average of 4.96 €/cents/kWh. Again, the lowest price paid by industrial customers in the EU was in Romania (2.73 €/cents/kWh).

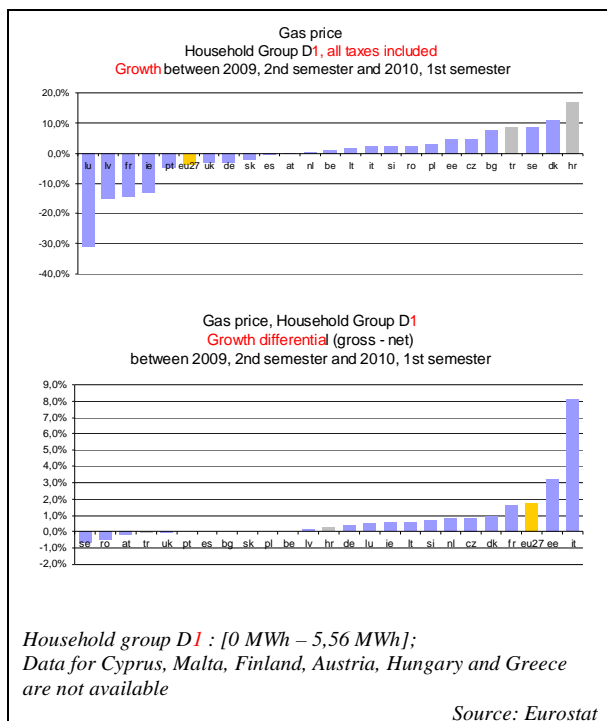
A.2.2 Price evolution

Between the second semester of 2009 and the first semester of 2010, the European Union on average experienced a slight decrease in gross prices paid by household customers (-3.7%)⁹. This is in contrast to a

⁹ In the remaining part of this chapter, unless otherwise stated, price changes are always compared to the previous semester (2nd semester of 2009)

number of noteworthy changes in individual Member States. Two digit price falls could be observed in Ireland (-13.2%), France (-14.5%), Latvia (-15.3%) and Luxembourg (-31.1%). Conversely, prices in Denmark grew by 10.9%.

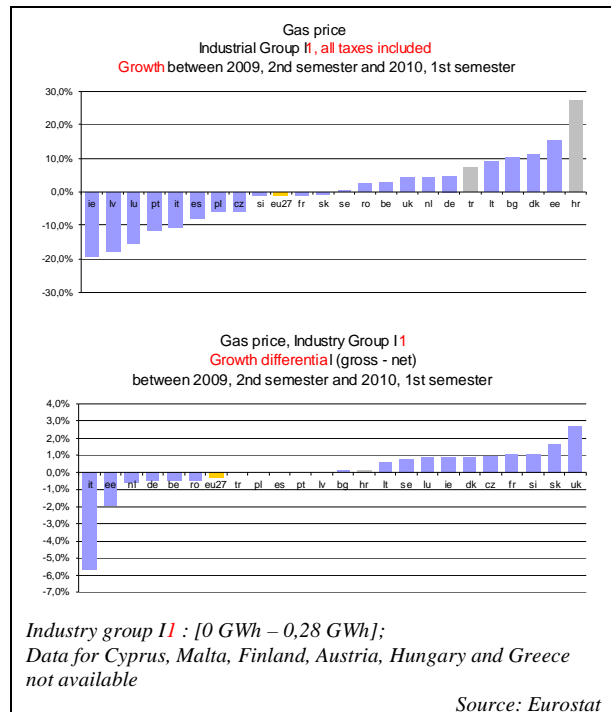
The largest disparity between growth of net and gross prices for households could be observed in Italy, where a fall in net prices (of 6.5%) turned into a slight growth after taxes (1.9%), resulting from an increase in tax rates.



The evolution of prices for industrial customers showed a similar picture than that of household consumer prices, recording a very modest change at the EU27 level (-1.1%). In marked contrast, changes in certain Member States were much more significant. Thus, prices in Luxembourg (-15.3%), Latvia (-17.8%) and Ireland (-19.4%) fell considerably,

whereas prices increased by 15% in Estonia.

In terms of differences between growth in gross and net prices, Italy was again the Member State with the largest differential. Interestingly however, the differential for industrial consumers was negative (-5.7%), such that in contrast to changes in household prices, taxes to industrial customers appear to have fallen.



B. Storage

The beginning of the fourth quarter marked the end of the summer injection period, during which storage levels increased quite considerably in preparation for the cooler months ahead.

As was reported in the last issue however, by the end of the third quarter gas storage in several European markets (including Italy, the UK, Belgium, the Netherlands and France), ended at levels which were below those at the end of the third quarter of 2009.

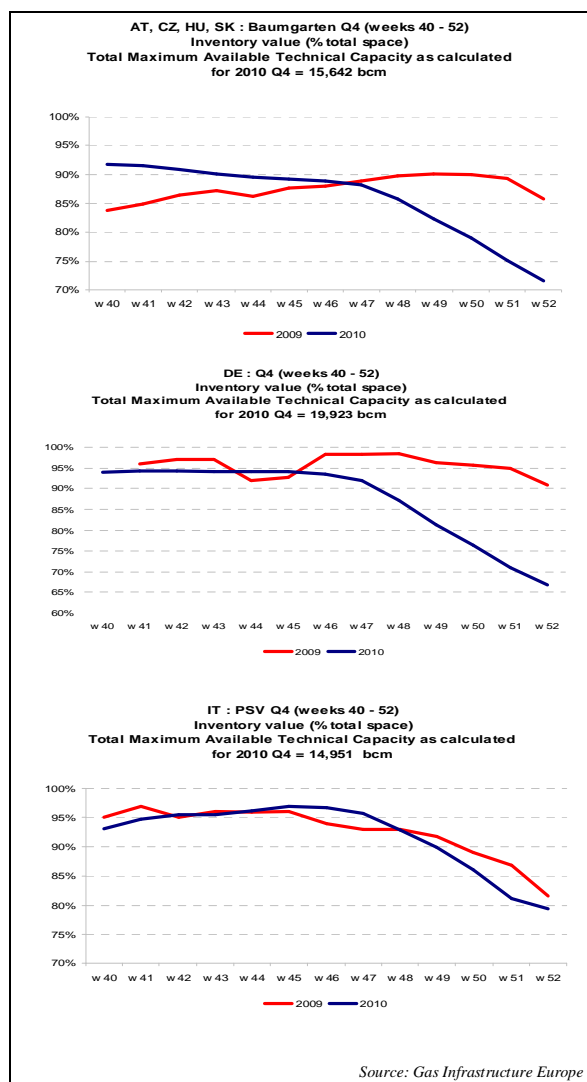
Replenishing storage levels to the maximum is important ahead of the cold season, in order to ensure that (higher) demand can always be met, even at times of supply constraints.

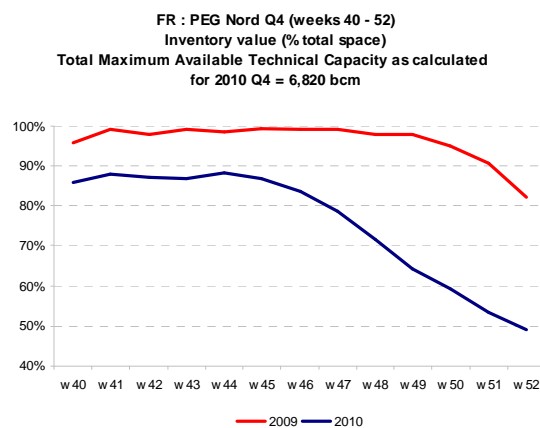
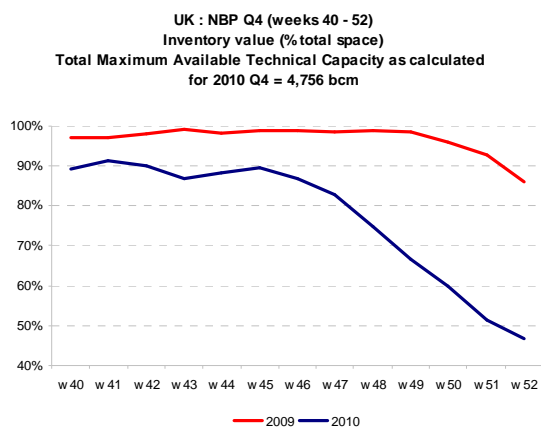
Given that several gas storages across Europe were far short of being fully replenished at a time when the continent experienced unusually cold temperatures, leading to higher than expected demand for gas, there was concern by market participants over whether the necessary gas supplies could continue to be maintained during the course of the cold season. This added to the price pressures of both the day-ahead and the near-term forward curve, such as Q1 2011 prices.

As can be seen in the following graphs, storage levels decreased considerably in a number of markets during the fourth quarter of 2010, much before the end of the cold season. For instance, in the case of the UK NBP and France's PEG Nord hubs, gas storage was less than half full by the end of the quarter.

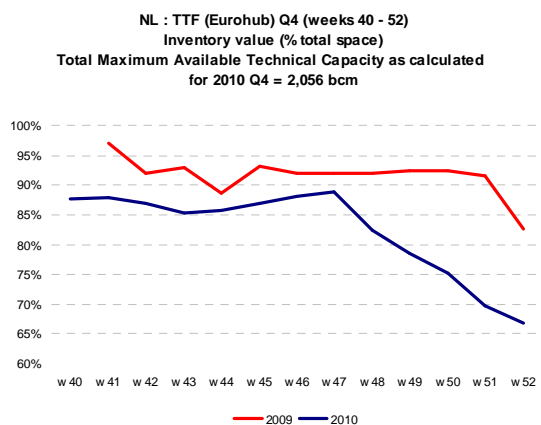
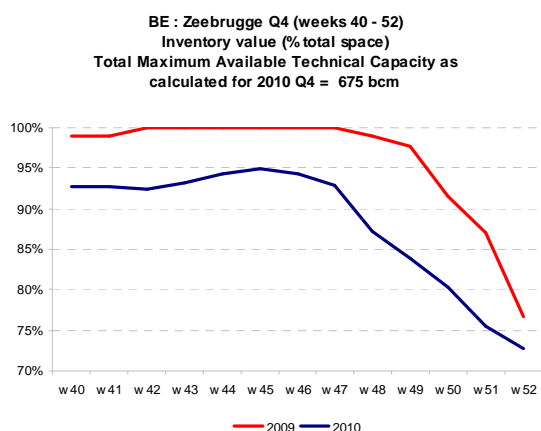
Even Germany and Austria, which began the quarter with very high levels of storages, ended the quarter with much reduced storage levels.

In the case of France, strikes over pensions in October prevented LNG cargo deliveries, putting pressure on gas supply. This led to French storages being relied upon to make up for the lost supply.





Source: Gas Infrastructure Europe



Source: Gas Infrastructure Europe

C. "Focus on the new EU Regulation on the security of supply of natural gas"

The European Union and the EU Member States (MS) are increasingly dependent on imports from third countries for their supply of natural gas, which contributes one quarter of the EU's primary energy supply. Currently, over 60% of all natural gas in the EU comes from third countries but it is expected that this number will rise as domestic production is decreasing and the importance of gas within the energy sector is growing.

In order to address security of supply on a EU level, the European Commission proposed a new Regulation which aims to better prepare Member States for future supply disruptions and in the best case, ensure that such problems do not occur in the first place.

The Regulation establishes a common framework where the security of supply is a shared responsibility of natural gas undertakings, Member States and the Commission within their respective areas of activities and competences.

The Regulation includes the following elements:

Ø Security of supply standard for protected customers: It establishes that all households are protected customers. Member States may also include as protected customers SMEs and essential social services (provided that these additional customers do not represent more than 20% of the final use of gas) and/or district heating installations.

Natural gas companies must guarantee supplies to protected customers under severe conditions: in the event of a seven day temperature peak and for at least 30 days of high demand, as well as in the case of an infrastructure disruption under normal winter conditions.

Ø Infrastructure standard: Member States have to ensure that they are able to satisfy demand during a day of exceptionally high gas demand in the event of a disruption of the single largest infrastructure. The Regulation also requires reverse flows to be established in all cross border interconnections between Member States.

Ø Risk assessment: Member States shall compile a risk assessment that takes into account the supply and infrastructure standards, all relevant national and regional circumstances and various scenarios of exceptionally high gas demand and supply disruption. The assessment should also identify the interaction and correlation of risks with other Member States.

Ø Preventive action plan and emergency plan: On the basis of the risk assessment the Member States shall adopt, make public and notify to the Commission a Preventive Action Plan, containing the measures needed to remove or mitigate the risk identified, and an Emergency Plan containing the measures to be taken to remove or mitigate the impact of a gas supply disruption. Member States may decide to establish joint

Preventive Action Plans and Emergency plans at regional level. On all of these issues Member States are to consult the natural gas undertakings, the relevant stakeholders and the national regulatory authority.

The risk assessment and the plans should be updated every two years.

Ø Role of the Commission: The Commission will assess those plans to check if these will mitigate the risks identified, to ensure they are consistent with the plans of another Member States or if they endanger the security of gas supply of other Member States or of the Union as a whole. The Commission may recommend amendments to be brought to these plans and may impose changes to Preventive Action Plans if needed.

Ø The Regulation defines three main crisis levels:

Early warning level (early warning): an event may occur which is likely to result in significant deterioration of the supply situation and is likely to lead to the alert or the emergency level being triggered;

Alert level (alert): a supply disruption or exceptionally high gas demand occurs which results in significant deterioration of the supply situation, but the market is still able to manage them;

Emergency level (emergency): in the event of exceptionally high gas demand, significant supply disruption where all relevant market measures have been implemented but the supply of gas is insufficient to meet the remaining gas demand so that non-market measures have to be additionally introduced.

Ø The Commission may declare a Union emergency or a regional emergency for a specifically affected region at the request of a Competent Authority that has declared an emergency. When the request comes from at least two MS which have declared an emergency, the Commission shall declare a Union or regional emergency.

Ø The Gas Coordination Group is established, composed of Member States representatives as well as ACER¹⁰, ENTSO-G¹¹ and representative bodies of the industry concerned and those of relevant customers. It is chaired by the Commission. Its role is to facilitate the coordination of measures concerning security of gas supply and it shall be consulted and assist the Commission on security of gas supply issues as well as with the evaluation of the preventive action and emergency plans.

Ø Transparency and information exchange: During an emergency, the natural gas undertakings concerned shall make available to the Member States the daily gas demand and supply forecasts for the following three days, the daily flow of gas at all cross-border entry and exit points as well

¹⁰ Agency for the cooperation of energy regulators.

¹¹ European Network of Transmission System Operators for Gas.

as all points connecting a production facility, a storage facility or an LNG terminal to the network. Furthermore they are expected to make public the period for which it is expected that the gas supply to the protected customers can be ensured. In case of a Union or regional emergency the Commission can request this information from the Member States as well as information on how the MS is dealing with the situation.