Impediments to Gas Trading in South South East Europe

Austria, Bulgaria, Czech Republic, Germany, Greece, Hungary, Italy, Poland, Romania, Slovakia and Slovenia

Introduction

In 2006 the European Regulators' Group for Electricity and Gas (ERGEG) launched the Electricity Regional Initiative (ERI) and Gas Regional Initiative (GRI). ERI and GRI are European based initiatives which have been set up in order to make a real contribution to the integration of national markets by facilitating the creation of regional energy markets in the fields of electricity and gas.

The GRI has established three regions in Europe which together form the Gas Regional Energy Market (REM). PricewaterhouseCoopers analysed one of these regions with a view to highlighting impediments for traders. Our survey placed a focus on regulatory, administrative and information-related impediments to gas trading in the region, which consisted of Austria, Bulgaria, Czech Republic, Greece, Hungary, Italy, Poland, Romania, Slovakia and Slovenia. Germany is not part of this region, however due to the importance of the German market we also included part of Germany within the survey. The countries mentioned cover the 'South South East' Regional Energy Market Initiative of ERGEG.

PricewaterhouseCoopers has a worldwide network of energy experts covering the areas of energy, utilities and mining, together with which we analysed the national markets. In addition, we asked traders which are active in these markets to share some of their experiences and frustrations. Our intention is that, on the basis of the research carried out and combined with the results of the survey, we will make a valid contribution towards the further development of regional energy markets.

At this point we would like to take this opportunity to thank the European Federation of Energy Traders (EFET) for the support they have given towards the survey.

For the purpose of the survey we sought the opinions of 18 European gas traders which are active in at least one of the markets. The survey results show that there are significant barriers for traders in these markets. One of the key findings established is that traders would welcome the opportunity to gain access to regional markets and would also welcome an international coordination office which would support the national operators and authorities. Looking ahead there is a considerable need for a clear regulatory framework that should provide greater ease and transparency for energy traders. The survey sets out some of the next steps that could be taken.

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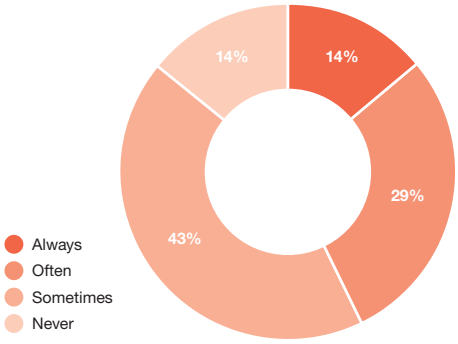
Table of Contents

Traders have pointed out in this survey that, despite some limited advances, considerable administrative and regulatory impediments to market access remain. The idea of an independent entity that would work towards ensuring the non-discrimination of access to transportation capacities would be welcomed by 60% of traders.

Gas transmission systems, and above all the availability of transportation capacities, are important factors when it comes to the proper functioning of gas markets in Europe.

Traders' responses indicated that the level of transit capacities available in the region is insufficient. This level of transit capacities cannot be increased in the short and medium term, therefore capacities should be made available to market participants through market oriented auction mechanisms which are already in place. Only once congestion on transit pipelines has been reduced can national markets be successfully integrated into a regional market.

Figure 1:
Traders' view – Impression that the required transit capacities are not being used



In taking into account the fact that 71% of traders had the impression that booked capacities “often” or “sometimes” are not used, and that even 14% believed that is permanently the case, it seems that it is not the capacity shortage, but instead the inefficient auction mechanisms – or lack thereof – that impede access to transit capacities.

Traders see the biggest areas for potential improvement as being the level of efficiency of the market in the implementation of the equivalent of a cooperation agreement between TSOs, better access to gas storage facilities and the removal of congestion in international transit lines as well as throughout the market.

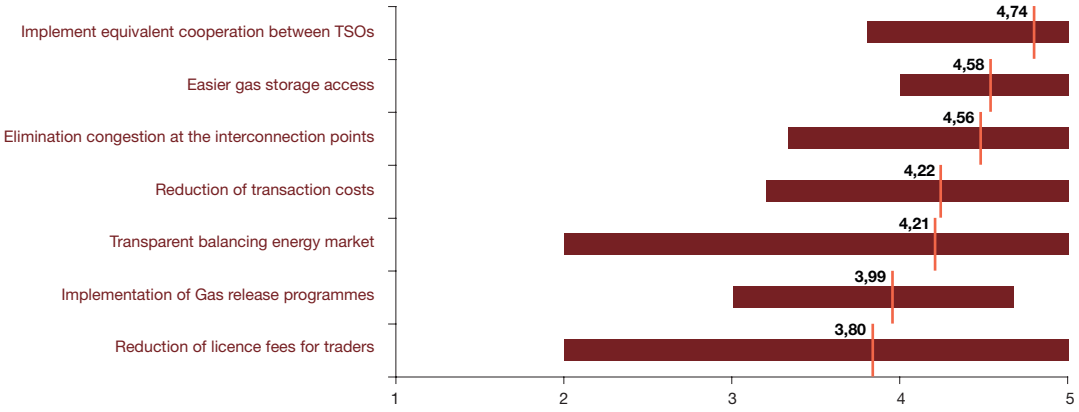
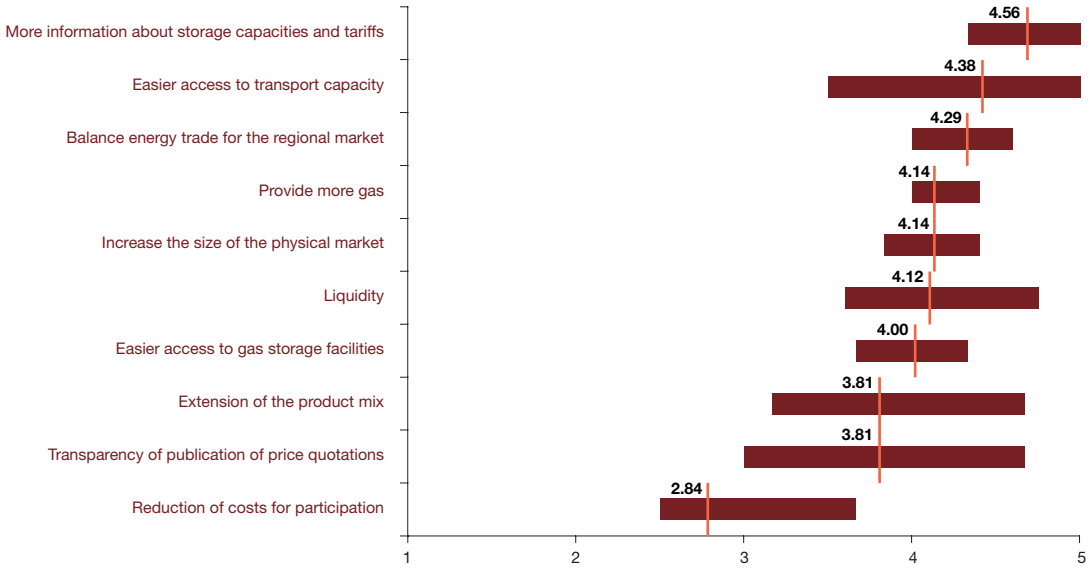


Figure 2:
Average and range of all measures throughout the region where ‘5’ represents the most urgent measure

Secondly, the transparent balancing of energy markets and the reduction of trade related transaction costs were cited as important fields requiring further improvement. Market oriented pricing of balancing energy and trade of balancing energy at hubs are, according to traders, the prerequisites for a coherent and liquid market. 75% of traders would welcome an international coordination office that would manage the market for balancing energy. Furthermore, all traders would welcome a standardised balancing energy system for the region. The traders agreed that the EEX power exchange and the CEGH in particular should be integrated into the surrounding balancing energy market.

Of all the hubs, the CEGH is perceived not only as the most important CEE/SEE hub for the future, but also as the best suited hub in terms of its position as a regional trading platform. Furthermore, all respondents would welcome the establishment of a regional price index in instances where one would be technically and economically viable.

Figure 3:
Average and ranking of all measures for all trading points (hubs) where '5' represents the most urgent measure



The main tenor of the traders has been that successful hubs and trading platforms can only develop so long as the hubs commit themselves to balancing energy trade for the region and provide more information about storage capacities, including tariffs, as well as easier access to transportation capacities.

Improved access to transport or storage capacities is a priority measure that applies in the case of each of the hubs. The development of the hubs cannot be successful without integrating them into the balancing energy markets; they must also be within the transmission system of the region.

Throughout the region only 17% of traders believe adequate storage capacities are in place, with more than 50% stating that they could not provide any details. At the same time, at least 50% of traders were of the opinion that it is either “sometimes” or “always” the case that reserved storage capacities are not used. When it comes to transit capacities, as mentioned earlier, 71% of traders had the impression that booked transit capacities “often” or “sometimes” are not used, with 14% of traders stating that they “always” had this impression.

The implementation of universal IT system standards creates considerably high potential for the reduction of transaction costs for traders. Different and incompatible platforms for nomination and trading reduce levels of usability and can slow down procedures. The top measures cited for improvement included improved software compatibility and the standardised exchange of information.

PricewaterhouseCoopers carried out an initial assessment of the potential cost savings for the end consumer if the main barriers in the gas market of the South South East Region were reduced.

Based on the results of the survey, the following measures are considered to be the most important:

1. Better utilisation of existing capacities

2. Standardisation of systems

3. Creation of more efficient market to reduce costs for clients

If, in the first case, the utilisation of existing capacities could be increased by 10%, a saving related to necessary expansion investments of EUR 800m could be made.

In the second case, 20% of system costs could be reduced through the usage of standardised systems. Taking into account the fact that there are more than 15 TSOs inside the region and that each trader has to implement a different system, the savings for unified systems are significant. Systems in the market cover IT systems, billing systems, nomination systems, etc. This could result in additional savings amounting to EUR 1.8bn.

If the measures are implemented, we can assume a more efficient and bigger market. Clients would have a choice of different suppliers. Reduced costs would result in additional savings amounting to EUR 1.4bn which could be passed on to the client.

The entire region has a total of 29m customers, with a total gas consumption of 220bn m3. The total saving of EUR 4bn could therefore translate into an average cost saving for each customer of approximately EUR 138 per year. With regard to the energy price, the average saving made by each client amounts to 8–10%.

Beside the cost savings for the client, we also wish to highlight the higher level of security of supply. If the market is well connected and common storage access is possible, each individual market could reduce its reserve margins not only in the transmission but also in the storage system. As a result, each national system operator would profit from these common and bigger reserves.

A competitive single European gas market is the prerequisite for efficient and competitive gas trading in Europe. Throughout the course of their day-to-day business, traders have to face a number of market barriers, dealing with lack of transparency as well as other administrative obstacles which prevent the free flow of their commodities. These obstacles also prevent end consumers from obtaining gas at reasonable costs and based on their own choice of provider. On the other hand, the national markets are gradually opening up and acting as international gas hubs, with Central European national gas hubs such as the CEGH, PSV and EEX (EGT) serving as leading examples.

REM's primary objective is to make the South and South Eastern markets coherent and interoperable. Some major obstacles, especially in the field of the gas trade that touch upon the interconnection of the markets, are considerable impediments to open and efficient levels of trade. Interconnection and storage capacities are currently being allocated so as to ensure improvements in this area. If balancing energy were traded and transmitted between countries, its prices would be more market oriented. Cross-regional regulatory coordination would be beneficial in terms of improving the above mentioned shortcomings. They would also further integrate the market, thereby creating one individual and coherent entity.

Figure 4:
Regional Energy Market
South South East Europe

Since April 2006, ERGEG's Gas Regional Initiative (GRI) has been taking practical steps towards achieving the goal of creating a single European gas market. It promotes the development of regional gas markets as well as further liberalisation at national level. The GRI consists of three Regional Energy Markets (REMs): North West, South South East and South. GRI uses its position within the regional initiatives to tackle regional level barriers to competition such as lack of market integration, transparency of pricing and balancing issues.

PricewaterhouseCoopers went to the very core of the market by questioning the trader community in a gas survey with the intention of establishing how various trade obstacles in South South Eastern European gas markets are perceived by gas traders. The survey was supported by EFET. It should be noted that PricewaterhouseCoopers asked the traders to answer the questions only with regard to countries which are foreign markets to them. For example, if the core business and head office were located in Austria, the traders there would omit giving answers with reference to the Austrian market in the evaluation.

In the following section the result of the survey will be presented for following topics:

- Network access
- Transportation
- Balancing energy
- Trading platforms
- Gas storage
- IT systems & bureaucratic formalities

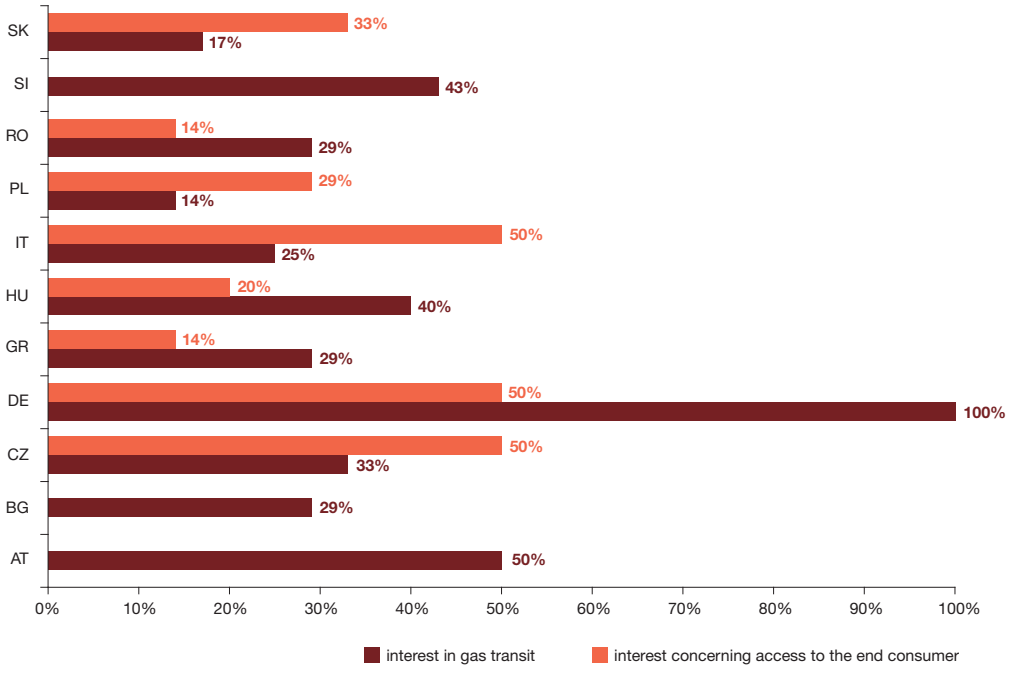
Network access

Open access to gas transportation systems, including transmission and distribution networks, is a minimum requirement for any effective market. Severe obstacles to free network access can still be observed in the South South East regional energy market. Access to the end consumer market is perceived by traders as an important asset. However, in many countries internal regulations and different legislative frameworks still produce significant barriers to end consumer market entry.

Market entry

In the survey, PricewaterhouseCoopers asked traders about the markets in which they are active. 71% of traders are active in the German and Austrian markets, followed by Italy (43%) and Hungary (29%). Only 14% of traders are active in the Czech Republic and Slovakia.

Figure 5:
Traders' view: Interest of non-active traders



Among non-active traders, the currently most interesting countries for entering the gas transit market are Germany, Austria and Slovenia. Non-active gas traders wishing to gain access to end consumers are especially interested in the Italian, German and Czech markets.

Measures required to increase the attractiveness of the market

Traders were asked to give recommendations as to what should be done most urgently in order to increase the attractiveness of the various respective markets.

The most urgent recommendation, as shown in Figure 2, is the implementation of a cooperative framework between TSOs. Figure 6 highlights in which markets such a cooperative framework is deemed to be most urgent. The survey clearly indicates that traders regard this as crucial for the further development of the regional market.

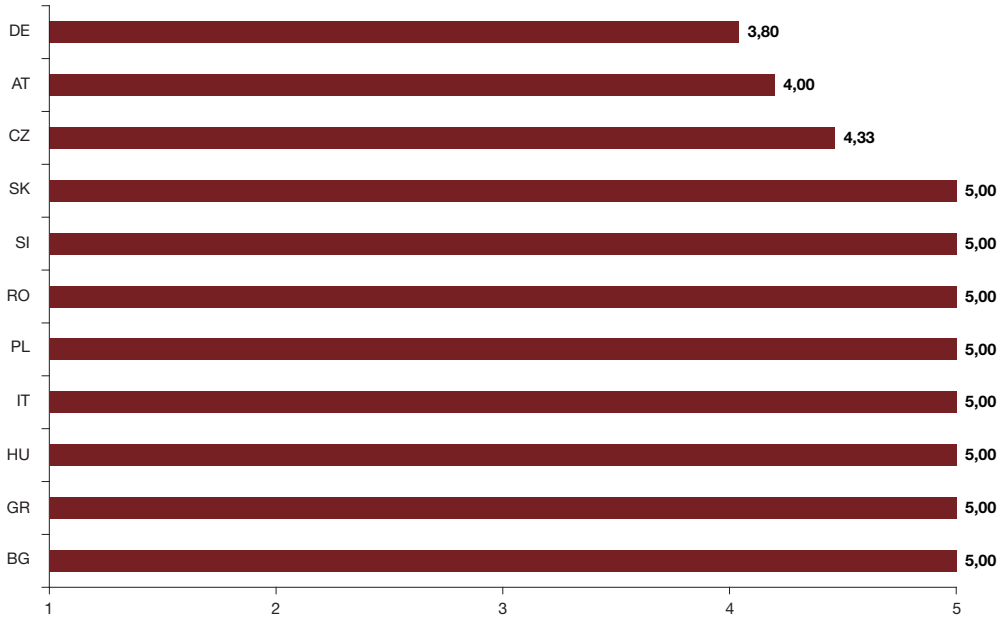
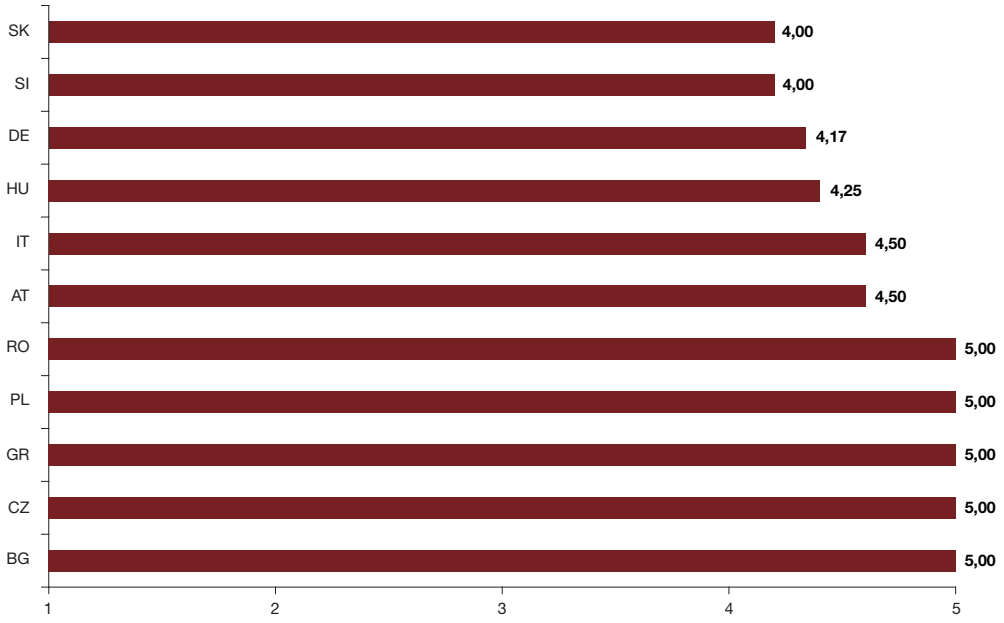


Figure 6:
Traders' view – Market ranking based on perceived urgency of implementation of a cooperative framework between TSOs where '5' represents the greatest level of urgency

Figure 7 below shows the second most urgent measure as selected by traders. It clearly indicates that, in their opinion, access to storage facilities for the whole region should also be made easier.

Figure 7:
Traders' view – Country ranking based on perceived urgency for easier gas storage access where '5' represents the greatest level of urgency



The third most urgent measure in traders' opinions is illustrated in Figure 8. Only once congestion on transit pipelines has been reduced can national markets be integrated into a regional market. However it is worth noting that traders classified all other remaining measures as being of equal importance. The implementation of gas release programmes, transparency of the balancing energy market, reduction of licence fees

and transaction costs are – according to the traders – very important measures which should be improved by each country so as to ensure that more market oriented conditions are offered for traders, thereby improving energy trading conditions.

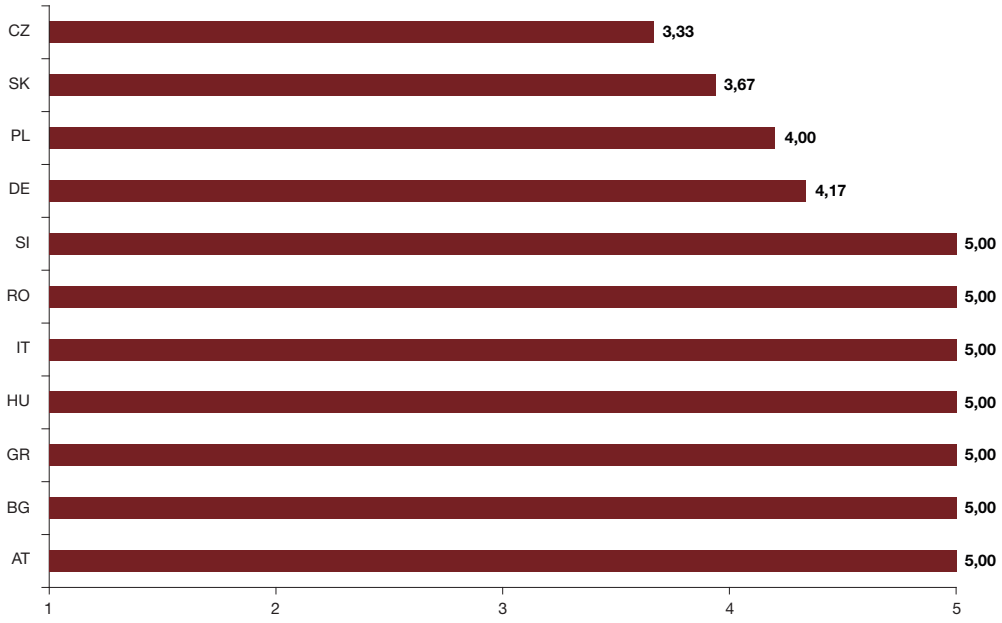


Figure 8:
Traders' view – Urgency for elimination of congestion at interconnection points where '5' represents the greatest level of urgency

Traders' comments

Austria

- There should be integration of capacity reservation, limiting the number of points to reserve capacity, especially with regard to the flow between short distances such as the CEGH in Baumgarten and Slovakia.

Czech Republic

- Ensure compliance through equal treatment of domestic and transit flows.
- Different capacity reservation model, balancing regime and very high prices set by RWE Transgas Net limit possibilities for trading.
- Transit flows in counterflow should have a lower price (ideally zero as in the case of electricity). The different treatment and pricing of domestic and transit flows means that it is not possible (or economically viable) to use Czech storage capacities in other countries. The fact that the same lines are used for transit and domestic transportation results in a breach of EU Regulation 1775/2005.

Germany

- Cross border access to neighbouring markets (NL, B, F) needs to be improved.
- Change of market model – integration of capacity reservation, limiting the number of points to reserve capacity.

Italy

- In some countries, regulatory/legislative requirements result in the incorrect usage of storage. This decreases the available amount of the storage (e.g. strategic storage) for the market.

Slovenia

More flexible market rules should be introduced with respect to balancing trade, change of supplier, capacity reservation; access to storage is very limited.

Transportation

Gas transmission systems, and above all the availability of transportation capacities, are important factors when it comes to the proper functioning of gas markets in Europe. At present, gas flows in Europe follow the East-West and North-East transmission routes via pipelines. The increase in LNG capacities will change this trend in the long run, however as from now gas traders and shippers in the REM South and South East Region will face capacity shortages when transporting gas from countries with low gas prices to countries with high demand and high prices, for example to Italy.

Important differences still remain in place between the different national gas systems of individual countries. These differences reduce cross-border flows and act as an impediment towards achieving an efficient and optimal level of gas trade. Key characteristics of Third Party Access (TPA) differ between countries, for example regarding capacity booking and congestion management criteria. Such differences hinder trade, therefore EFET has proposed to address this problem by bringing together network related capacities, in particular those involved in cross-border issues into one regional entity and to have these managed by a Regional Independent System Operator (R_ISO). The R_ISO model foresees a framework in which national TSOs operate their network on a technical basis while a common regional operator (R_ISO) handles and manages the capacities in the regional transmission pipelines.

Physical transmission capacities

PwC asked the gas traders to evaluate the main Transmission System Operators (TSOs) with regard to the capacities offered by them. A majority of traders maintained that the transmission capacities of nearly all South and South Eastern TSOs were sufficient.

Access to transportation capacities

When asked to name those TSOs which best manage transit capacities, the traders named

- E.ON (Germany)
- OMV Gas (Austria)
- Gaz de France (Germany)
- Ontras (Germany) and
- Preprava (Slovakia)

as coming 'on top' with the best practices.

The traders named AGGM and Gaz de France (DE) as the TSOs which best managed access to capacities.

Non-usage of transmission capacities

Non-usage of reserved transmission capacities leads to market imperfections, resulting in high prices being charged for artificially reduced transmission capacities. Punctual regulation which would prohibit capacity blockage – or even the establishment of a secondary market for non-used capacities – would enhance market efficiency.

As Figure 1 in the survey highlights, 71% of respondents were of the impression that booked transit capacities are often or sometimes not used, with even 14% claiming that this is permanently the case.

Standardisation of transportation contracts

Standardised transportation contracts which would be valid throughout the entire region were favoured by all respondents.

These results show that the idea of an R_ISO in the South South East Region has considerable backing.

Balancing energy

Balancing energy is the difference between the scheduled and the real gas supply or demand within a given period. Integrating the balancing energy markets within the REM would improve the market orientation of the balancing energy prices.

Traders' statements regarding balancing energy prices were focussed on the inability of various national legislative bodies to publish rules concerning balancing energy provisions in each of the discussed markets. In some countries, the balancing energy regimes have been brought in line with EU legislation, however the remaining loopholes affecting national laws continue to hinder progress towards the implementation of a market oriented balancing regime.

Market oriented pricing

Market oriented pricing of balancing energy ensures a stable equilibrium between supply and demand at the most efficient possible cost for the end consumer. PricewaterhouseCoopers asked the traders to provide an assessment of markets with the lowest and highest prices for balancing energy. As Figure 9 shows, the Austrian market offers the lowest prices in the national balancing energy market. The Slovak, Slovenian, Polish, Greek and Bulgarian markets were named as the markets with the highest balancing energy prices.

Figure 9:
Traders' view – Country ranking by lowest prices for balancing energy where '5' represents the highest price

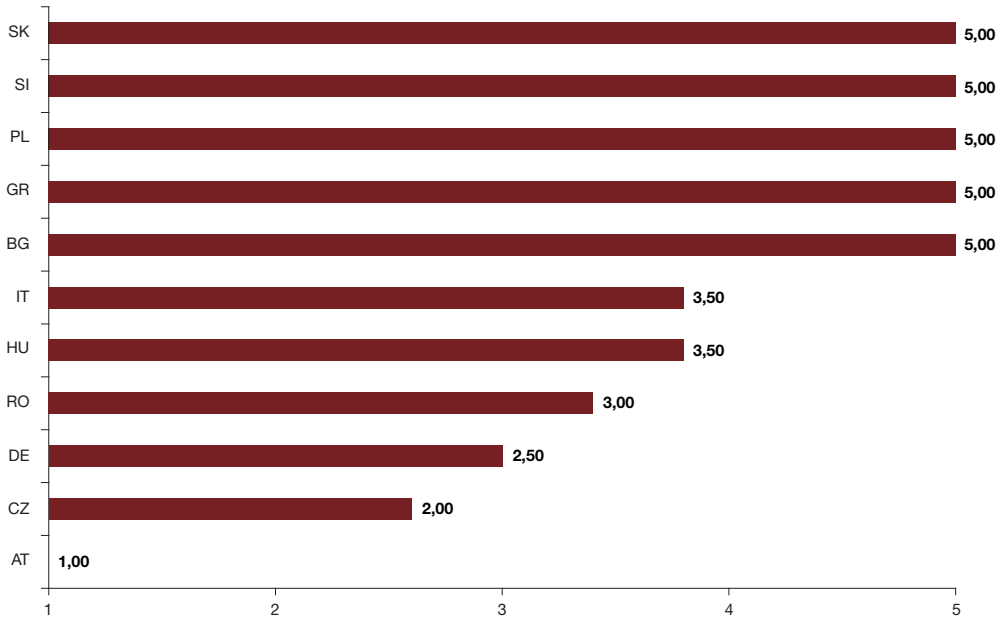
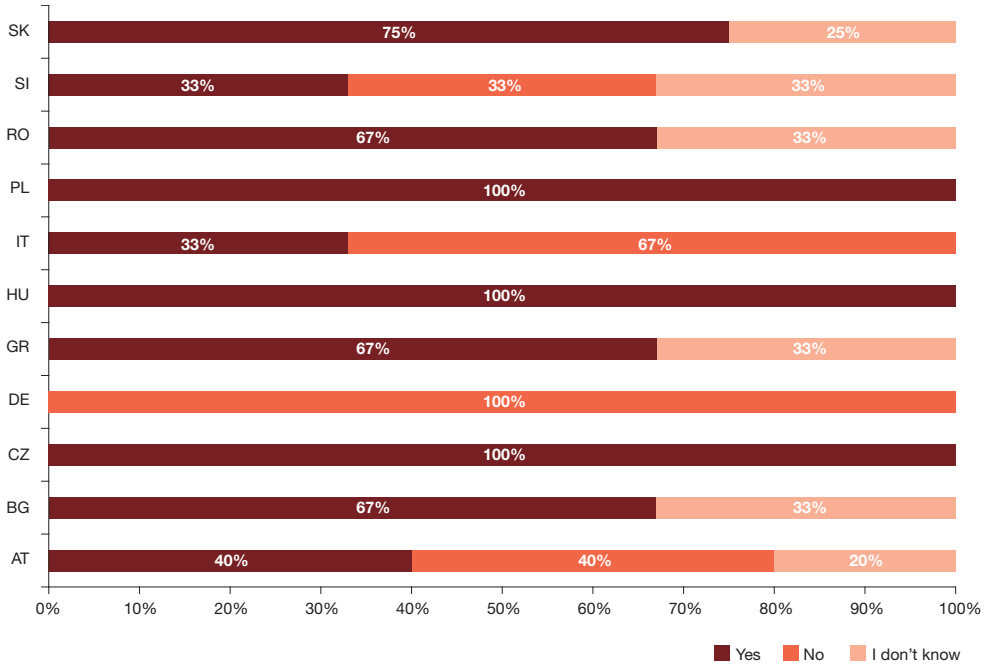


Figure 10 summarises the traders' view on whether the prices are already market oriented or whether they should be more market oriented.

Figure 10:
Traders' view – Should the balancing price be more market oriented?



Barriers to entering the balancing energy market

Certain countries create considerable impediments for traders wishing to enter the balancing energy market. Figure 11 shows that this view is held in relation to some individual countries by up to 80% of traders.

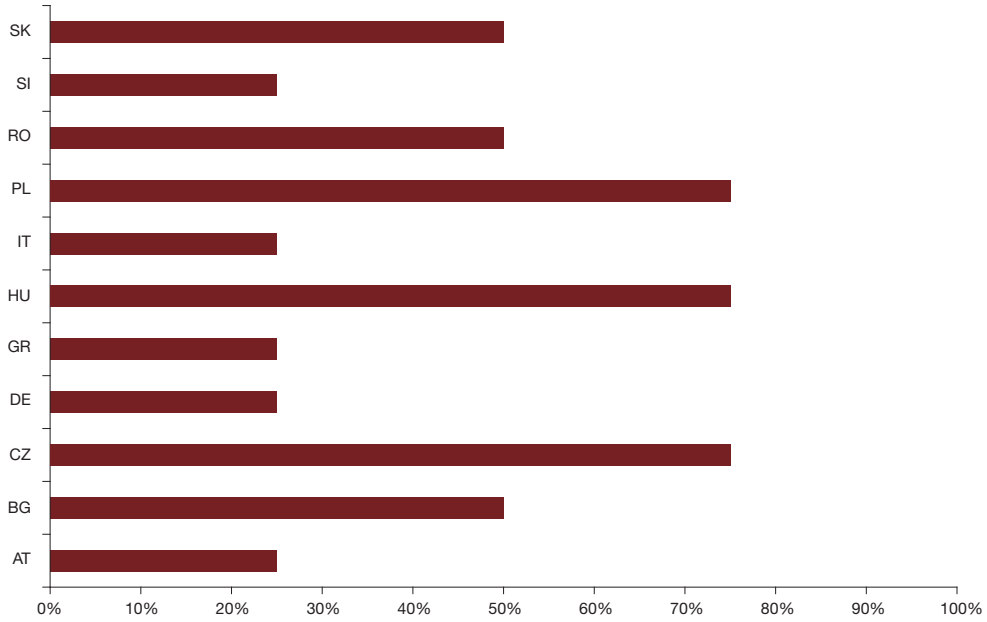


Figure 11:
Traders' view – Countries with barriers to entering the BEM

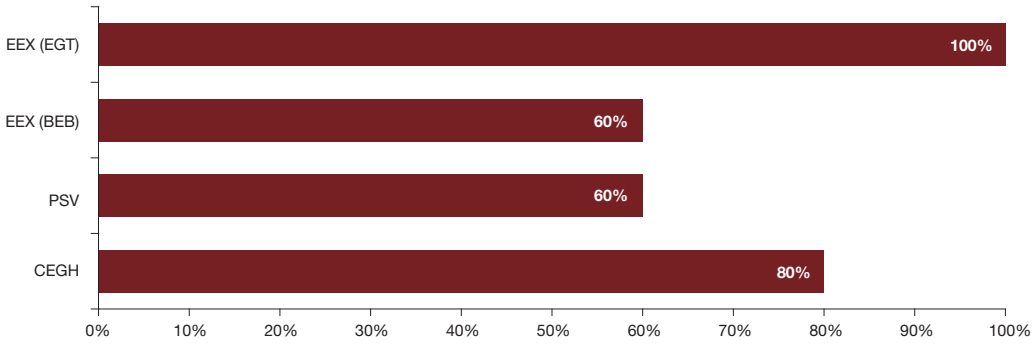
Balancing energy and hubs

Balancing energy is organised in most countries by the TSOs. Recent developments show that balancing energy could also be organised by trading hubs in order to guarantee market oriented prices. We therefore asked traders for their views concerning balancing energy and hubs.

The CEGH was seen by traders as the hub with the biggest technical capacity to supply balancing energy to several national energy markets. This technical capacity would in fact be further increased with the planned extension of the capacity of the CEGH. The technical feasibility of this hub is above all due to the balancing energy needs of the immediate and surrounding national gas markets (Austria, Czech Republic, Slovakia and Hungary).

Figure 12 also shows that, in view of this issue, 80% selected the CEGH and 100% the EEX (Germany). It is obvious, however, that the hubs generally should be integrated within the balancing energy markets.

Figure 12:
Traders' view – Hubs to be integrated in immediate and surrounding balancing energy market



The survey highlighted that 75% of traders would welcome the idea of an international coordination office that would organise the market for balancing energy.

Access to information

Sufficient information on balance energy markets is an important prerequisite for analysing, understanding and entering a balancing market. Figure 13 shows an assessment of the extent to which balancing energy market information is made available to traders.

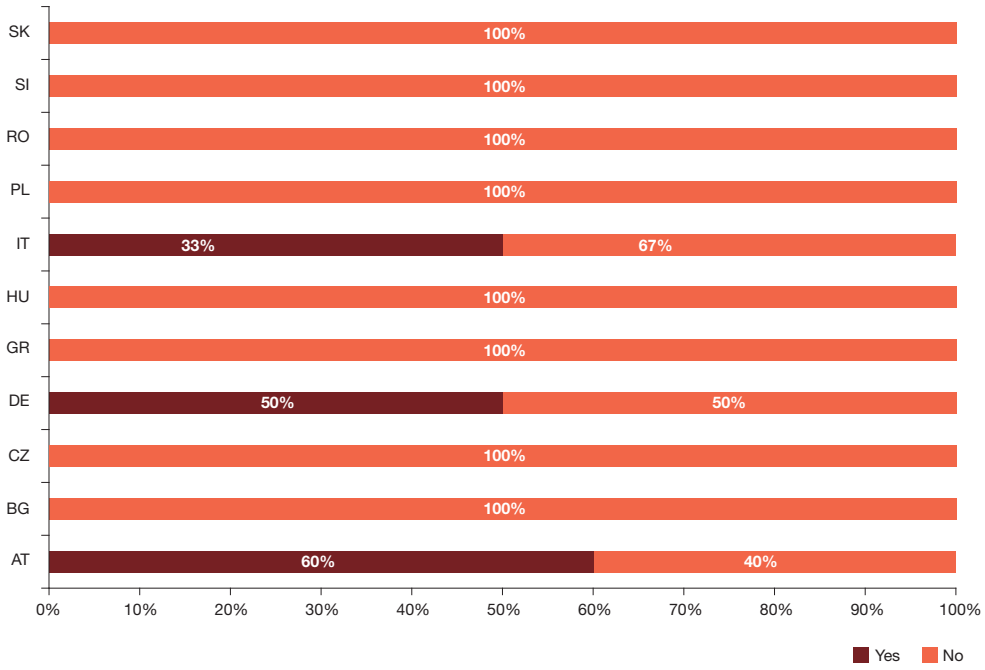


Figure 13:
Traders' view – Balancing energy market information availability

In addition to this issue, all respondents stated that they would welcome a standardised balancing energy system for the region.

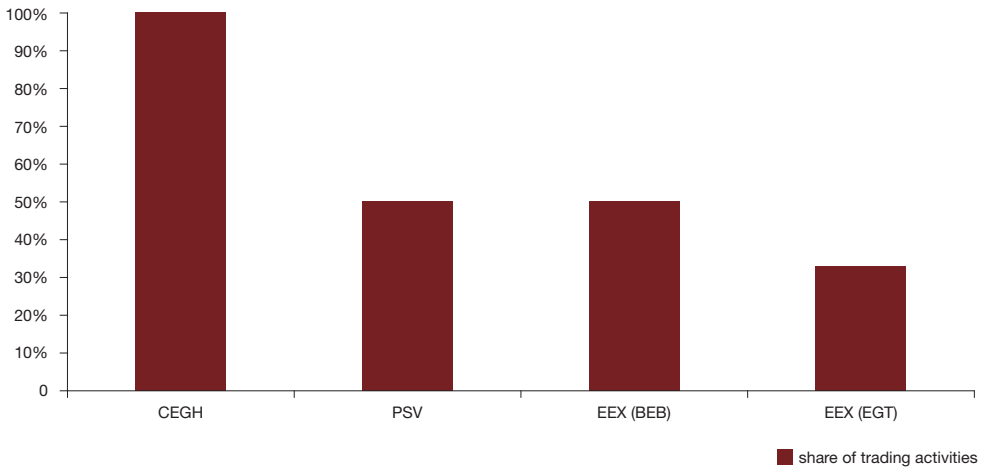
Trading platforms

Up to now there have been four trading points/hubs in the REM of South South East Europe:

- Central European Gas Hub – CEGH
- Punto Scambio Virtuale – PSV
- European Energy Exchange EEX (BEB)
- European Energy Exchange EEX (EGT)

Liquidity, in other words the trading volumes at the trading platforms, is a key issue for the hubs. High liquidity attracts traders and enables an efficient clearing of the market at any point in time.

Figure 14:
Where are traders active?



Almost all of the respondents (Figure 14) currently trade using the CEGH in Baumgarten. The second most frequently used trading platforms of respondents in the survey are the PSV and the EEX (BEB) hubs.

When it comes to the future importance of a hub, 57% of traders said that the CEGH has the best chance of becoming the most important hub in CEE/SEE, and that it would be best suited as the regional trading platform. Furthermore, 75% of the respondents stated that they would welcome the introduction of a regional price index in instances where one would be technically and economically viable.

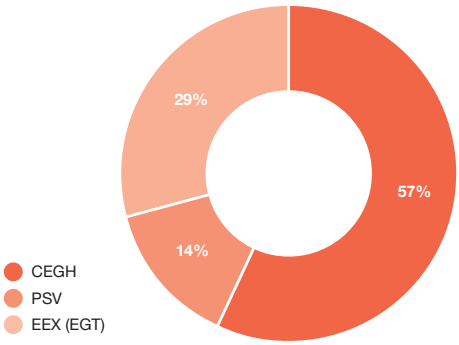


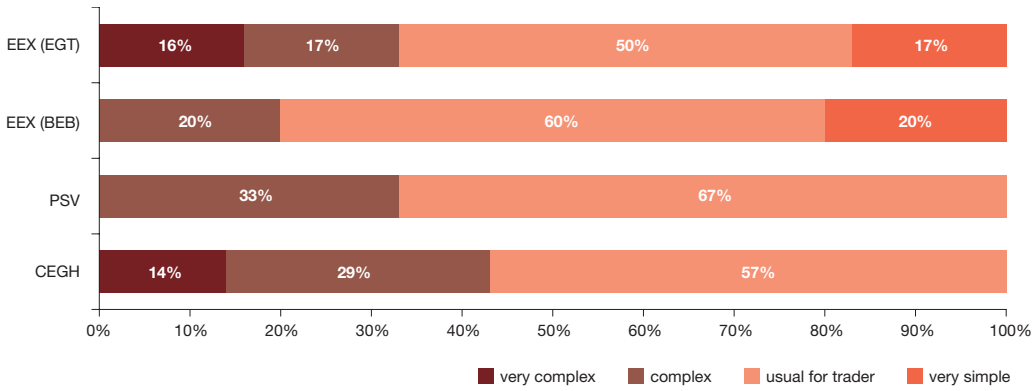
Figure 15:
Traders‘ view – Hub best suited as regional trading platform

Access rules – Trading points

Rules of access to the hubs bear considerable implications when it comes to the entry of a trader. If the impediments are too high they can also discourage traders, preventing them from taking part in trading at any given hub.

According to the survey results as set out in Figure 16, access rules for all hubs are only seen as usual for traders in certain instances. The EEX (EGT) and CEGH have complex rules for traders. .

Figure 16:
Traders' view – Complexity of hub access rules



Traded minimum volumes

The size of minimum trading lots has an impact on the degree of liquidity. The minimum trading lot at the EEX, which trades gas on a daily basis, is 10 MWh. The CEGH auctions, which currently take place once a year, had a minimal lot of 111,252 MWh in June 2008.

When asked about their satisfaction with the lots, i.e. minimum volumes of gas products offered at the hubs, most traders claimed that they were satisfied with the offered lots, with the exception being the CEGH, where 75% of the traders appeared to be dissatisfied with the offered lots. When traders were asked about their preferred lot, 50% said 1 MWh and 50% said 10 MWh.

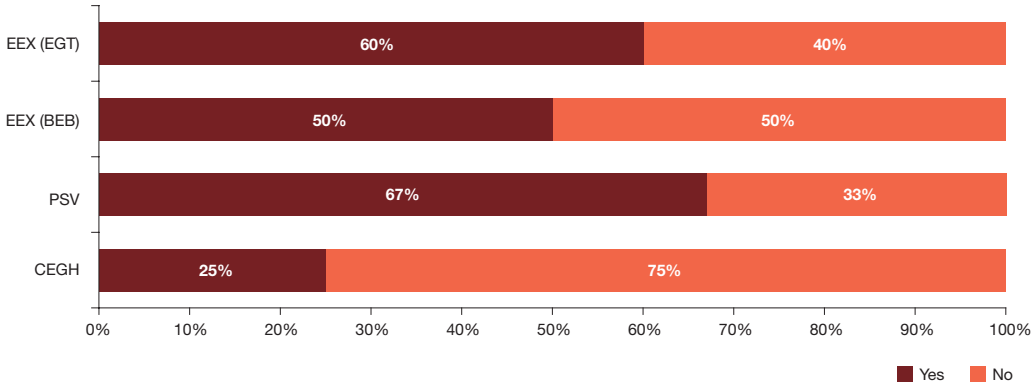


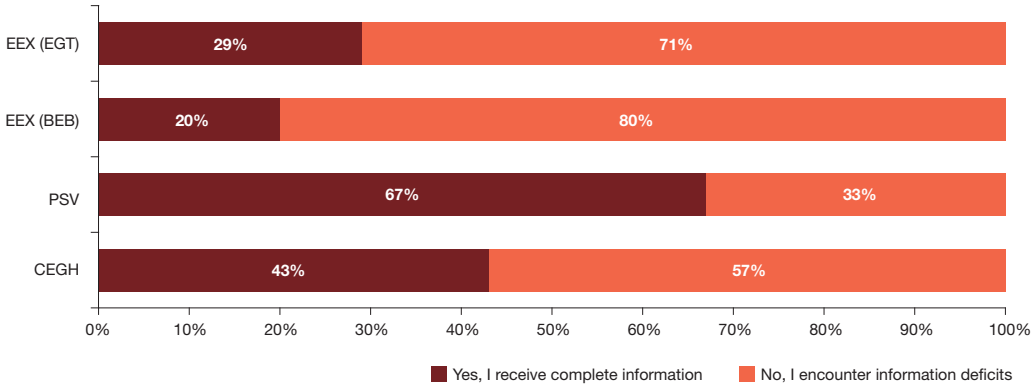
Figure 17: Traders' view – Preferred lots of gas products

Information access

Information asymmetries frequently pose an important obstacle to the efficient functioning of energy markets. Incomplete data availability at trading points inevitably leads to the establishment of market entry barriers.

More than 50% of traders pointed out that the “bulletin board” could be improved at the PSV and the CEGH, although most traders stated that the PSV does deliver sufficient information. Figure 18 shows that 67% of traders are satisfied with the way in which information is managed at the PSV. However it is also evident that there is considerable potential for improvement among all other hubs in the region. The hubs in Germany achieved especially poor results.

Figure 18: Traders’ view – Availability of information from the trading points



Most important measures to be taken for improvement

Traders were asked to name the most urgent measures to be taken by each hub in order to improve trading activity.

With regard to liquidity, the EEX (EGT) is the best performer however traders generally expect more liquidity for the entire region.

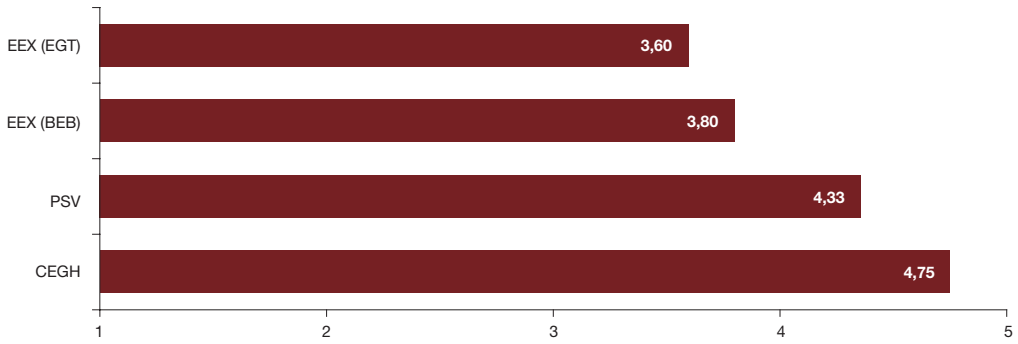
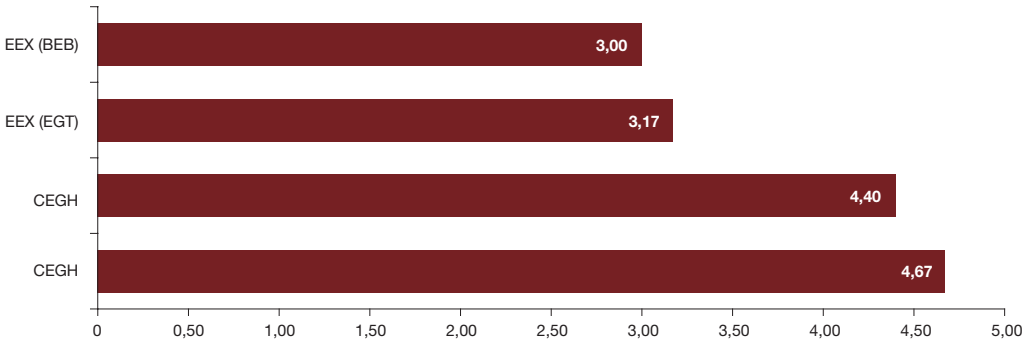


Figure 19:
Traders' view – Hubs ranked for more liquidity where '5' is numbering the most urgent hub

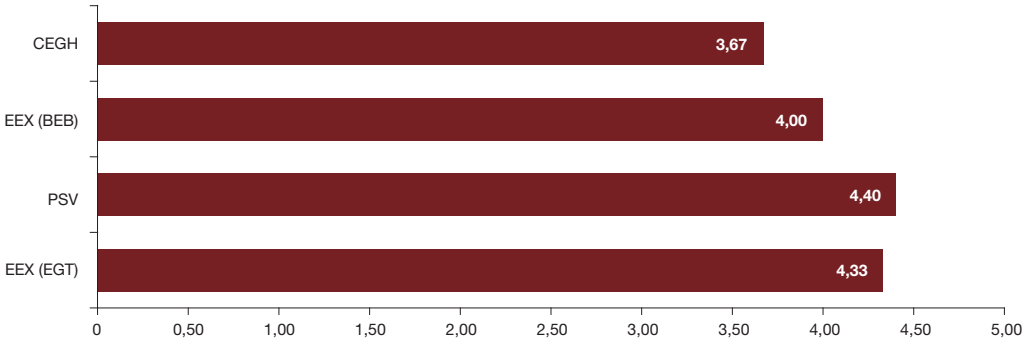
Price quotations are a considerable prerequisite for traders throughout the entire region. Traders were asked which hub, in their opinion, had the greatest potential for further improvement.

Figure 20:
Traders' view: Hub ranking – degree of urgency to increase publication of price where '5' represents the greatest degree of urgency



Beside sufficient liquidity, traders also expect hubs to provide easier access to gas storage facilities. Traders stated that the CEGH is the hub which offers the best access to storage, while the EEX (EGT) has potential for further improvement.

Figure 21:
Traders' view: Hub ranking according to degree of urgency to take measures in order to enable easier access to gas storage facilities where '5' represents the hub in most urgent need



Direct and easy access from the trading hub to sufficient transport capacities is also important for traders, especially with regard to physical trading. Sufficient transport capacity from the trading hub is essential if traders are to be able to transport the gas after trading.

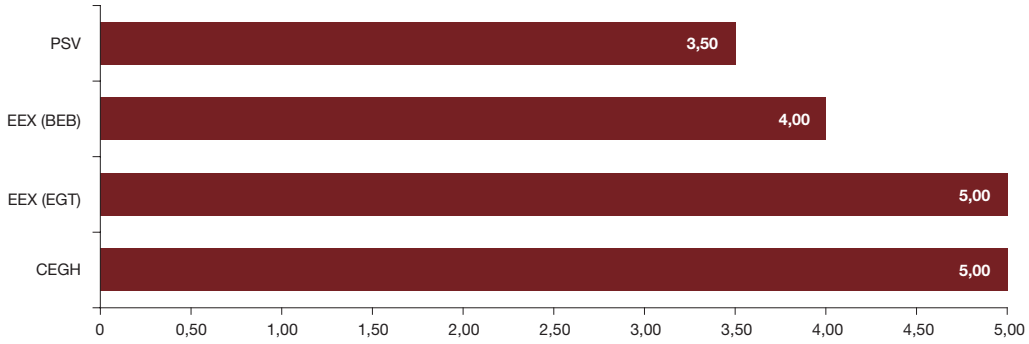


Figure 22:
Traders' view: Hubs ranked according to degree of urgency to take measures in order to enable easier access to transport capacity where '5' represents the hub in most urgent need

As shown in Figure 3 (as well as the others above) for each hub, the number of traders stating that urgent measures needed to be taken reached a relatively high average. As a consequence, the implementation of just one specific measure would not be sufficient. Many traders claimed that implementing all proposed measures would result in huge improvement potential for all trading platforms (hubs).

Traders' comments

Some traders suggested that the PSV hub should rethink the price which is fixed at the start of the auction. Others maintained that the CEGH should assume the role of an established gas exchange for CEE. One of the traders remarked that shippers should not hold shares in the CEGH. Some traders pledged to unify the H zones for the EEX (EGT) trading point in Germany. Many traders were also of the opinion that the market would be further enhanced if BEB and TTF were to work together.

Gas storage

In March 2005 the representatives of the Madrid Forum agreed upon “Guidelines for Good Practice for Storage System Operators” (GSSO). These guidelines regulate access to storage, transparency and storage products and services. The purpose of these guidelines is to ensure third party access to storage capacities. Many of the traders surveyed reported that the lack of transparency and availability of storage capacities is a serious problem that urgently needs to be addressed in SEE.

PricewaterhouseCoopers asked traders which gas storage facility they are interested in and in which countries they firmly intend to enter the gas storage market. 70% of traders firmly intend to enter the German market, with 50% naming the Slovak, Hungarian and Austrian markets.

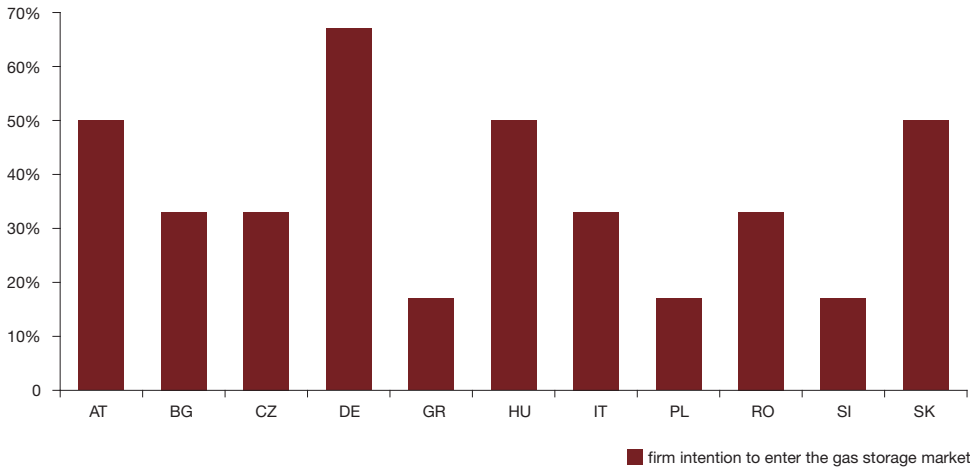
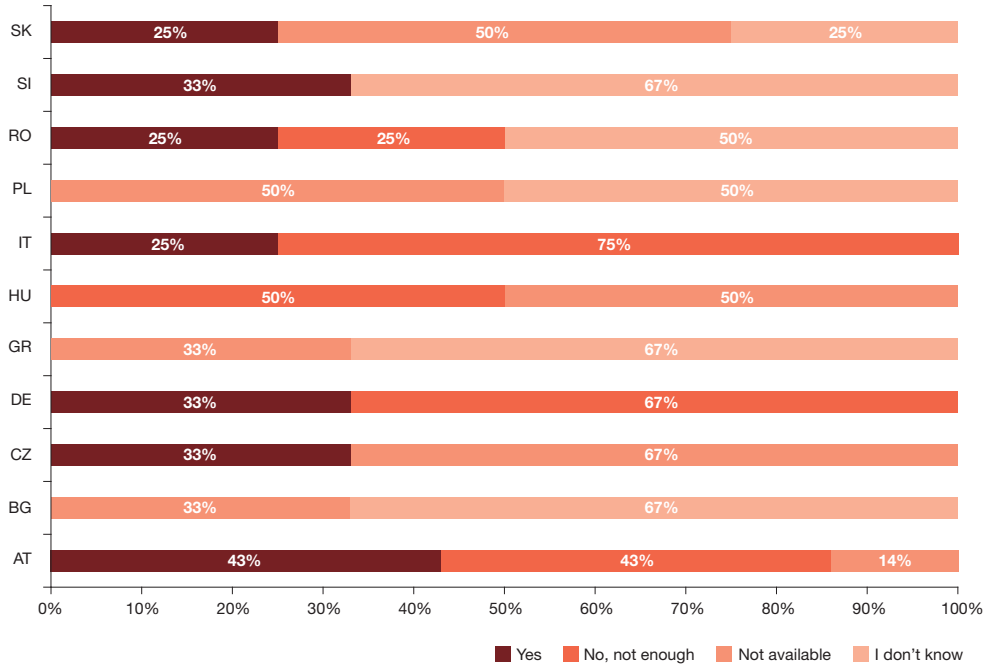


Figure 23:
Traders firmly intending to enter the gas storage market

Figure 24 below highlights the fact that throughout the South South East Region there is no sufficient storage capacity, although many traders believe there are available resources in Austria, Germany, the Czech Republic and Slovakia. Only 17% of traders believed there was adequate storage capacity in the region.

At the same time 50% of respondents were of the opinion that reserved storage capacities were either “sometimes” or “always” not used.

Figure 24:
Traders’ view: Availability of storage capacity



Non-usage of reserved storage capacity

Non-usage of reserved storage capacity means that important storage system functions such as balancing energy provisions, levelling production over periods of fluctuating demand or reducing price volatility in the market cannot be met. Therefore the non-usage of reserved storage capacity is in itself an impediment to efficient and competitive gas trading in the national and regional markets. As mentioned above, 50% of respondents were of the impression that reserved storage capacities were either “sometimes” or “always” not used.

Physical storage capacity

Physical capacity is the capacity which in technical terms is available in the national market after covering the operational gas consumption of the storage facilities.

Strategic storage ensures security of the gas supply in countries with a high percentage of imports such as Austria (approx. 80%). The storage of natural gas reduces the risk of interruption in service in the course of delivery. Strategic storage means the maintaining of mandatory stocks within the national storage market. Regulation discrepancies among ERGEG members usually reflect the different available storage capacities. A majority of traders (60%) considers strategic storage to be reasonable. Furthermore, most traders are of the opinion that this concept should be implemented for a regional market and that it should be financed through network tariffs.

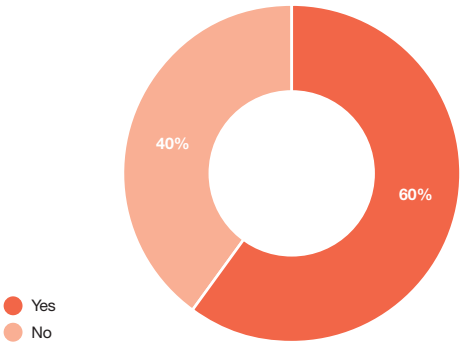


Figure 25:
Traders’ view: Is extent of strategic storage reasonable?

Traders' comments

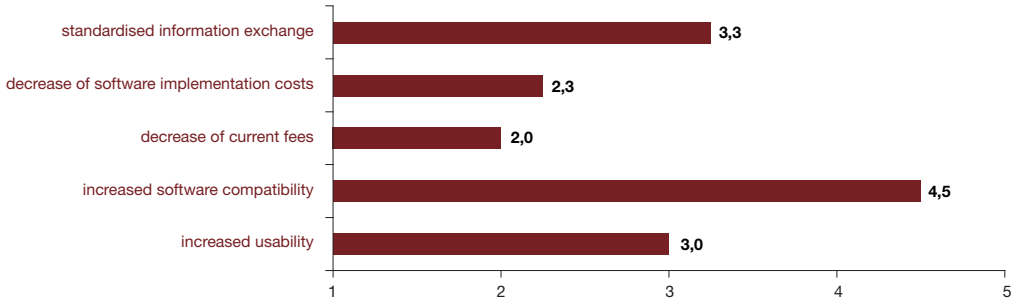
Some traders made additional remarks that the ownership of the facilities by current dominant traders prevents capacities from being used in an efficient way. They argued that dominant national players achieve their profits mostly through storage related activities, thereby also preventing new traders from entering the market, as they do not have access to storage capacity as a result. Traders remarked that the artificial lack of storage capacity increases the price, and thus the profits of the current dominant players.

IT systems and bureaucratic formalities

IT systems are a key success factor with regard to effective energy exchange system management. Lack of proper functioning results in the gas trade being blocked, leading ultimately to market failure.

Figure 26 below shows that software compatibility has the highest improvement potential concerning IT systems. Traders also believe that a standardised information exchange platform is also an important element which should be worked on. 80% of traders would welcome a standardised billing system for the region, whilst all traders would welcome the implementation of a standardised nomination system.

Figure 26:
Traders' view – Fields of improvement for IT system where '5' represents the area with the greatest potential



Licensing requirements

A local trading licence is required in certain countries in order to operate as an authorised gas trader. The period of time required for obtaining a trading licence is a significant barrier to gas trading in many countries. Poland and Slovakia were named by all respondents as the markets with the most unreasonably long procedures

required for admission as a gas trader. All traders surveyed stated that they would welcome a situation in which traders and shippers in the transit and national supply markets would be subject to the same licensing standards.

Standardised systems (billing, balancing energy, nomination)

Standardised billing systems for trading balancing energy and the nomination of orders accelerate trading procedures. The ability to work in an environment of smoothly running trading procedures is a key success factor for traders.

80% of survey respondents would welcome the introduction of a standardised billing system for the entire regional energy market. All traders strongly approved of the development of standardised balancing energy systems. Likewise, all traders surveyed would welcome the introduction of a standardised nomination system in the region.

Time related problems

Timing, especially between gas trade and transportation capacity booking, can be a decisive factor when it comes to the success or failure of a gas trade transaction. Due to the possibility of buying gas without having reserved the transmission capacity (e.g. CEGH auctions), time related problems may arise between a trading point's gate closure and confirmation of capacity availability by the TSOs. In the short run a solution to such a problem could be the booking of gas storage capacities, sale to a third party with reserved capacity or wheeling to other systems with available capacities.

Methodology

The “Impediments to Gas Trading in South and South Eastern Europe” survey was prepared by PricewaterhouseCoopers (PwC). The information and data presented in the survey is based on the work results of two task forces:

- Research undertaken by energy experts from PwC between April and May 2008.
- Survey based on a standardised questionnaire and conducted among 18 gas trading companies. The participating gas traders had to be active as non-residents in at least one of the markets of the South South East Region.
- 38% of traders selected responded to the survey.
- Methodology of weighting questions concerning attractiveness of certain measures: Each country was weighted by the number of valid marked entries.
- We asked the respondents to answer the questions only in respect to countries which are international markets to them. For example, if the core business and head office was in Austria, then they would skip the Austrian market in the evaluation.

The survey covered the following topics:

- Network access
- Transportation
- Balancing energy
- Trading platforms
- Gas storage
- IT systems & bureaucratic formalities

Acknowledgements

PricewaterhouseCoopers would like to thank all participants who took time to complete the survey. We would also like to thank EFET and ERGEG representatives (Gas Regional Initiative – South South East Region) for showing their cooperation in drawing up the criteria and in establishing contact with the various targeted respondents.

Austria

Exploration and production

In 2006 the natural gas production in Austria amounted to 1.82 bcm or 21.5% of final consumption. OMV Gas GmbH and RAG are the two exploration companies in Austria.

Import/Export

Austria imported 36.72 bcm of gas in 2006. Russia (76%), Norway (14%) and Germany (10%) are the main import countries. Total supply (Import, Exploration and Storage) sums up to 40.39 bcm in 2006. 28.89 bcm have been exported to Italy, Germany, Slovakia, Slovenia and Hungary. The current total consumption is 8.5 bcm.

Storage

Austria has five storage facilities with a total working volume of 4,020 mcm and 2,200 mcm of additionally planned storage capacities (Haidach 1,200 mcm and Schönkirchen 1,000 mcm).

Storage Point	Type	Working volume mcm	Peak withdrawl capacity mcm/day	Peak injection capacity mcm/day
Schönkirchen/Reyersdorf	Depleted field	1.570	32,10	27,10
Tallesbrunn	Depleted field	300	6,70	5,20
Thann	Depleted field	250	5,40	4,80
Puchkirchen	Depleted field	850	16,70	16,70
Haidach	Depleted field	1200	29,10	29,10
Total existing storage		**4.170**	**90,00**	**82,90**
Total of additionally planned storage		**2.200**		

Sources:

Exploration and production:
E-Control (2006): Erdgasbilanz Österreich 2006

Import Export:
E-Control (2006): Erdgasbilanz Österreich 2006
Econgas (April, 2008): http://www.econgas.co.at/countries/austria/deu/erdgas/04/index.htm

Storage:
Gas Storage Europe (2008) GSE Gas Storage Map: http://www.gie.eu.com/download/gridmap/GSE_STOR_1031.pdf

Sources:

Transit pipelines:
OMV (April, 2008): http://www.omv.at/portal/01/at/kcxml/04_Sj9SPykssy0xPLMnMz0vM0Y_Qj4o3i_c1sPRw8ww1CnU0MTLwNvWOdzcxAynFJmXoGKYfiV9PgKWTd6ihY4iLk0moZ6ilYbyhUyBuPUEpqfq-Hvm5qfre-gH6BbmhEeWOjooAg-raqw!!/delta/base64xml/L3dJdyEvd0ZNQUFzQUMvNElVRS9fNl9NMDlIRklVMlVBNDlwSzVLX0c0NQ!!
OMV (Sept., 2007): Die Gas-Infrastruktur, http://www.eeg.tuwien.ac.at/events/egs/pdf/egs070919_ernst.pdf
Report (Mai, 2005): http://www.report.at/artikel_print.asp?view=print&mid=3&kid=&aid=7878

Hubs:
Econgas (April, 2008): http://www.econgas.co.at/countries/austria/eng/business/02/index.htm

Transit pipelines

The five big transit pipelines WAG (West-Austria-pipeline to Germany), TAG (Trans-Austria-pipeline to Italy, Slovenia and Croatia), SOL (South-East-pipeline), HAG (Hungary-Austria-pipeline) and PW (Penta-West) are all starting at the Hub Baumgarten. These pipelines transport 46.90 bcm/year of natural gas through a grid of 1,549 km. 80% of the gas imported to Austria is transit gas.

Each network system operator must provide network access to any natural gas supplier. The system operator receives a return for payment of system charges on a uniform regulated tariff.

Hubs

OMV and Gazprom are trying to establish the Central European Gas Hub Baumgarten as the largest trading hub in continental Europe.

Traded products

Central European Gas Hub Baumgarten carries out a yearly Ascending clock auction program in July (Gas Release program).

Liquidity

In July 2007 0.25 bcm in 25 lots of equal size have been traded through the gas release program. The total trading volume was 18 bcm in 2007.

Interconnections management

The network access is on a “one-stop shop” basis. There is a central trading platform for secondary capacity and an obligation on the part of shippers to trade unused capacity on it. The calculation of transportation charges for cross-border shipments is cost based and needs approval by regulatory.

TSO	Nm³/hour
Bayerngas (DE) → Tirolgas (AT)	0.10
OMV Gas (AT) → SPP (SK)	n.a.
SPP (SK) → OMV Gas (AT)	5.64
OMV Gas (AT) → WINGAS/Bayerngas (D)	0.42
OMV Gas (AT) → Eon/GdF (D)	0.73
Eon/GdF (DE) → OMV Gas (AT)	0.36
Eni (IT) → OMV Gas (AT)	0.36
OMV Gas (AT) → Eni (IT)	4.08
OMV Gas (AT) → Geoplin (SI)	0.28
OMV Gas (AT) → MOL (H)	0.47

Sources:

Interconnections management:
GTE Maps and Data (2008): The European Natural Gas Network and capacities at cross-border points on the primary market.

Sources:

Balancing energy:
AGCS (April, 2008): http://www.agcs.at/balance_energy_market/statistics/
Econgas (April, 2008): http://www.econgas.co.at/countries/austria/eng/erdgas/04/index.htm
IERN (April, 2008): http://www.iern.org/country_factsheets/market-austria.htm

Market opening:
E-Control (April, 2008): http://www.e-control.at/portal/page/portal/ECONTROL_HOME/STROM/PUBLIKATIONEN/WORKING_PAPER_SERIES/FILES/WP14.PDF

Wholesale price:
E-Control (2007) Gas wholesale price, average from all consuming classes

Balancing energy

AGCS organizes an internet based platform to buy and sell gas. This method is similar to a stock exchange. It is a market oriented system. The principle is “capacity goes with customer”. Austria has a balancing group system.

Balanced average market price 2006:
0.025 EUR/kWh

Balanced average market price 2007:
0.018 EUR/kWh

Market opening

The market was opened by October 2002. Since then each customer can decide the provider freely. The share of provider relative to the total feed who has changed is 5.2%.

Wholesale price

The Austrian wholesale price was 24.20 EUR/MWh in 2007.

Bulgaria

Exploration and production

In 2007 the natural gas production in Bulgaria amounted to 0.259 bcm or 9% of the domestic consumption. It is mostly from the Galata field located in the Black Sea shelf.

Import/Export

The consumption of natural gas in 2007 amounted to 3.408 bcm. 91% of the consumption or 3.113 bcm have been imported.

Storage

Bulgaria has only one storage facility situated in Chiren with a total working volume of 353 mcm. Bulgargaz is the main public supplier with SEWRC regulated prices.

Storage Point	Type	Working volume mcm	Peak withdrawl capacity mcm/day	Peak injection capacity mcm/day
Chiren	Depleted field	350	3.30	3.00
Total existing storage		**350**	**3.30**	**3.00**
Total of additionally planned storage		**0**	**0.00**	**0.00**

Transit pipelines

The Progress Pipeline is the most important transit pipeline in Bulgaria. It heads from Russia to Turkey and in 2004 it has transited 3.88 bcm/year. Due to Gazprom's investment in Bulgaria's natural gas infrastructure the volume of transit gas is expected to grow to 20.95 bcm by 2020.

The planned 30 bcm South Stream pipeline from Russia to Italy would come ashore in Bulgaria and head towards Slovenia, Austria and Italy.

Sources:

Exploration and production:
State Energy and Water Regulatory Commission (SEWRC)
Bulgargaz (2008): Natural Gaz Supply Sources in 2006; http://www.bulgargaz.bg/en/index.php?page=3&sid=23

Import Export:
Bulgargaz (2008):
Natural Gaz Supply Sources in 2006, http://www.bulgargaz.bg/en/index.php?page=3&sid=23
Austrian Energy Agency (2007): http://www.eva.ac.at/enercee/bg/energysupply.htm#h1

Storage:
Gas Storage Europe (2008)
GSE Gas Storage Map
SEWRC (April 2008): Ordinance on regulating the prices of natural gas http://www.dker.bg/laws/ordinance_gas_en.pdf

Transit pipelines:
EIA (2008):
http://www.eia.doe.gov/emeu/cabs/SE_Europe/NaturalGas.html
Factiva (2007): Gazprom, Eni plan big gas pipeline bypassing Turkey

Sources:

Interconnections management:
GTE Maps and Data (2008):
The European Natural Gas Network and capacities at cross-border points on the primary market.

Market opening:
IERN (April, 2008):
http://www.iern.org/country_factsheets/market-bulgaria.htm

Wholesale price:
Eurostat (2008):
Gas wholesale prices 2006

Hubs

n.a.

Traded products

n.a.

Liquidity

n.a.

Interconnections management

TSO	Nm³/hour
Bulgartransgaz (BG) → DESFA (GR)	0.36
Transgaz (RO) → Bulgartransgaz (BG)	3.28

Balancing energy

n.a.

Market opening

Since July 2007 the market is 100% open.

Wholesale price

The Bulgarian wholesale price was EUR 18.79/MWh in 2006.

Czech Republic

Exploration and production

In 2005 the country's production was less than 1% of consumption and amounted to 165 mcm, mainly obtained from coal seams.

Import/Export

The majority of natural gas consumed (9.374 bcm) had been imported from abroad. Czech Republic is fully dependent on energy imports. Import of gas is covered by long-term contracts. As per 2007 75% of total supply originates from Russia and 25% from Norway.

Storage

In 2007 the total available storage capacity in the Czech Republic is being managed by RWE Gas Storage and amounted to 2,321 mcm. Additional 770 mcm of storage are under construction.

Storage Point	Type	Working volume mcm	Peak withdrawl capacity mcm/day	Peak injection capacity mcm/day
Háje (RWE)	Salt cavity			
Tranovice (RWE)	Depleted field			
Stramberk (RWE)	Depleted field	2,321	35.7	26.35
Tvdonice (RWE)	Depleted field			
Dolni Dunajovice (RWE)	Depleted field			
Lobodice (RWE)	Acquifer			
Total existing storage		**2,321**	**35.7**	**26.35**
Total of additionally planned storage		**770**		

Sources:

Exploration and production:
Ministerstvo průmyslu a obchodu (2008): Energetika a suroviny http://www.mpo.cz/cz/energetika-a-suroviny/

Import Export:
Ministerstvo průmyslu a obchodu (2008): Energetika a suroviny http://www.mpo.cz/cz/energetika-a-suroviny/

Storage:
Gas Storage Europe (2008) GSE Gas Storage Map: http://www.eia.doe.gov/emeu/cabs/SE_Europe/NaturalGas.html

Sources:

Transit pipelines:
Ministry of Industry and Trade of The Czech Republic and RWE Transgas a.s Transit informations

Interconnections management:
GTE Maps and Data (2008): The European Natural Gas Network and capacities at cross-border points on the primary market.

Transit pipelines

About 40 mcm/year are transited through Czech Republic (440 km of pipeline). The joint stock company Transgas a.s. ensures transit via Czech Republic and import of gas to internal market.

Hubs

n.a.

Traded products

n.a.

Liquidity

n.a.

Interconnections management

Looking at the capacity of cross-border interconnections it has to be noted that the TSO applied the point-to-point principle of capacity booking, and there were no physical or commercial congestions at those points. RWE Transgas Net, s.r.o. provided information about the technical capacity available at its three border transfer stations in Lanžhot, Hora sv. Kateřiny and Waidhaus on its website. The transmission capacity was offered on both the firm and interruptible basis for the term of daily, monthly, annual and multi-annual agreements.

TSO	Nm³/hour
Wingas Transport (DE) → RWE Transgas Net (CZ)	n.a.
RWE Transgas Net (CZ) → WingasTransport(DE)	1.38
RWE Transgas Net (CZ) → Ontras (DE)	1.53
Ontras (DE) → RWE Transgas Net (CZ)	0.76
RWE Transgas Net (CZ) → E.ON (DE)	n.a.
E.ON (DE) → RWE Transgas Net (CZ)	n.a.
RWE Transgas Net (CZ) → Preprava SPP (SK)	1.63
Preprava SPP (SK) → RWE Transgas Net (CZ)	5.58

Balancing energy

A charge set out in an ERO price decision. Nevertheless, there was a nomination tolerance based on a formula for these cases too and in practice, it was almost never exceeded.

Market opening

Since July 2007 the market is completely open. RWE Transgas is the main gas supplier on the market. The other three suppliers have covered 1.98% of the Czech Repbulic's consumption in 2006.

Wholesale price

The wholesale price is EUR 26.40/MWh in the Czech Republic.

Sources:

Balancing energy:
National Report Czech Republic:
http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/NR_2007

Market opening:
EC Progress in creating Internal Gas Market (2008):
http://ec.europa.eu/energy/electricity/benchmarking/doc/tech_annex_com_2008_192.pdf

Wholesale price:
Eurostat (2008) Gas wholesale prices 2006

Sources:

Exploration and production:
WEG (April, 2008):
www.erdoel-erdgas.de
Import Export:
BP (April, 2008):
www.deutscheBP.de
Bundesnetzagentur (April, 2008):
http://www.bundesnetzagentur.de/enid/2.html

Storage:
Gas Storage Europe (2008) GSE Gas Storage Map:
http://www.eia.doe.gov/emeu/cabs/SE_Europe/NaturalGas.html

Transit capacities:
Bundesnetzagentur (April, 2008):
http://www.bundesnetzagentur.de/enid/2.html
Gasmarkt Deutschland 2007 (April 2008):
http://www.stromtip.de/rubrik2/19699/Der-Gasmarkt-in-Deutschland.html

Germany

Exploration and production

In 2006 the country's domestic gas production amounted to 19 bcm and covered one-quarter of Germany's natural gas consumption which amounts to 73.4 bcm. The domestic gas reserves amounted to 220 bcm. The national production consists preponderant of L-gas from North Germany.

Import/Export

Germany's gas import companies are: E.On Ruhrgas, RWE Energy, RWE, Wingas, ExxonMobil, Verbundnetz Gas (VNG), Shell and Erdgas Münster.

In 2005 Germany's natural gas imports are from: Denmark 2.28 bcm, Netherlands 21.30 bcm, Norway 26.30 bcm, UK 3.08 bcm, Russia 36.54 bcm and Ukraine 1.2 bcm

Storage

In 2007 the available storage capacity in Germany amounted to 18,400 mcm. 8,000 mcm of additional storage are planned.

Transit pipelines

The access to Germany's natural gas market is based on the EnWG (2005) and „Netzzugangsverordnung Gas".

Germany is using an entry-exit model for its transmission capacities. The acquirer needs only an entry and an exit contract for its gas transmission capacity.

Storage Point	Type	Working volume mcm	Peak withdrawl capacity mcm/day	Peak injection capacity mcm/day
Krummhörn	Salt cavaty - caverns	n.a.	n.a.	n.a.
Epe EON	Salt cavaty - caverns	1,641	58.8	13.40
Hähnlein	Acquifer	80	2.40	1.40
Stockstadt	Depleted field/Gas field	135	3.30	2.20
Sandhausen	Acquifer	30	1.10	0.30
Bierwang	Depleted field/Gas field	1,360	28.80	13.20
Eschenfelden	Acquifer	72	3.10	0.80
Etzel	Salt cavaty - caverns	560	31.40	7.70
Dötlingen	Depleted field/Gas field	1,076	13.44	12.96
Uelsen	Depleted field/Gas field	520	5.88	5.88
Harsefeld	Salt cavaty - caverns	130	7.2	2.16
Rehden	Depleted field/Gas field	4,200	n.a.	n.a.
Kalle	Acquifer	215	9.6	4.8
Xanten	Salt cavaty - caverns	190	6.72	2.4
Nievenheim	LNG Peak Shaving	14	2.4	0.11
Epe RWE	Salt cavaty - caverns	414	12.48	4.08
Stassfurt	Salt cavaty - caverns	200	6	2.4
Buchholz	Acquifer	175	1.92	1.2
Bernburg	Salt cavaty - caverns	953	34.8	12
Bad Lauchstädt	cavern + Depleted field/ Gas field	1,001	24.48	16
Kirchhelligen	Depleted field/Gas field	190	3	3.36
Inzenham-West	Depleted field/Gas field	550	7.2	3.36
Wolfersberg	Depleted field/Gas field	320	5.04	2.88
Breitbrunn/Eggstätt	Depleted field/Gas field	1,080	12.48	6
Peckensen	Salt cavaty - caverns	60	3	0.84
Huntorf	Salt cavaty - caverns	139	n/a	n/a

Storage Point	Type	Working volume mcm	Peak withdrawl capacity mcm/day	Peak injection capacity mcm/day
Neuenhuntorf	Salt cavaty - caverns	17	n/a	n/a
Nüttermoor	Salt cavaty - caverns	920	n/a	n/a
Schmidthausen	Depleted field/Gas field	150	n/a	n/a
Lehrte	Unknown	40	n/a	n/a
Reltbrook	Unknown	350	n/a	n/a
Fronhofen		36	1.8	0.7
Bremen-Lesum	Salt cavaty - caverns	204	8.64	2.88
Frankenthal	Acquifer	63	n/a	n/a
Bremen-Lesum	Salt cavaty - caverns	78	n/a	n/a
Berlin	Acquifer	780	n/a	n/a
Allmenhausen	Depleted field/Gas field	55	n/a	n/a
Kiel-Rönne	Salt cavaty - caverns	60	n/a	n/a
Kraak	Salt cavaty - caverns	117	n/a	n/a
Reckrod	Salt cavaty - caverns	82	n/a	n/a
EPE EEG 1	Salt cavaty - caverns	181	0.4	0.2
Total existing storage		**18,438**	**236.58**	**123.21**
Total of additionally planned storage		**8,000**		

Hubs

The market areas of EGT-South (E.ON Gastransport AG & Co.KG) and BEB H-Gas Norddeutschland (BEB Transport GmbH & Co. KG) serve as place of delivery on the European Energy Exchange (EEX).

In 2008 the Energieunion will also offer a natural gas trade in the market area of VNG-Ontras.

Traded products

On the European Energy Exchange (EEX) exists a spot and a future market with delivery EGT and BEB. On the spot market Natural-Gas-Day-Contracts (Monday to Friday 24 hours) can be traded as well as Natural-Gas-Weekend-Contracts (Saturday and Sunday 48 hours). The minimal order volume is 10 MW.

On the future Market natural gas trading is possible for the next seven quarters or the next seven years. Futures can have a contract volume for months, quarters or years. The transaction fee amounts to 1 Cent/MWh, 0.5 Cent/MWh for the spot market and 0.5 Cent/MWh (0.25 Cent/MWh) for the future market.

Sources:

Hubs:
Gashandel EEX (March, 2008):
www.powernet.org

Traded products and liquidity:
EEX (April, 2008):
http://www.eex.com/de/

Liquidity

Day ahead 2007:	130.3	GWh (BEB)
	278.2	GWh (EGT)
Day ahead 2008:	5	GWh (BEB)
	214.5	GWh (EGT)
Future 2007:	37.1	GWh (BEB)
	3,660	GWh (EGT)
Future 2008:	0	GWh (BEB)
	2,827	GWh (BEB)

Interconnections management

Trac-x is the first e-platform for secondary trade of natural gas transmission capacities, where net operator and trader can trade their free German capacities. The following table illustrates the interconnections from Germany to the Eastern and Southern neighbours.

TSO	Nm³/hour
EuRoPol Gaz (PL) → Wingas (DE)	3.00
VNG Ontras (DE) → GA2system (PL)	0.13
Wingas (DE) → RWE (CZ)	n.a.
RWE (CZ) → Wingas (DE)	1.38
RWE (CZ) → VNG Ontras (DE)	1.53
VNG Ontras (DE) → RWE (CZ)	0.76
RWE (CZ) → E.ON / Gaz de France (DE)	n.a.
E.ON / Gaz de France (DE) → RWE (CZ)	n.a.
OMV (A) → E.ON / Gaz de France (DE)	0.73
E.ON / Gaz de France (DE) → OMV (A)	0.36
OMV (A) → Wingas / Bayern Gas (DE)	0.42
Bayern Gás (DE) → OMV (A)	0.10

Balancing energy

Currently the market places of BEB and EGT build the price benchmark.

Furthermore, the enormous price spread shall be minimized significantly. The price difference of balancing energy between purchase price and selling price should be orientated on the difference between the highest and lowest day price of the associated market place.

Market opening

In 1998 Germany has opened its gas market by 100%.

Households and commercial customers of Germany's final gas market have the free choice of their gas supplier. There are 40 regional gas distributors and nearly 650 local gas suppliers.

According to TSO statements the share of provider changing to the total feed out amounts to 1.25%.

Wholesale price

The German gas wholesale price was 21.70 EUR/MWh in 2006.

Sources:

Balancing energy:
Netzagentur schafft den Ausgleich (March, 2008): www.powernet.org

Market opening:
Bund der Energieverbraucher (April, 2008):
http://www.energienetz.de/index.php?id=151

Wholesale price:
Eurostat (2008) Gas wholesale prices 2006

Sources:

Exploration and production/
Import Export:
IERN (April, 2008): http://www.iern.org/country_factsheets/market-greece.htm

Storage:
Gas Storage Europe (2008) GSE Gas Storage Map:
http://www.gie.eu.com/download/gridmap/GSE_STOR_1031.pdf

Transit pipelines:
RAE (April, 2008):
http://www.rae.gr/en/prices/main.htm
Alexander's Gas and Oil Connections (April, 2008):
http://www.gasandoil.com/goc/news/nte73925.htm
IGI Project Update (April, 2008):
http://www.energy-community.org/pls/portal/docs/83811.PDF
TAP (April, 2008):
http://www.egl.ch/int/ch/de/abo/asset/projekte/tap.-ParSys-0002-ParSysdownloadlist-l1202992001444-DownloadFile.tmp/TAP_Flyer_PRINT.pdf

Greece

Exploration and production

In 2007 the country's exploration capacity was 0.40 bcm from the Kavala field.

Import/Export

Greece imported 2.9 bcm in the year 2007. Russia delivers 75% of Greek's import demand. The rest, 25% are from Algeria via LNG. The country does not export any gas. It is a net importer of gas. Total consumption is 3.30 bcm/year.

Storage

There are no storage capacities in Greece.

Transit Pipelines

The Greek transmission grid has a length of 1,037 km. The main high pressure trunk line has a length of 512 km. The rest are supply branches.

The new ITG pipeline from Turkey to Greece has a capacity of 7 bcm/year and a length of 85 km.

The Trans-Adriatic-pipeline TAP from Greece to Italy via Albania with a capacity of 10 bcm/year should be operable in 2011 when final decision investment is made in 2009.

The Interconnector-Greece-Italy IGI with 600 km in Greece has an initial capacity of 8 bcm/year and should be in operation in 2011/2012.

Hubs

n.a.

Traded products

n.a.

Liquidity Products

n.a.

Interconnections management

TSO	Nm³/hour
Bulgartransgaz (BG) → DESFA (GR)	0.36

Balancing energy

The balancing arrangements and the charges will be defined in the Network Code, pursuant to article 8 of the Gas Law.

Market opening

The market will be opened in November 2009 and then all customers, even households, are free to choose their supplier. Currently DEPA is the sole supplier for large customers, power producers and distribution companies. In distribution there are only the three EPAs as supplier for domestic, commercial and industrial customers. The estimated market opening by 2008/2009 is 80% of the total gas demand.

Wholesale price

No wholesale market exists, due to the absence of a published access tariff until Decision 4955 of 27 March 2006.

Sources:

Interconnections management:
GTE Maps and Data (2008):
The European Natural Gas Network and capacities at cross-border points on the primary market.

Balancing energy:
National Report Greece (July 2007):
http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/NR_2007/NR_En/E07_NR_Greece_EN.pdf

Market opening:
Energy Policy of Greece (2004-2007):
http://www.minpress.gr/minpress/en/aboutbrandgreece_low-res-29-stefanou.pdf

Wholesale price:
IERN (April, 2008): http://www.iern.org/country_factsheets/market-greece.htm

Sources:

Exploration and production/ Import Export:
HEO (2006): Liberalization of Hungarian Gas Market. http://www.unece.org/ie/se/pdfs/wpgas/session/16_session/Hungary_ENSZ%20ea%20060126.pdf
IERN (February, 2008): http://www.iern.org/country_factsheets/market-hungary.htm

Storage:
Gas Storage Europe (2008) GSE Gas Storage Map: http://www.gie.eu.com/download/gridmap/GSE_STOR_1031.pdf

Hungary

Exploration and production

In 2007 the Country's Exploration capacity was 2.90 bcm/year. The Hungarian regulator HEO predicts a declining gas production to 1.09 bcm/year until 2015. The Hungarian supply amounted to 14.80 bcm in 2007.

Import/Export

11.90 bcm or 80% of supply have been imported mainly from Russia in 2007. The country does not export any gas.

Storage

Hungary has a total available storage capacity of 3,720 mcm. Further, there are 1,600 mcm of planned capacities (Zsana 400 mcm, Szöreg 1,200 mcm).

Storage Point	Type	Working volume mcm	Peak withdrawl capacity mcm/day	Peak injection capacity mcm/day
Pusztaederics	Depleted field	330	2.90	2.15
Zsana-Nord	Depleted field	1,540	24.00	10.20
Algyo-Maros 1	Depleted field	130	1.50	1.30
Kardoskút-Pusztaszolos	Depleted field	280	2.90	1.92
Hajdúszoboszló	Depleted field	1,440	19.70	10.30
Total existing storage		**3,720**	**51.00**	**25.87**
Total of additionally planned storage		**1,600**		

Transit pipelines

There are two main transmission pipelines in Hungary. The HAG pipeline from Austria with 4.4 bcm/year and the Brotherhood pipeline from Ukraine with 10 bcm/year. The grid has a total of 5,269 km.

Hubs

n.a.

Traded products

E.ON Földgáz Trade Zrt. carried out a Gas Release Program on May 2006. 475 mcm of natural gas were sold by an online auction to ten participating eligible consumers and two gas traders.

Liquidity Products

n.a.

Interconnections management

More than 50% of cross-border capacities are bound by long term contracts. No secondary capacity trade has developed in Hungary, as there is no relevant market demand.

The only transmission system operator is MOL. There is an Entry/Exit system of tariffs for cross-border exchanges as well as a regulated TPA is in place for in transmission, system operation, distribution and storage.

TSO	Nm³/hour
OMV Gas (AT) → MOL Gas (H)	0.47
MOL Gas (H) → SRBIJAGAS (Serb-M)	0.51
NAFTOGaz (UA) → MOL Gas (H)	1.63

Sources:

Transit pipelines:
HEO (2006): Liberalization of Hungarian Gas Market. http://www.unece.org/ie/se/pdfs/wpgas/session/16_session/Hungary_ENSZ%20ea%20060126.pdf
IERN (February, 2008): http://www.iern.org/country_factsheets/market-hungary.htm

Traded products:
HEO (April, 2008) http://www.eh.gov.hu/home/html/index.asp?msid=1&sid=0&lng=2&hkl=152

Interconnections management:
GTE Maps and Data (2008): The European Natural Gas Network and capacities at cross-border points on the primary market.

Sources:

Balancing energy:
National Report Hungary (2007): http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/NR_2007/NR_En/E07_NR_Hungary-EN_v2.doc

Market opening:
HEO (2006) Liberalization of Hungarian Gas Market: http://www.unece.org/ie/se/pdfs/wpgas/session/16_session/Hungary_ENSZ%20ea%20060126.pdf
IERN (April, 2008): http://www.iern.org/country_factsheets/market-austria.htm
EON-Földgaz (April, 2008): http://www.eon-foldgaz-trade.com/cps/rde/xchg/SID-3F57EEE6-A03BE3EC/eon-foldgaz-trade/hs.xsl/2439.htm

Wholesale price:
National Bank of Slovakia

Balancing energy

There is a daily balancing interval by the TSO. Hungary has one balancing zone in case of high pressure transmission grid. Further, the price of balancing gas depends on price of offered and used optional gas. The auction format follows a pay-as-bid mechanism. The complete Methodology of balancing is described by point 5.3 of Grid and Commercial Code.

Market opening

Hungary has opened its gas market on 01 January 2004. In the year 2007 25% of the demand was served by unregulated prices and the rest by public utility. In 2007 between 800 to 900 eligible customers switched to the free market. The current hybrid model will be abandoned. Three years after the opening the share of the competitive market in total natural gas consumption was 9.7%. On the base of earlier consumption data, the real degree of market opening is estimated to 12 to13 %.

Wholesale price

The gas wholesale price for Hungary was 29.45 EUR/MWh in 2006.

Italy

Exploration and production

The Natural gas consumption has fallen from 2005 to 2006 by 86.3 to 84.5 bcm. Domestic declining production represents in 2006 12.5% of national consumption which amounts to 10.5 bcm. This market segment is dominated by Eni which holds the largest quota of natural gas produced by 80%.

Import/Export

2006 gas imports rose by 5.4% on the previous year, now covering 87.5% of consumption.

Imports come mainly from: Algeria (35.6%), Russia (29.1%), Netherlands (12.1%), Libya (9.9%) and Norway (7.4%). The sector is dominated by Eni Group, which owns 85% of gas domestic reserves through its affiliate Eni Division Gas & Power and controls imports on the basis of long-term take or pay contracts signed before liberalisation.

Storage

National storage system is owned and operated by Stoccaggi Gas Italia Spa (STOGIT), a private company fully controlled by Eni, which owns 8 gas storage points, while Edison Stoccaggio Spa, a private company totally controlled by Edison, controls 3 little storage points. The existing storage capacity amounts to 14 bcm and 8 bcm are planned. The Bordolano storage with 1,500 mcm is the largest planned facility.

Sources:

Exploration and production:
The Italian Regulatory Authority for Electricity and Gas (July, 2007): http://www.iern.org

Import Export/Transit Pipelines:
Annual Report to the European Commission (July, 2007): http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/NR_2007/NR_En/E07_NR_Italy-EN.pdf

Storage:
Gas Storage Europe (2008) GSE Gas Storage Map: http://www.gie.eu.com/download/gridmap/GSE_STOR_1031.pdf

Sources:

Hub/Traded Products/Liquidity:
Analysis Gas platform Italy (February, 2008):
http://uk.reuters.com/article/oilRpt/idUKL0530967220080205?pageNumber=2&virtualBrandChannel=0

Storage Point	Type	Working volume mcm	Peak withdrawl capacity mcm/day	Peak injection capacity mcm/day
Brugherio	Depleted field/Gas fild			
Settala	Depleted field/Gas fild			
Sergnano	Depleted field/Gas fild			
Ripalta	Depleted field/Gas fild			
Cortemaggiore	Depleted field/Gas fild			
Minerbio	Depleted field/Gas fild			
Sabioncello	Depleted field/Gas fild			
Fiume Treste	Depleted field/Gas fild			
Collalto	Depleted field/Gas fild			
Cellino	Depleted field/Gas fild			
Total existing storage		**14,000**	**253.20**	**132.90**
Total of additionally planned storage		**8,357**		

Transit pipelines

The gas transport network, divided into the national and regional networks, is operated by a restricted number of companies. The main company, Snam Rete Gas Spa, is the dominant operator in this sector. The company owns 30,889 km of network out of the approximately 33,000 km which compose the Italian gas transport system. The second is the Società Gasdotti Italia Spa, which operates certain regional networks, whose total length reaches 1,260 km.

Transport activities are regulated by network codes drawn up the transport companies and approved by the Regulator.

As for capacity trading in the secondary market, the transport company applies to the purchaser the same transport tariff applied to the original purchaser. In general, trades on the secondary market are based, however, on bilateral agreements between purchaser and supplier, at freely negotiated conditions. Italy is a nation with limited transits, the rulings for transport contracts and tariffs do not establish specific conditions for transits.

Hubs

The PSV Milan Hub was founded five years ago. PSV is managed by gas transmission network Snam Rete Gas which is a unit of Italy‘s oil major Eni.

Traded products

In January 2008 Italian energy group Edison offered about 13 mcm of gas on PSV for February and March contracts. Only half of it was sold. The government measures foresee selling part of gas imports from outside the European Union and part of LNG imports on PSV.

Liquidity

PSV gas volumes increase by 66% to 10.4 bcm in the thermal year of 2006-2007 as Italy‘s energy authorities channelled more gas there.

Interconnections management

For the year 2006-2007 nearly all transport capacities at the entry points to the national network, interconnected by pipeline with abroad, have been allocated (92%).

In the case of entry points interconnected with other countries, the annual frequency of allocation is maintained, but with two years lead time and the possibility of extension of the allocation to duration of five years, for the holders of multi-annual import contracts (limited to the contracted average daily quantity). The below mentioned interconnection table does not show the Panigaglia entry point with a daily capacity of 13 mcm, which injects LNG into the network.

Sources:

Interconnections management:
GTE Maps and Data (2008): The European Natural Gas Network and capacities at cross-border points on the primary market.

Balancing energy/Market opening:
Annual Report to the European Commission (July, 2007): http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/NR_2007/NR_En/E07_NR_Italy-EN.pdf

Wholesale price:
Eurostat (2008) Gas wholesale prices 2006

TSO	Nm³/hour
TPMC (TUN) → Eni / Snam Rete Gas (I)	3.62
Eni / Snam Rete Gas (I) → geoplin plinovodi (SI)	0.10
geoplin plinovodi (SI) → Eni / Snam Rete Gas (I)	0.18
Eni / Snam Rete Gas (I) → OMV Gas (A)	0.36
OMV Gas (A) → Eni / Snam Rete Gas (I)	4.08
Green Stream Network (LIB) → Eni / Snam Rete Gas (I)	1.14

Balancing energy

The regulated tariffs which the storage company bills for both, the sale of basic services and the sale of special services, determine the allowed costs in the transport tariff (balancing revenue).

Market opening

In 2003 full market opening started in Italy. The switching ratio is significant only for large industrial companies (around 50%), for small business (6%) and for households (1%).

The split of sales between Italia's free and protected markets approximately 69% was purchased by the free market, against 31% by the protected market.

Wholesale price

The gas wholesale price for Italy was 26.35 EUR/MWh in 2006.

Poland

Exploration and production

In 2007 the country's domestic gas production amounted to 4.276,1 bcm and has been covered by one company PGNiG. 40% of the domestic production is covered by Sanok fields and 60% are explored in Zielona Gora.

Import/Export

In 2007 the Polish total gas consumption amounted to 15.135,2 bcm. The country imported 67% of the total from Russia, and 3 067,4 bcm (33%) from Germany, Norway and Central Asia and Ukraine

Storage

In 2007 the available storage capacity in Poland amounted to 1,660,17 mcm. Additional 1,226 mcm of storage capacities are under construction.

Storage Point	Type	Working volume mcm	Peak withdrawl capacity mcm/day	Peak injection capacity mcm/day
Mogilno	Salt cavity	370	20.64	9.60
Wierzchowice	Depleted field	500	4.32	3.60
Swarzow	Depleted field	90	1.00	0.75
Brzeznica	Depleted field	65	0.84	0.79
Husow	Depleted field	400	5.76	2.40
Strachocina	Depleted field	150	1.24	1.55
Total existing storage		**1,575**	**33.8**	**18.69**
Total of additionally planned storage		**1,225**		

Sources:

Exploration and production/ ImportExport:
Urzad Regulacji Energi (2006): Gaz Market Data, Glowny Urzad statystyczny (2007): Energy Statistics 2005-2006, PGNIG (2007): Annual report

Storage:
Gas Storage Europe (2008) GSE Gas Storage Map: http://www.gie.eu.com/download/gridmap/GSE_STOR_1031.pdf

Sources:

Transit pipelines:
Yamal-Europe Pipeline technical specification (2008): http://www.europolgaz.com.pl/english/gazociag_parametry.htm

Transit pipelines

The Yamal-Europe gas pipeline has a current capacity of 32.3 bcm/year and a length of 680 km in Poland. Extention of the pipeline is currently in development.

In June 2006 the TSO (OGP Gaz-System SA) introduced a grid code system. It guarantees that access to the network is not limited to one company, which was the case until 2006. The grid code introduced by the Gaz – System is not covering the activities on the Yamal pipline.

The most important parts of the grid code refer to entering into transmission contract, capacity allocation procedures, and principles of balancing and management of system congestions.

Hubs

n.a.

Traded products

n.a.

Liquidity

n.a.

Interconnections management

On all the entries to the national transmission system the share of transmission capacity reserved for a long period of time exceeds 50%.The incumbent undertaking did not resell transmission capacities in these points on the secondary market. Information related to transmission capacities in these points, required according to Regulation 1775/2005/EC, are presented on the website of the OGP Gaz-System SA.

TSO	Nm³/hour
Europolgaz (PL) → Wingas (DE)	3.00
Ontrans (DE) → Gaz System (PL)	0.13
Naftogaz (UA) → Gaz System (PL)	0.65
Bieltransgaz (BY) → EuRoPol (PL)	n.a.
Bieltransgaz (BY) → Gaz System (PL)	0.6

Balancing energy

The calculation of fees for daily unbalancing was calculated on the base of unit storage costs of PMG Mogilno, (injection/withdrawal, capacity and storage capacity orders) and costs of balancing gas transmission in the transmission system (with consideration of penal character of fees in the case of balancing outside nominated limits.

The method of calculation of fees for incremental unbalancing (monthly) outside the limit and not keeping nomination on the entry or exit point was set on the base of comparing tariffs of TSOs in the EU, and the smallest fees were accepted..

Market opening

Since July 2007 the Polish gas market is 100% open. The most important player PGNiG has 99% of market share in gas sales and distribution. Therefore the market is subject to close observation by the regulator.

Wholesale price

The gas wholesale price for Poland was 24.37 EUR/MWh in 2006.

Sources:

Balancing energy:
URE (2008): Zasady bilansowania systemow gazowych, http://www.geoland.pl/dodatki/energia_liii/gazsystem.html
National Report Poland: http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/NR_2007

Market opening:
Urzad Regulacji Energi (2006): Gaz Market Data
EC Progress in creating an internal gas market (2008): http://ec.europa.eu/energy/electricity/benchmarking/doc/tech_annex_com_2008_192.pdf

Wholesale price:
Eurostat (2008) Gas wholesale prices 2006

Sources:

Exploration and production:
Raiffeisen Capital & Investment SA (2007): Romanian National Gas Sector

Import Export:
EIA (April 2008): http://www.eia.doe.gov/emeu/cabs/SE_Europe/NaturalGas.html
Raiffeisen Capital & Investment SA (2007): Romanian National Gas Sector

Storage:
Gas Storage Europe (2008) GSE Gas Storage Map: http://www.gie.eu.com/download/gridmap/GSE_STOR_1031.pdf

Romania

Exploration and production

Romania is CEE's largest producer of natural gas. In 2006 domestic production stood at 12.3 bcm. In 2006 the overall natural gas consumption reached 17.2 bcm.

Import/Export

According to 2006 Oil and Gas Journal estimates, Romania contains proven natural gas reserves of nearly 120 bcm. In 2006 Romania imported nearly 30% of its 17.2 bcm domestic demand. 3.95 bcm came directly from the Russian Federation, 1.00 bcm from Eurasia and 1.95 bcm from Germany.

Storage

The existing eight storage facilities allow for the storage of 3.78 bcm, out of which the useful volume is of 2.7 bcm. Romgaz owns six of these eight facilities. The remaining two facilities are operated by Depomures and Amgaz.

Storage Point	Type	Working volume mcm	Peak withdrawl capacity mcm/day	Peak injection capacity mcm/day
Tirgu-Mures	Depleted field	300	2.80	2.80
Nades-Prod-Seleus	Depleted field	50	0.27	0.27
Samasel	Depleted field	680		
Cetadea de Balta	Depleted field	150		
Bllduresti	Depleted field	1,190		
Urziceni	Depleted field	200		
Ghercesti	Depleted field	81		
Balaceanca	Depleted field	43		
Total existing storage		**2,694**	**3.07**	**3.07**
Total of additionally planned storage		**2,350**		

Transit pipelines

Transgaz is the 100% state-owned company that operates the national gas transmission system and it will not be privatized in the medium to long term. The company owns a transmission network consisting of approximately 11,900 km of major transportation pipelines with a transmission capacity of ca. 30 bcm/year. Transgaz also operates two international transit pipelines of 552 km. In 2006, Transgaz transported through the National Transport System 15.2 bcm of natural gas and 23.7 bcm transited Romania through dedicated pipes.

Hubs

n/a

Traded products

n/a

Liquidity

n/a

Interconnections management

Romania has also a regulated third party access (TPA). Gas transmission and underground storage tariffs are established applying „revenue-cap“ methodology.

The transport and transit (except for the transit through dedicated main pipes) are activities included in the regulated segment of the Romanian natural gas market and, therefore, they are provided based on tariffs established by the regulatory authority in the field, namely ANRGN.

Sources:

Transit pipelines:
Raiffeisen Capital & Investment SA (2007): Romanian National Gas Sector

Interconnections management:
http://www.gie.eu.com/ (10/2007)

Sources:

Balancing energy:
Romanian Parliament (2004) - Gas law (351/July 14, 2004)
National Regulatory Authority in Natural Gas Sector (2004) – DECISION On approval of Criteria and methods for approving prices and establishing regulated tariffs in natural gas sector

Market opening:
Raiffeisen Capital & Investment SA (2007): Romanian National Gas Sector

Wholesale price:
Eurostat (2008) Gas wholesale prices 2006

TSO	Nm³/hour
Ukrtransgas (UA) → Transgaz (RO)	4.28
Ukrtransgas (UA) → Transgaz (RO)	0.46
Transgaz (RO) → Bulgartransgaz (BG)	3.28

Balancing energy

The NTS (national transmission system) operator set up the tariffs to be paid by the users of the system in case of energy unbalance and submit them for approval to ANRGN.

The dispatching and balance tariff for transmission system is settled for each transmission system as “postal stamp” tariff, with a single volume component, expressed in ROL / 1,000 m3 come into the transmission system.

Market opening

The market opening was completed in January 2007 for industrial consumers and in July 2007 for household customers.

At the end of 2006, the effective opening degree of the market, as stated by ANRGN, was 52.6% and it grew to 53.4% at the end of April 2007.

Wholesale price

The Romanian wholesale price was 26.35 EUR/MWh in 2006.

Slovenia

Exploration and production

The country's gas exploration and production activity is not significant to cover the consumption of 1.12 bcm. Slovenia has to rely on imports from foreign countries.

Import/Export

Slovenia has imported a total of 1.12 bcm of gas in 2007 to cover consumption and storage. Most of it, as much as 50%, was supplied from Russia, 30% from Algeria, and 19% from Austria.

Storage

In 2007 no storage facility existed in Slovenia. The nearest total available storage is point is Okole in Croatia and the planned LNG terminal in Zaole/Trieste next to the Slovenian border could take up some of storage functions needed in Slovenia.

Transit pipelines

Slovenia has one important transit pipeline from Rogatec (Croatia) to Goricia (Italy). The transmission network has a length of 970 km. Moreover a pipeline branch is planned to connect the LNG terminal Zaole/Trieste with the above mentioned transit pipeline. Across the transmission network, 1.12 bcm of natural gas were transported to customers in Slovenia, while 1.22 bcm of natural gas were transported for the customers outside Slovenia (transit).

Hubs

n.a

Traded products

n.a.

Liquidity

n.a

Sources:

Exploration and production:
Energy Agency Slovenia (2008): Report on the energy sector in Slovenia for 2006 by the Energy Regulatory Commission: http://www.agen-rs.si/en/informacija.asp?id_meta_type=36&id_informacija=708
Import Export, Balancing energy and market opening: Report Energy Agency Slovenia (2008): Report on the energy sector in Slovenia for 2006 by the Energy Regulatory Commission: http://www.agen-rs.si/en/informacija.asp?id_meta_type=36&id_informacija=708

Storage:
Storage map information point (2008). http://www.gie.eu.com/download/gridmap/GSE_STOR_1031.pdf

Transit pipelines:
GTE (2008): The European Natural Gas Network, The European Natural Gas Network and capacities at cross-border points on the primary market

Sources:

Wholesale price:
Statistical Office Rep. of Slovenia, http://www.stat.si/eng/novica_prikazi.aspx?id=75

Interconnections management

The transmission network is heavily used, especially the transmission path in the direction Ceršak–Rogatec–Šempeter. The average monthly utilization of this transmission trunk was between 67% and 94% and the daily average was almost 99%. The direction Ceršak–Rogatec is also heavily used. During the summer months its average monthly utilization was up to 90%, while the average daily utilization was up to 99%.

TSO	Nm³/hour
Snam Rete Gas (IT) → Geoplin Plinovodi (SI)	0.10
Geoplin Plinovodi (SI) → Snam Rete Gas (IT)	0.18
OMV Gas (AT) → Geoplin Plinovodi (SI)	0.28
Geoplin Plinovodi (SI) → Plinacro (HR)	0.20

Balancing energy

In the framework of ancillary services, the balancing of hourly and daily imbalance amounts is carried out by the TSO. Imbalances are divided into allowed with a tolerance of 2% and unallowed with a tolerance of 10%. There is intra-balancing among the members of a balancing group.

Market opening

Since July 2007 the Slovenian market is fully opened. In 2006 Slovenia has not seen any supplier switches from customers connected to the transmission network. Customers connected to the distribution network did not have any option to change supplier.

Wholesale price

In 2006 the wholesale price was EUR 25.67/MWh.

Slovakia

Consumption and production

Slovakia does not have any significant own production. Its consumption in 2006 amounted to 6.28 bcm.

Import/Export

Due to the lack of production Slovakia imports 98% of its consumption. The main import country is Russia. The imports cover the total consumption plus a storage reserve.

Storage

The total gas storage capacity in Slovakia amounts to 2.6 bcm. The proximity to the CEGH Baumgarten Hub makes the storage point a strategic storage facility, first on the Eurostream transit pipeline leading from Ukraine to Western Europe.

Storage Point	Type	Working volume mcm	Peak withdrawl capacity mcm/day	Peak injection capacity mcm/day
Tirgu-Mures	Depleted field	300	2.80	2.80
Nades-Prod-Seleus	Depleted field	50	0.27	0.27
Total existing storage		**2,694**	**3.07**	**3.07**
Total of additionally planned storage		**2,350**		

Transit pipelines

An important transit pipeline running through the territory of Slovakia and divided in its western part into two directions delivers gas from Russia to the European market through Lanžhot in the Czech Republic. Another important part of the transit pipeline of increasing importance crosses the border with Austria and delivers gas to Western Europe and also to one part of Southern Europe through the Baumgarten hub in

Sources:

Exploration and production:
SPP (2007): Annual report 2006: http://www.spp.sk/Archiv/English/Annual_report_2006.pdf
BBC News (2006): Where Europe gets its gas from: http://news.bbc.co.uk/2/hi/europe/4578350.stm

Import Export:
BBC News (2006): Where Europe gets its gas from:http://news.bbc.co.uk/2/hi/europe/4578350.stm

Storage:
Gas Storage Europe (2008) GSE Gas Storage Map: http://www.gie.eu.com/download/gridmap/GSE_STOR_1031.pdf

Transit pipelines:
SPP (2007): Annual report 2006: http://www.spp.sk/Archiv/English/Annual_report_2006.pdf
Gas Infrastructure Europe (2007): The European Natural Gas Network and capacities at cross-border points on the primary market: http://www.gie.eu.com/

Austria. The annual gas transit capacity to the West exceeds is in average 90 bcm/ year. In 2006, 73.3 bcm have been transited to the countries of Europe through the network of Slovakia with its length amounting to 2,270 km.

Hubs

n.a.

Traded products

n.a.

Liquidity

n.a.

Interconnections management

The transmission works on the basis of an „entry – exit" tariff system. With regard to the concluded long-term contracts and sufficient technical capacity there has been no physical or contractual congestion of the network taking place and is not expected in the upcoming years.

TSO	Nm³/hour
OMV (AT) → Eustream (SK)	2.67
Eustream (SK) → OMV (AT)	6.04
RWE Transgas Net (CZ) → Eustream (SK)	1.63
Eustream (SK) → RWE Transgas Net (CZ)	5.25
Naftogaz (UA) → Eustream (SK)	12.54
Eustream (SK) → Naftogaz (UA) 6.39	6.39

Balancing energy

The system operator is responsible for settlement of deviations. Non-compliance with the balance and the deviation in gas is not charged but cleared by delivery of gas in kind. For the distribution system user the commercial balancing is done by the distribution system operator. A fee of SKK 1.80/m3 has to be paid.

Market opening

Since July 2007 the Slovakian gas market is 100% open. SPP is the dominant supplier of natural gas in Slovakia. The company delivers the household customers, small and medium companies or large industrial enterprises. Despite the possibilities created by the legislation there is as yet no competition.

Wholesale price

The wholesale price was EUR 27.54/MWh in 2006.

Sources:

Balancing energy:
National Report of Slovakia (2007): http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/NR_2007

Market opening:
European Commission DG TREN (2007): Internal Market Fact Sheet http://ec.europa.eu/energy/energy_policy/doc/factsheets/market/market_sk_en.pdf

Wholesale price:
EUROSTAT

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