

# Quarterly Report on European Gas Markets



- MARKET OBSERVATORY FOR ENERGY

VOLUME 2, ISSUE 1: JANUARY 2009 - MARCH 2009

Dear readers,

This issue of our quarterly report on European gas markets covers the months of January to March 2009 – a very unusual period which, I am sure, will be remembered not only by the men and women working in the European gas industries but also by many citizens who are using natural gas to heat their homes and who were deprived of their fuel of choice and convenience.

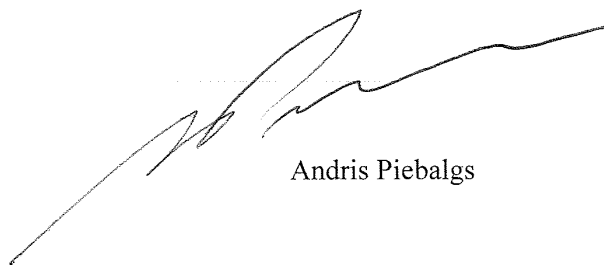
A gas conflict between the Russian Federation and Ukraine unfolded in the cold days of January. As the European Commission was coordinating a monitoring team of experts in both countries, it became apparent that the common action of Member States, together with the gas industry, is a powerful instrument for tackling energy security issues.

In the aftermath of the crisis the Commission decided to take action to reduce the vulnerability of the European gas system and to mitigate the repercussions to end-consumers in the event of an outbreak of a similar crisis. During the month of July a new proposal for a gas security of supply regulation has been proposed. It echoes the importance of physical infrastructure for liquid markets, in particular in times of supply shortages. The European Energy Programme for Recovery (EEPR) will also contribute financially to infrastructure projects identified as critical to the security of our gas grid. The Commission called upon the industry to submit project proposals by mid of July with a view to jump start implementation which should not only improve our energy security, but also foster growth and jobs in economically difficult times. This is why our report features a "*Focus on*" the crisis and subsequent action undertaken at EU level.

The first quarter of 2009 was a period during which the effects of the financial turmoil were spreading out to the real economy. Despite the slowing down of industrial production in the Member States which affected in its turn natural gas consumption, market participants continued to trade actively on the European wholesale gas markets. It seems that, for this period, the recession has not had a negative impact on liquidity. A similar development was observed on the wholesale electricity markets.

Finally, I would like to thank the growing community of readers for their support and encouraging reaction to this new publication of the Market Observatory for Energy.

Yours sincerely,

A handwritten signature in black ink, consisting of a series of fluid, connected strokes that form a stylized representation of the name Andris Piebalgs.

Andris Piebalgs

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<b>A.1.1 Spot markets</b>	3	<p>The weather conditions across Europe during the first quarter of 2007 and 2008 were, in general, unusually mild. In contrast, the months of January, February and March in 2009 were much cooler, with the average recorded temperatures for that period being within a close range around the long term average values. The graph on the next page shows the heating degree days (HDDs)<sup>1</sup> on a European-wide scale.</p> <p>On a regional level, there were more notable differences between the average and 2009 Q1 levels of HDD. As a rule, the Central and Western parts of the continent experienced colder than normal conditions while the weather in the Northern, Southern and Eastern regions of Europe was milder than usual.</p>
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<sup>1</sup> 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 the weather, the higher the number of HDDs. HDDs are quantitative indices designed to reflect the demand for energy needed to heat a building. Cooling degree days (CDDs) are defined in a similar manner.

### **Disclaimer**

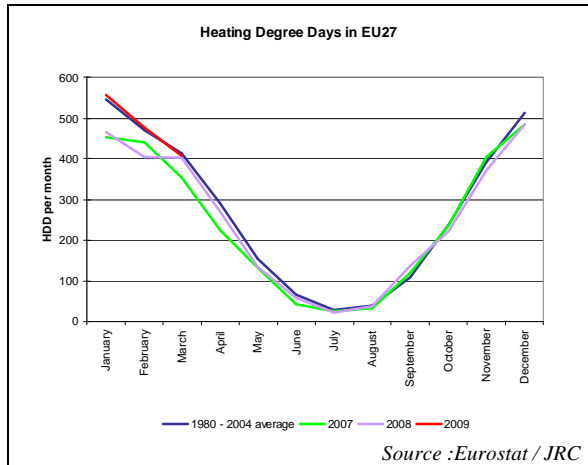
This report prepared by the Market Observatory for Energy of the European Commission aims at enhancing public access to information about prices of natural gas in the Members States of the European Union. Our goal is to keep this information timely and accurate. If errors are brought to our attention, we will try to correct them. However the Commission accepts no responsibility or liability whatsoever with regard to the information contained in this publication.

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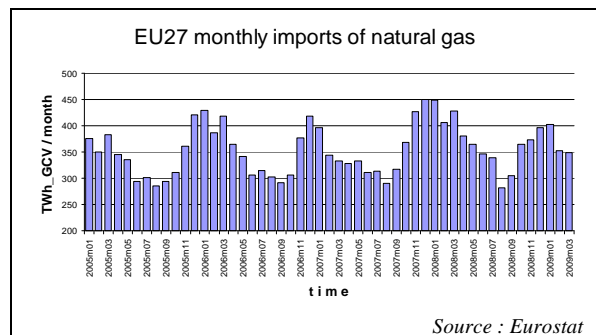
A commercial dispute between a Russian and a Ukrainian company provoked in the early days of January 2009 a 3-week interruption of natural gas supply on the EU – Ukrainian border.

It seems that the January gas disruption altered, at least temporarily, the usual pattern of colder weather leading to higher household consumption of natural gas. That was at least the case for a number of countries in Central and South Eastern Europe<sup>2</sup>.

For example, in Slovakia there were 118 HDDs more in January 2009 than during the same period of the previous year. The 20% increase of HDDs points to much colder weather conditions in 2009. However, the year-on-year consumption of natural gas fell by 16 % in January<sup>3</sup>. This development contrasts with the case of the neighbouring Czech Republic, a country which benefited from alternative supply sources (reverse flows), where HDDs and

gas consumption both increased by about 10% with respect to 2008.

Unsurprisingly, the largest falls in gas consumption in January were recorded in the Member States which were the worst affected by the gas dispute. In January 2009 Bulgaria, Romania and Greece experienced consumption reductions of 38%, 30% and 27% respectively. The corresponding reductions in natural gas imports were 54% for Bulgaria, 86% for Romania and 23% for Greece : roughly equivalent to the volumes of missing gas deliveries coming from the Russian Federation via Ukraine.



Member States with diversified import structures managed to replace parts of the missing deliveries of natural gas and, with the help of the European gas industry, to act in solidarity with countries which were facing critical situations. Other gas supplying countries, such as Norway, were also able to step up their production during the period of the conflict.

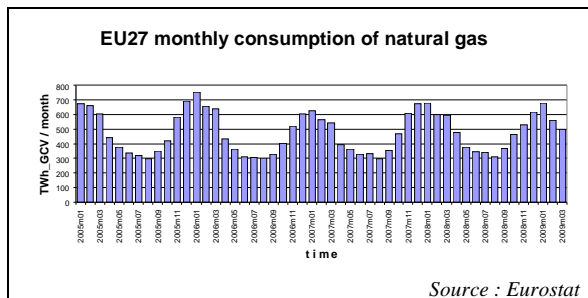
The "*Focus on...*" section of the current report sheds more light on this unpleasant episode and highlights the actions taken by the European Commission.

Since the countries from South Eastern Europe represent a relatively modest part in the total EU gas consumption, the falls

<sup>2</sup> Arguably, this was not the case for countries which were not directly affected by the disruption.

<sup>3</sup> In February and March 2009 the consumption continued to decrease by 3% and 15% respectively.

that they recorded were more than compensated by increased volumes coming from Central and Western European household consumers. The latter needed more gas for heating as a result of the colder than normal meteorological conditions in that region during Q1 2009.



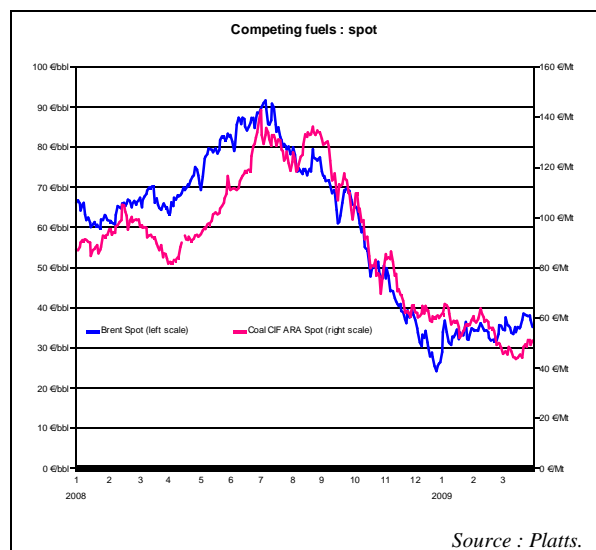
As a result, total gas consumption for EU remained stable in January 2009 with respect to the same period of the previous year.

The relation between consumption and temperature was also affected by the economic downturn which in turn affected the industrial demand for natural gas.

For example, while February and March HDDs were higher in 2009 than in 2008, the total EU consumption of natural gas for this period was reduced by respectively 8% and 16% as the economic recession was affecting more and more Member States.

### A.1.1 Spot markets

The energy commodities' markets experienced a long period of falling global prices. The beginning of this cycle corresponded more or less with the start of the economic slowdown.

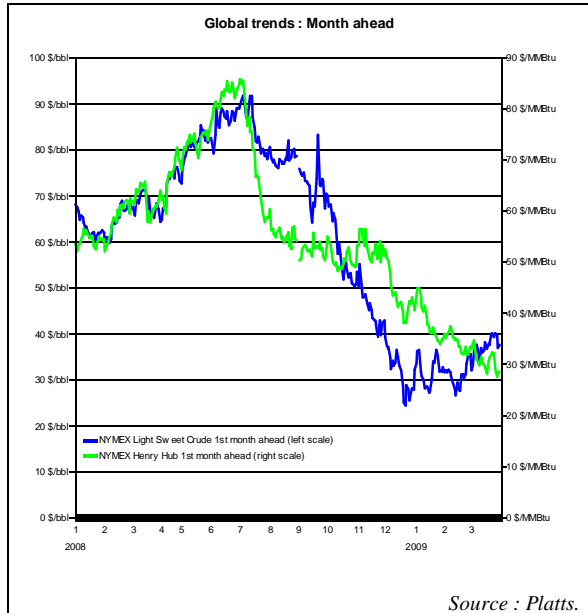


Whereas the spot price of the Brent contract registered a drop of almost 75% in value between July and August 2008, it remained more or less stable throughout Q1 2009, recording even a modest increase of 3%.

In contrast, the coal CIF ARA spot price<sup>4</sup> continued to slide down in the first quarter. It hit a low value of €43,4 / ton in mid March 2009, back from €142,6 / ton in the beginning of July 2008, representing a 70% decrease. In Q1 2009 alone the price had fallen by about 17%.

<sup>4</sup> The prompt price of a metric ton of coal (with calorific value of 6 000 kcal/kg) delivered in the Amsterdam-Rotterdam-Antwerp area.

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Global gas markets have followed similar developments. The NYMEX Henry Hub price for a month ahead delivery has lost more than a third of its value in the January – March 2009 period, accentuating the downward movement that started in the middle of 2008. As measured from the peak values in the beginning of July 2008 until the end of March 2009, the price decline was close to 70% (from \$85,6 / MMBTU to \$27,3 / MMBTU).

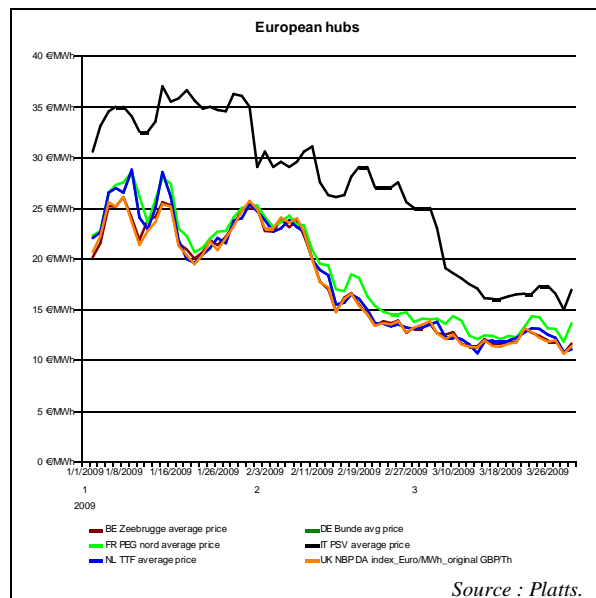
#### **A.1.1.1 European hubs**

The January gas crisis did not provoke a significant increase in wholesale gas prices across the European hubs. However, spot prices were much more volatile than in normal times. Hub prices of gas registered two episodes of peaks and troughs for the period between the 8<sup>th</sup> and the 21<sup>st</sup> of January 2009.

Whereas the gas supply was maintained at comfortable levels, the underground storages in some Member States such as

Germany and Austria were being depleted at an alarming speed as a result of the harsh weather conditions and the efforts of European gas companies to set reverse flows to Central and Eastern Europe<sup>5</sup>. It seems in this respect that the reduction in industrial demand resulting from the weakening economy provided some relief in a very difficult situation.

Compared to the previous year, liquefied natural gas (LNG) supplies to North Western Europe have increased<sup>6</sup>. During Q1 2009 the LNG prices were very competitive with respect to long-term gas prices (LTC). As a result, the effect of the Russia – Ukraine dispute on wholesale prices was reduced.



Among the factors that influenced market participants in Q1 2009 were the effects of the looming recession on the industrial demand for natural gas and the prices of

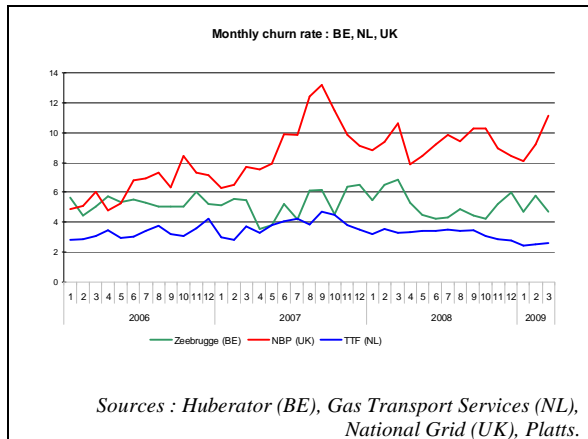
<sup>5</sup> See also section B.1 of the current report on page 15.

<sup>6</sup> See also section B.3 of the current report on page 17.



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competitive fuels. As a general rule, across Europe, wholesale gas prices lost about 40% – 50% of their value between January and March 2009.



The price developments did not have a negative effect on the trading activity on European hubs. Whereas the UK, Belgian and Dutch hubs have followed their own evolution, not one of these places recorded a significant drop of the churn rate<sup>7</sup>.

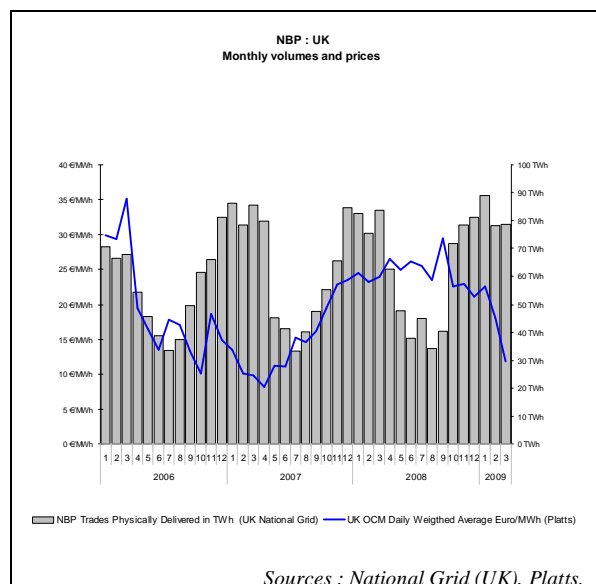
### **UK: National balancing point (NBP)**

For the first three weeks of January 2009 the NBP index on the OCM<sup>8</sup> increased by more than 15%. However, this could hardly be attributed to the gas disruption in Eastern Europe as market operators seemed to be more concerned with the harsh winter conditions affecting Great Britain at that period. With respect to the same month in 2008, there were more than 70 additional HDDs in January 2009. January 2009 temperatures were actually colder than the long term average values.

The domestic consumption of natural gas for heating decreased, in line with improving meteorological conditions in February and March 2009. The combined effect of the decreasing demand of industrial and domestic consumers resulted in a downward pressure for the wholesale price of natural gas.

On the supply side, there were increased numbers of cargoes delivering LNG to the grid. The amount of pipe gas coming from the North Sea fields was also increased marginally. As a result, the direction of gas flow on the Interconnector link between Belgium and the UK was reversed and more gas was flowing into continental Europe.

By the end of the observed period, the spot price fell by 45% with respect to its values at the beginning of 2009.



<sup>7</sup> The churn rate is an indicator for the liquidity of a market / hub. It measures the ratio between traded and physically delivered volumes.

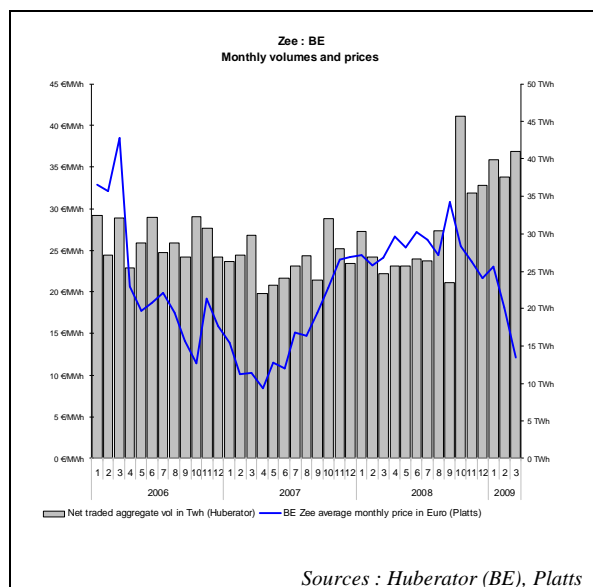
<sup>8</sup> On-the-day commodity market (OCM).

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Traded volumes on the NBP remained stable throughout the first quarter of 2009<sup>9</sup>. At the same time, the physical throughput was decreasing as it was following its usual seasonal pattern. As a result, the churn rate picked up from about 8 in January 2009 to more than 11 in March 2009.

### **Belgium: Zeebrugge (ZEE)**

The net traded volume and the physical throughput increased significantly on the *Huberator*, the gas exchange piloting the Zeebrugge hub.



Year-on-year, the net traded volume cleared at the *Huberator* increased by 32%, 40% and 66% in January, February and March 2009. However, the reversal of the flow on the Interconnector produced an even bigger effect on the physical volumes

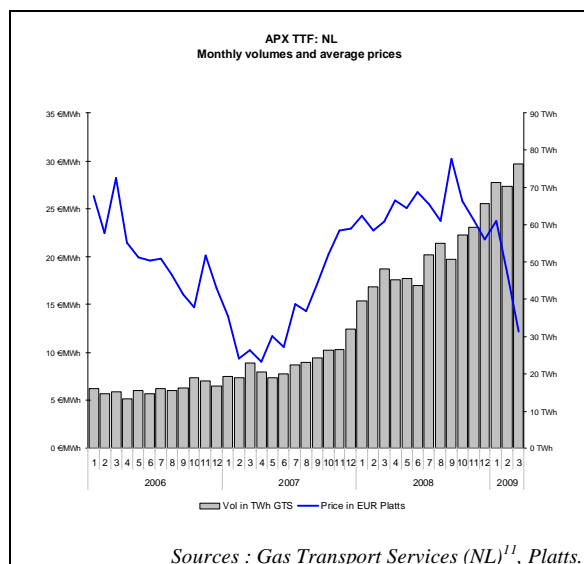
<sup>9</sup> Compared to the same months of 2008 however, the traded volumes decreased slightly during the January – March 2009 interval. The average decrease rate was about 5%.

transited through the Belgian grid. The corresponding monthly values were 53%, 57% and 143%. This resulted in a churn rate which was lower than its Q1 value in 2008<sup>10</sup>. Compared to the final months of 2008 however, it remained at about the same level.

Wholesale prices on Zeebrugge and on NBP were within a close range throughout Q1 2009. For the observed period the spot price lost about 42% of its value.

### **Netherlands: Title transfer facility (TTF)**

Despite an increasing demand from residential consumers, the Dutch wholesale prices remained in line with their UK and Belgian counterparts.



In January 2009 there were almost 200 HDDs more than in the same period of

<sup>10</sup> See the graph on the previous page of this report.

<sup>11</sup> For a specific period, the traded volume is the sum of the nominated volumes on TTF made by shippers and confirmed by GTS.



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2008<sup>12</sup>. Compared to the long term average values, the temperatures during the first month of 2009 were about 10% cooler.

It seems that the reduction in industrial demand was bigger than the additional quantities of gas needed by residential consumers for heating their households.

As a result, in Q1 2009 the average monthly spot price of the TTF lost about half of its initial value.

In a development similar to the Belgian hub, the Dutch churn rate remained stable in Q1 2009. Compared to the same period in the previous year however, the churn rate actually fell on average by 25% as the increase in the physical volumes outpaced the increase in the traded volumes<sup>13</sup>.

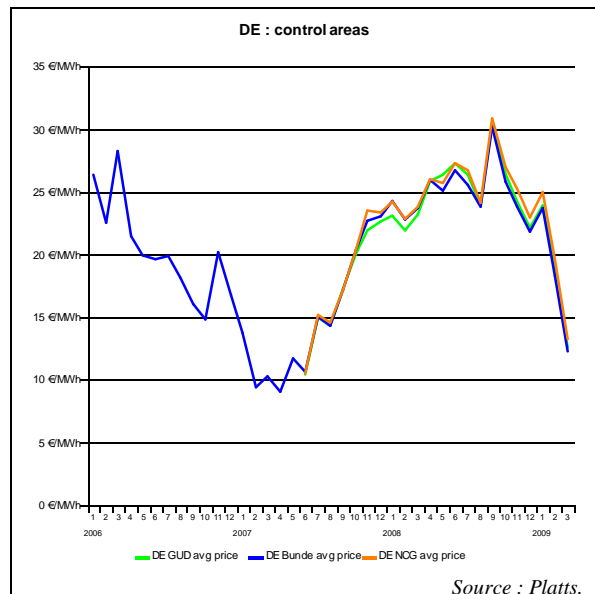
**Germany: NetConnect (NCG)<sup>14</sup>,  
Gasunie transport services (GUD)<sup>15</sup>,  
Bunde**

The cold weather and the gas disruption in Eastern Europe did not produce a significant effect on the German wholesale prices.

By the end of March 2009, spot prices in the *Gasunie*, *NetConnect* and *Bunde* control areas lost about half of their values

since the start of the year and continued to move in parallel to each other.

As was the case for the Netherlands, January 2009 was an unusually cold month. Compared to January 2008, it had more than 180 additional HDDs. With respect to the 20 year average value, this was still in excess of 60 HDDs.



However, the spot price at the beginning of 2009 was in range with its January 2008 values, suggesting that the overall balancing conditions were quite alike for these two periods.

On the supply side, the reverse flows of gas originating from the German underground storages and directed to the countries of Central Europe had moderate gas quantities supplied to the German grid.

On the demand side, it seems that the reduced amounts of industrial demand for natural gas resulting from the economic recession were bigger than the additional

<sup>12</sup> The corresponding figure for the month of February in 2009 and in 2008 was + 40 HDDs; for the month of March it was – 4 HDDs.

<sup>13</sup> Year-on-year, the increase of physical throughput for the months of January to March 2009 was respectively +140%, +131% and +98%. The corresponding increases for the total volume of cleared trades on the TTF were respectively +79%, +63% and +58%.

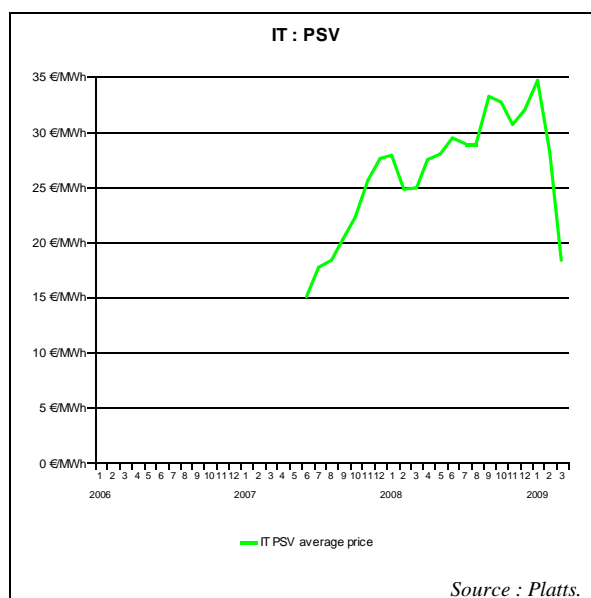
<sup>14</sup> NCG is formerly known as *E.ON Gastransport (EGT)*.

<sup>15</sup> GUD is formerly known as BEB.

volumes of gas needed by domestic users for heating.

### Italy: Punto di Scambio Virtuale (PSV)

With respect to other European hubs, the Italian wholesale spot price was traded at a premium throughout the first quarter of 2009. As indicated in the graph on page 4 of the current report, this premium tended to decrease by the end of the observed period.



Compared with the same periods for 2008, the average January and February 2009 values were higher by €7 / MWh and €4 / MWh respectively. The average March 2009 price was however lower than €8 / MWh with respect to the same month in the previous year.

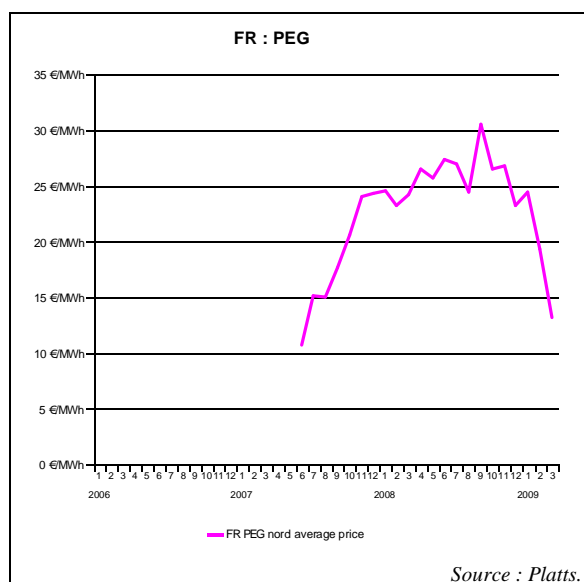
Despite decreasing levels of storage and a major pipeline connecting Italy and Algeria (TRANSMED) being under maintenance, it seems that market operators were paying special attention to

the gas disruption which was unfolding in Eastern and Central Europe at the beginning of the year.

The January 2009 average price (€34,6 / MWh) was the highest price recorded on the PSV hub.

### France: Point d'Echange de Gaz (PEG)

Compared to the same period in the previous year, there were 130 additional HDDs in January 2009. The monthly temperatures were lower than the corresponding average values, with the month of January being the furthest away from its mean.



Since natural gas is not the heating fuel of choice for a significant number of French households, the low temperatures did not increase the demand for gas on a great scale.

The average spot price in January 2009 was close to its value 12 months ago at about €24,5 / MWh. The average prices in

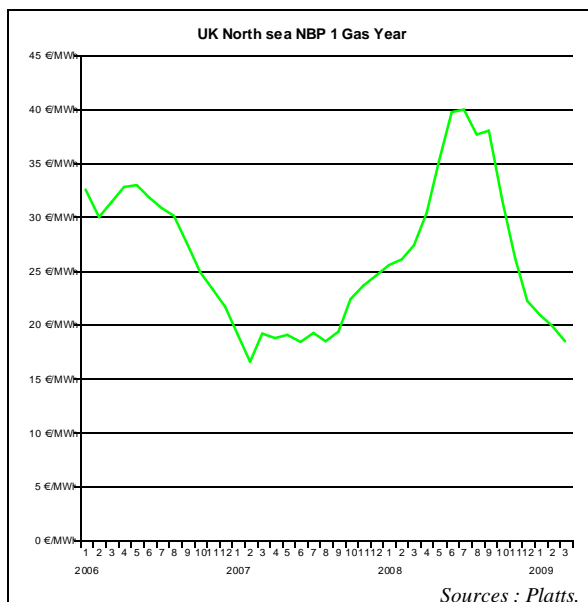
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February and March 2009 fell year-on-year by € 4 / MWh and € 11 / MWh respectively.

As the economy was slowing down, industrial users needed less natural gas, putting a downward pressure on prices. During the observed period, the wholesale gas price on the PEG hub fell by approximately 40%.

***A.1.1.2 Reported border prices on long term contracts for pipe gas***

In the United Kingdom, the NBP spot price serves as a reference for the contracts on the forward curve. When a hub price indexation is used as pricing mechanism (gas-to-gas competition), the prices of the forward contracts for natural gas react without any delay to changes in the demand and supply conditions on the global energy markets.

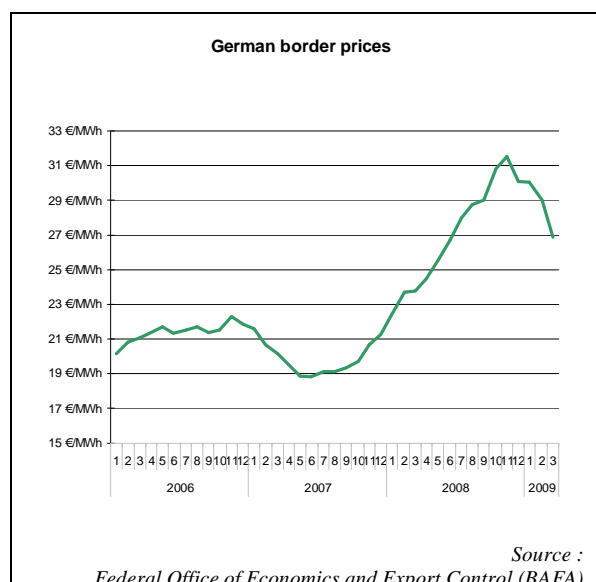


For example, the July 2008 peak in the average monthly price of the year ahead

North Sea gas contract (€ 39,9 / MWh) coincided with similar peaks in the spot or near curve prices of other global energy commodities, as can be seen from the graphs on pages 3 and 4 of the current report.

For the observed period, the price of the year ahead North Sea gas contract continued its downward movement, losing about 11% of its initial value. Year-on-year, the price of the contract fell 18% in January, 24% in February and 32% in March, suggesting that in Q1 2009 market participants were more pessimistic about the prospects of the gas industry in the coming year that they were at the beginning of 2008.

Hub price indexation is much more common in the UK. In contrast, the majority of countries in continental Europe continue to use the oil-to-gas lagged indexation approach for pricing the long term contracts (LTC) for pipe gas.



As can be seen from the graph showing the evolution of the average German border

price, LTC prices continued to rise until November 2008 (€ 31,49 / MWh) before falling in line with the global trends of decreasing energy prices, implying that the lag used in the indexation pricing of the pipe gas coming to Europe is somewhere between 4 to 6 months.

In the first quarter of 2009 the average monthly German border price lost about 10% of its initial value. Compared to the corresponding months of the previous year however, the price was still 34% higher in January 2009. For February and March 2009 the price was respectively 22% and 13% higher making pipe gas even less attractive for industrial users.

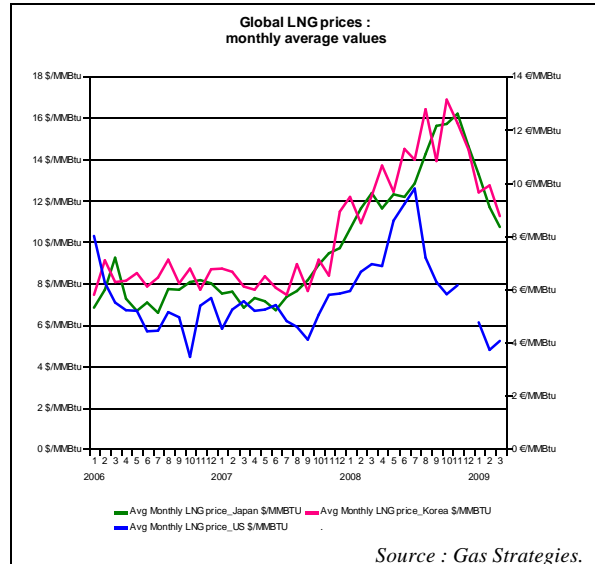
Whereas the delayed reaction of LTC prices to the economic slowdown offered interesting opportunities for the flexible LNG suppliers, it could be expected that once the recession is over, pipe gas could become once again very competitive.

### ***A.1.1.3 Reported prices for LNG deliveries***

#### **North America and Asia**

LNG prices in the Atlantic basin remained well below Pacific LNG prices in the first quarter of 2009. It seems that from the start of the US economic recession the premium between the two regions tends to increase, passing from \$ 2 – 3 / MMBTU to \$ 6 – 8 / MMBTU.

As the US market was first to experience the effects of the financial crunch and of the slowing economic activity, it was also the first to see falling LNG prices.



The monthly average LNG price went from \$12,56 / MMBTU in July 2008 to \$5,20 / MMBTU in March 2009, an almost 60% decrease. Compared to the corresponding Q1 2008 values, the average monthly prices in the first quarter of 2009 lost a third of their value.

Starting from October and November 2008, Korean and Japanese prices began to fall, also losing about a third of their value by the end of March 2009. During the observed period the average LNG price in Japan was down by 20% while the Korean one was somewhat more stable, losing “only” 10%.

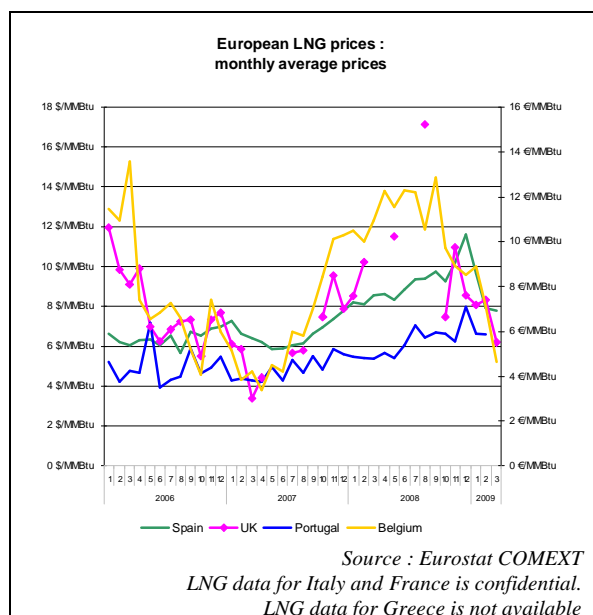
#### **Europe**

As was the case for the North American and the South Asian regions, the European monthly LNG prices were also decreasing during the first quarter of 2009.

It seems that the downturn started at the end of the third quarter of 2008 with Belgian LNG prices leading the way. The dollar price of a million BTUs of gas of

Zeebrugge-bound Qatari cargos fell from \$12,95 in September 2008 to \$4,62 in March 2009, a reduction of more than 60%.

By the end of 2008 the spot prices on the English, the Spanish and the Portuguese LNG terminals were also decreasing. This period corresponds more or less to time when Asian LNG prices started to fall.



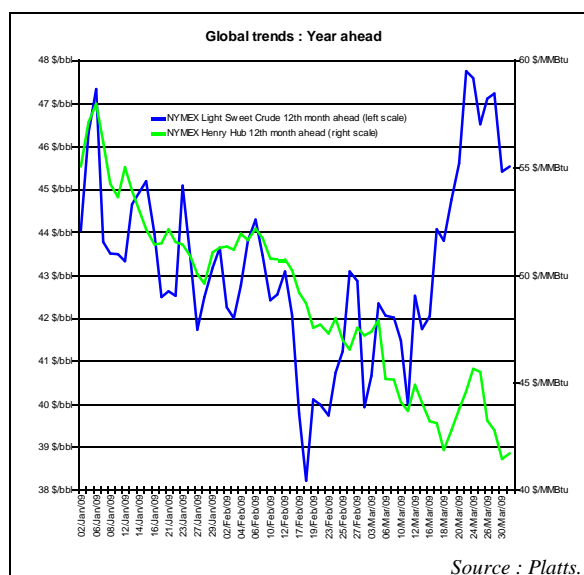
During the first quarter of 2009 the average monthly price of a million BTUs of LNG fell in Belgium, UK and Spain by 48%, 23% and 19% respectively. Year-on-year, January 2009 prices were higher in Spain and Portugal and lower in the UK and Belgium.

### A.1.2 Forward markets

Throughout the first quarter of 2009 the prices of the NYMEX future contracts of oil (Light Sweet Crude) and gas (Henry Hub) were in contango<sup>16</sup>.

The average premium of the year ahead oil contract with respect to the month ahead contract was about \$ 10 / bbl (see page 4 of the current report). By the end of the observed period the premium was decreasing.

In contrast, the premium of the gas contract remained stable around the average value of \$14 / MMBTU.



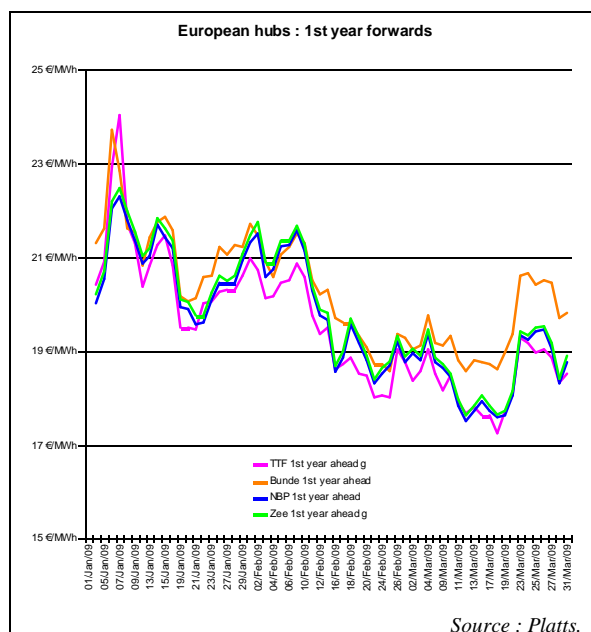
While the future price for oil has started to increase from the middle of February 2009, it seems that the price of the Henry Hub contract was still falling.

<sup>16</sup> The term *contango* describes a situation where the future price is *higher* than the spot price.

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By the end of March 2009 the Light Sweet Crude contract recovered the early year losses, registering even a small increase of 3%. On the other hand, the future gas contract lost more than a third of its value.

The prices of the European future contracts were more volatile than those of the Henry hub in the US. In the early days of 2009 they exhibited a similar pattern to the one seen for the spot prices (see page 4 of the current report).



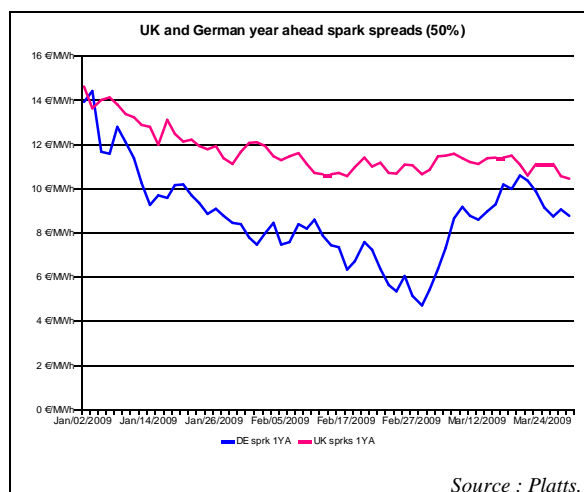
Some of the factors that could explain this particular form of two consecutive highs and lows in the space of 3 weeks were the cold weather conditions in North Western Europe and the gas dispute between the Russian Federation and Ukraine.

Compared to the spot prices, at the beginning of Q1 2009 the European year ahead prices were in backwardation<sup>17</sup>, with a maximum discount between €5 / MWh

<sup>17</sup> The term *backwardation* describes a situation where the future price is *lower* than the spot price.

(NBP) and €8 / MWh (TTF). Then, by the beginning of February 2009 the future prices started to be traded higher than the spot, moving to contango. Over the observed period, all European future prices were traded at premiums, with average values ranging from €1,4 / MWh (TTF) to €2,2 / MWh (Bunde).

The value of the year ahead spark spreads<sup>18</sup> in the UK and Germany declined as the price of the year ahead electricity contract fell quicker than the price of the corresponding forward for gas.



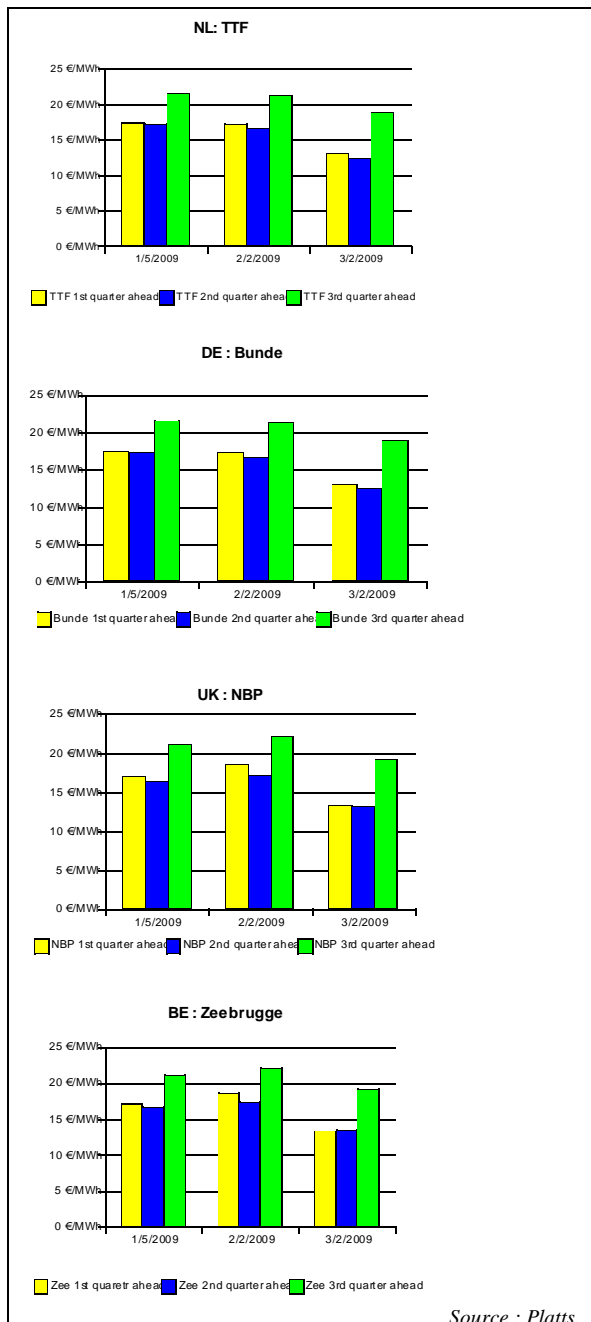
In the UK, where gas fired power plants are relatively more important than in Germany, the spark spread fell from €14 / MWh at the beginning of January 2009 to €10 / MWh by the end of March 2009.

As shown in the following graphs, the European forward contracts for natural gas

<sup>18</sup> Spark spreads are indicative prices showing the average difference between the cost of gas delivered on the gas transmission system and the power price. As such, they do not include operation, maintenance or transport costs. The spark spreads are calculated for gas-fired plants with standard efficiencies of 50% and 60%. This report uses the 50% efficiency.



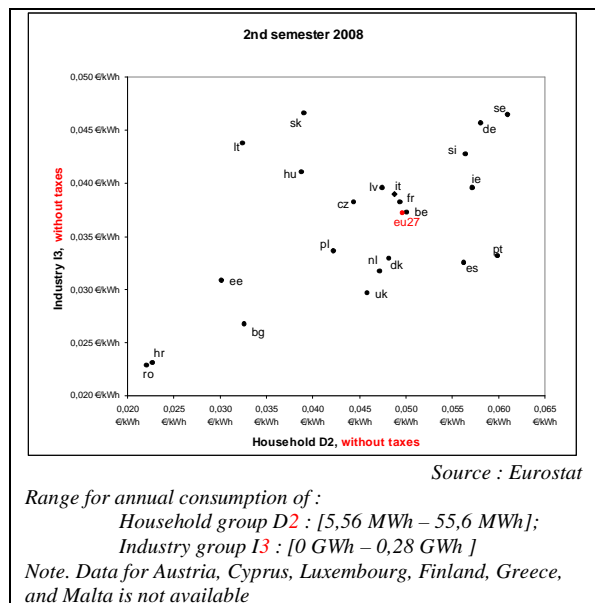
moved from backwardation to contango. This development may be interpreted as an indication that market participants were becoming more confident about a possible picking up of industrial demand for gas resulting from a quicker than expected recovery of the world economy.



## A.2 Retail markets

### A.2.1 Prices by Member State

The next scatter plots compare the European Member States with respect to the average price paid by the "median" domestic and industrial consumer<sup>19</sup> during the second half of 2008. The first and second graph present the end consumer gas prices without and with taxes.

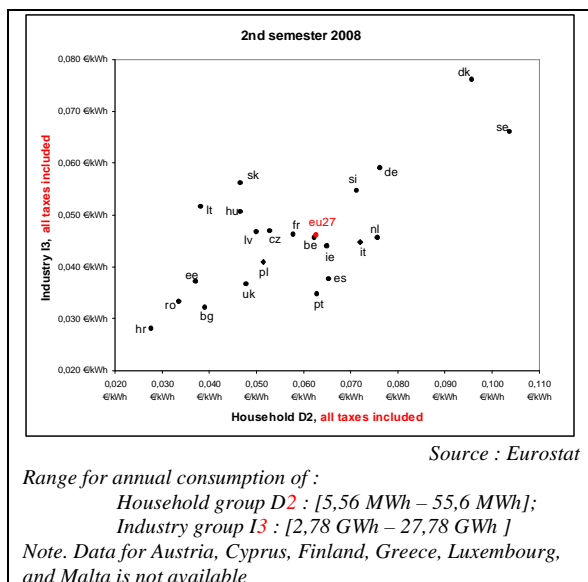


The half yearly increase of gas prices (net of taxes) in the EU Member States was € 0,006 / kWh on average for group I3 and D2 of industrial and domestic consumers.

<sup>19</sup> 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.

Latvia, Slovenia and Germany registered more than 1 eurocent per kWh increase for domestic consumers of group *D2*<sup>20</sup>.

Slovakia, Lithuania and Latvia were the countries with the highest increase of net gas prices for industrial consumers of group *I3*. The price increase in each one of these countries was also above 1 eurocent<sup>21</sup>.



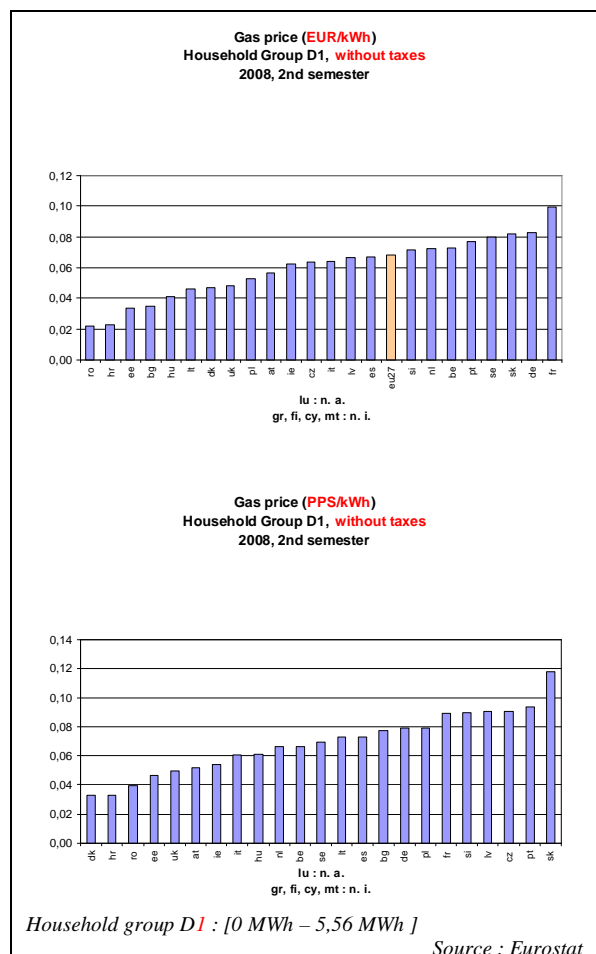
Adding taxes to the end consumer price does not alter the list and the positions of the above mentioned countries – it only increases the price rise but the total effect in the price is still below 2 eurocents per kWh.

It is also interesting to note the change of the position of Denmark on the two scatter plots. This gas producing country, is applying an important tax, so that Danish end consumers are paying one of the most

expensive gas prices in EU. This pricing signal gives customers clear incentives to improve their energy efficiency.

### A.2.2 Cross-panel data on natural gas consumption of households

The graphs in the next box represent the EU Member States ranked by the average price paid in the second half of 2008 by consumers of group *D1*, the ones who are using the most modest amount of natural gas.



<sup>20</sup> The respective values for these Member States were 1,77; 1,27 and 1,07 eurocents per kWh.

<sup>21</sup> The respective values for these Member States were 1,45; 1,21 and 1,11 eurocents per kWh.

Positions of the countries change significantly with respect to the monetary unit used. As a rule, using the Euro as an accounting unit makes new Member States

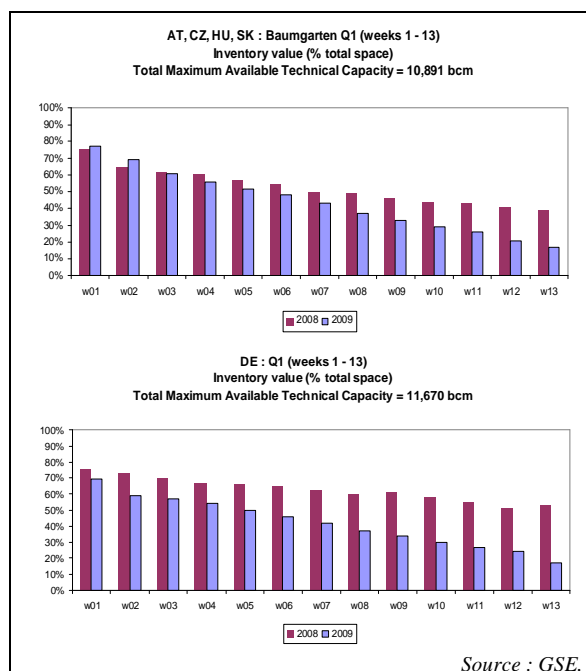
look very competitive. 8 from the 10 least expensive Member States in Europe come from that group.

In contrast, the purchasing power standard unit is suggesting that *DI* domestic consumers from Eastern Europe are paying one of the highest prices of gas – 8 new Member States are among the 11 most expensive countries in the EU.

## B. Midstream flows

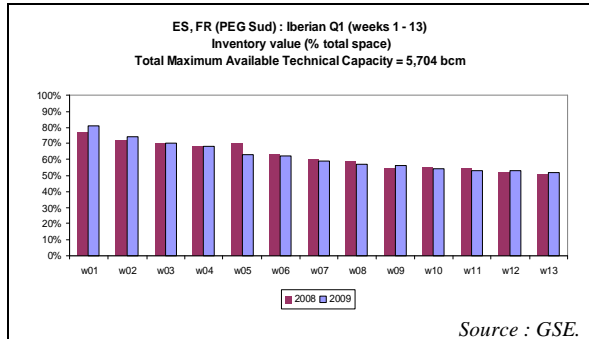
### B.1 Storage

An inspection of the gas storage data shows that during the observed period, market participants were using this infrastructure more intensively than in Q1 2008. This was the case for most of the underground storages monitored by *Gas Infrastructure Europe*, with the notable exception of Spain and the South of France.

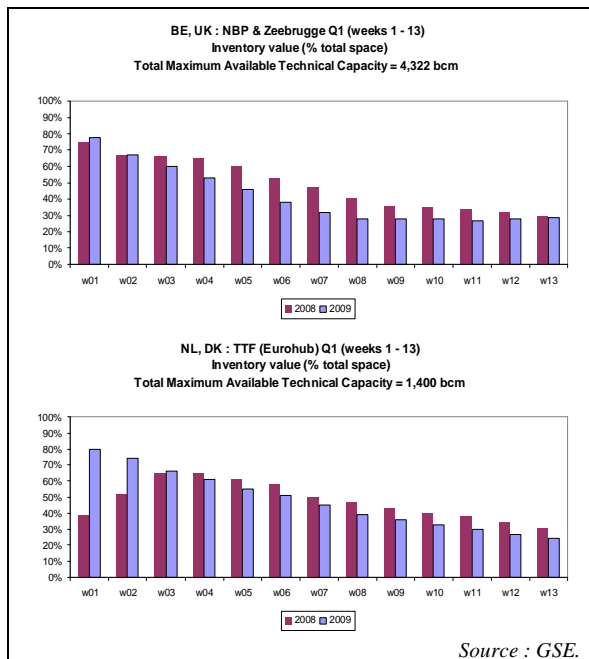
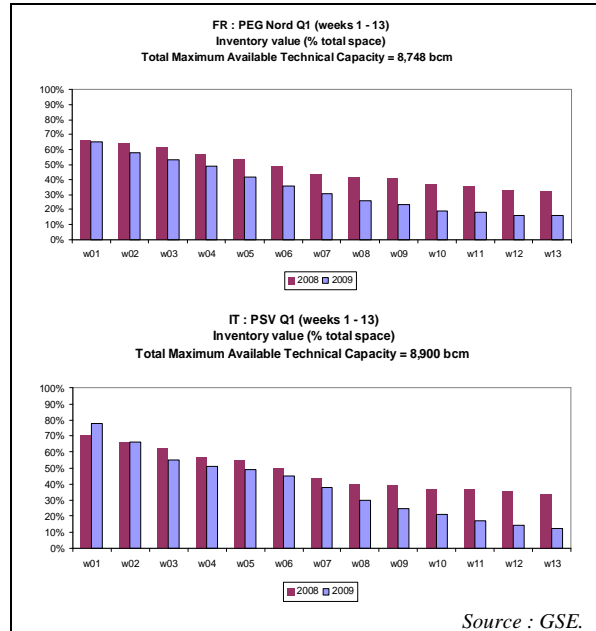


One obvious reason for this more intensive use, at least in the beginning of 2009 was the fact that gas companies from Western Europe were helping their peers from East and Central Europe by pumping gas out of the storages in Central and Western Europe in order to increase the pressure and to reverse the usual direction of gas flows.

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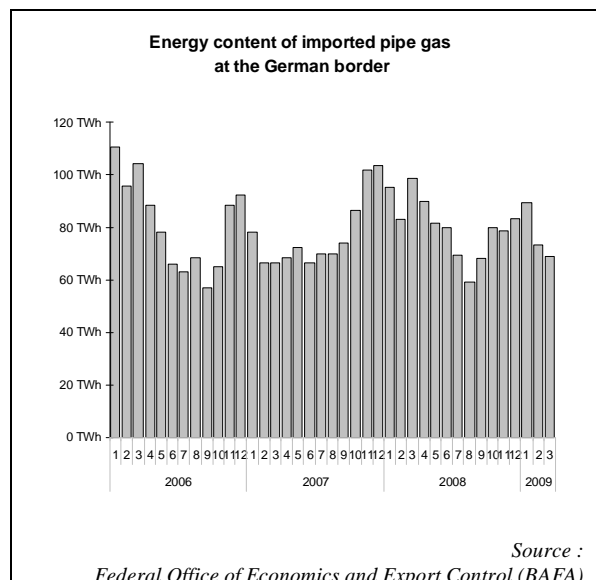
Another possible reason is that market participants seemed to prefer using cheaper stored gas than the pipe gas (once the flows were restored).



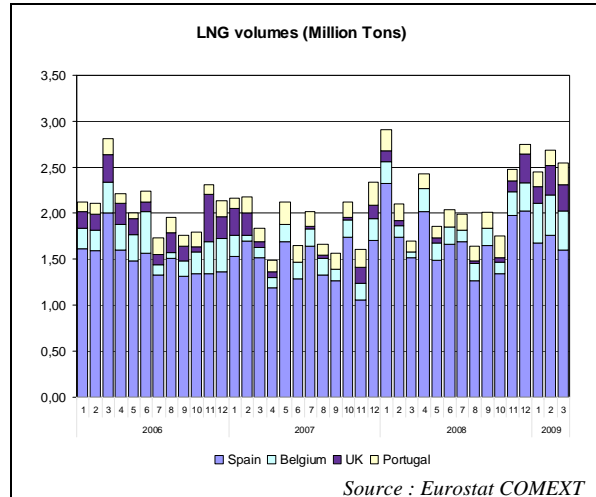
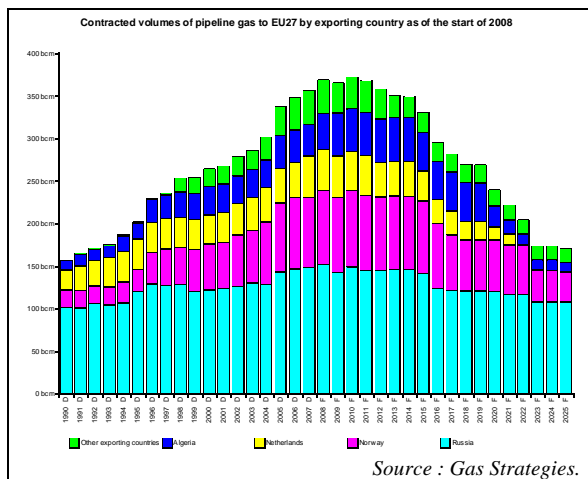
As mentioned elsewhere in this report, the oil-to-gas lagged indexation formula was making pipe gas less competitive during the first quarter of 2009.

## B.2 Pipeline

The next graph gives an additional insight of the reduced volumes of pipe gas coming into Western Europe. In the first three months of 2009 the volume of imported pipe gas at the German border fell by 6%, 12% and 30%, in line with the diminishing needs of industrial consumers.



Despite the January 2009 episode, the Russian Federation and Ukraine remain one of the most important energy partners of the EU, with a long history of reliable supplies.



In contrast, supplies tended to increase in North Western Europe as the LNG is adding an interesting diversification option to the supply portfolios of market participants and as world LNG prices remained at competitive level throughout the first quarter of 2009.

### **B.3 LNG**

By the end of 2008 the amount of LNG delivered to the Spanish grid started to decrease. From December 2008 to March 2009 the monthly volumes were reduced by 0,4 million tons.

The LNG represents the main supply source of gas for the Iberian Peninsula. It seems that the 2009 Q1 volume evolution coincides well with the reduced demand from big consumers as Spain was entering a period of recession.

### *C. "Focus on the January 2009 gas dispute between Russia and Ukraine "*

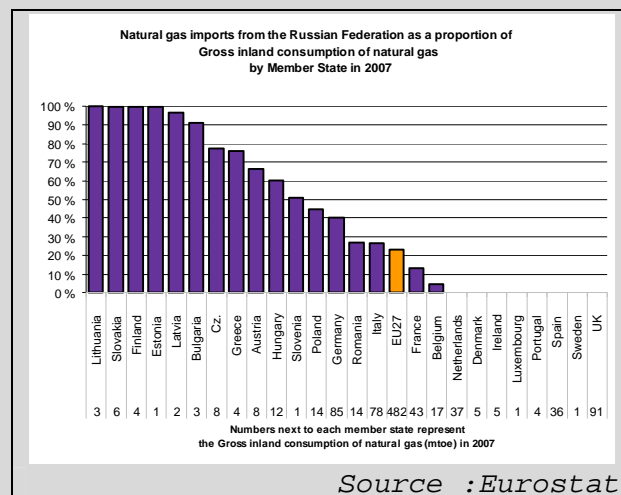
A commercial dispute between Gazprom of Russia and Natftogaz of Ukraine caused Russian gas supplies to the EU via Ukraine to be completely halted on the 7<sup>th</sup> of January 2009. Normal supply conditions were not restored until the 20<sup>th</sup> of January 2009.

Not only did the supply interruption come during a period of peak gas demand, but it also coincided with Europe experiencing one of the coldest winters of recent years.

The disruption was of particular concern for the EU, given its reliance on Russian gas imports transited through Ukraine. 23% of the gross inland EU gas consumption comes from Russia, around 80% of which passes via Ukraine. Between 2005 and 2007 the part of Russian supplies remained stable in the range of 23% - 24%.

The EU dependency on imported natural gas is growing - between 1996 and 2006 it increased by 40%.

As the data in the chart below reveals however, the level of dependence of EU countries on Russian gas varies considerably from one Member State to the other. The event triggered emergency situations in most Eastern EU Member States, and led to the worst gas crisis ever experienced.



In countries most dependent on this gas flow, consumers had to rely on alternative means of heating their houses, such as electricity and, in places even, wood-burning. For industrial customers in Bulgaria, Romania, Hungary and Poland where major shortages occurred, demand simply had to be reduced.



The crisis did not however have a big impact on the gas wholesale markets. Whereas the spot price of natural gas was more volatile, it did not record a significant increase as was the case during the Russia - Ukraine gas conflict in 2006. Traded volumes remained stable. The number of deals and volumes in the NBP day-ahead index did increase in January compared to the previous month, but this was attributable to falls in temperature, rather than the supply disruption.

Compared to the previous year, liquefied natural gas (LNG) supplies to North Western Europe increased. During Q1 2009 LNG prices remained very competitive with respect to long-term gas prices (LTC). As a result, the effect of the Russia - Ukraine dispute on wholesale prices remained limited.

In addition, quick and effective reactions by the European gas industry throughout the period of the crisis to continue supplying domestic customers provided significant relief. For instance, gas was made available to the Czech Republic via the Yamal pipeline, Czech gas storage was made available to Slovakia and Austrian gas to Slovenia.

However, the incident called into question the reliability of Russia and Ukraine as, respectively, supplier and transit countries, and inspired reflection on how better to assure EU external energy security.

At the EU level, one major difficulty in assessing how best to respond to the crisis was the absence of reliable information about the gas transiting through Ukraine to the EU. This was addressed by the deployment of experts from the industry and the European Commission on the Ukrainian and Russian territories to monitor gas flows to the EU. This initiative was vital for confidence building as well as increasing transparency.

The crisis also served to underline the timeliness of the recent Commission's Second Strategic Energy Review (published in November 2008), which stressed as one its key objectives the need to address the growing precariousness of Europe's energy supply security.

One particular area in which the Review calls for more action is with regard to the promotion of the rapid development of infrastructure for the EU's energy needs, by encouraging both diversity of energy sources and supply routes.

In that respect, the European Commission sidelined € 1,4 billion towards a number of gas infrastructure projects, such as the Nabucco pipeline and the Baltic Energy Market Interconnection Plan (BEMIP), as part of its € 3,98 billion stimulus package of investment in energy-related projects in 2009 and 2010.

The European Commission also welcomed the signing on the 13th of July of the Nabucco Intergovernmental Agreement, which sets out the

terms and conditions under which gas can be exported from the Caspian Sea and the Middle East to the European Union and Turkey. Potentially, Nabucco can supply up to 5-10% of European gas demand, but in countries that are currently 100% reliant on one external supply route, it will provide immediate tangible security of supply benefits.

In addition, on the 16<sup>th</sup> of July 2009, the European Commission proposed a new Regulation which will strengthen the existing EU system for gas supply security. The focus lies on prevention and crisis management in the internal energy market. The Regulation requires all Member States to take effective action well in advance to prevent and mitigate the consequences of potential disruptions to gas supplies by establishing national preventive and emergency plans. The Regulation proposes an infrastructure standard (n-1) and supply standards for protected customers as common security of supply standards. It aims to provide incentives for investment into infrastructure necessary for security of supply in the internal energy market. On the Community level the new Regulation supports regional cooperation and strengthens the role of the Gas Coordination Group as mechanism for Member States and industry to work together to deal effectively with any major gas disruptions which might arise.