



Bundesnetzagentur



**10 jahre**

wir öffnen netze  
für fairen wettbewerb.

**2008 report by the Federal Network Agency for  
Electricity, Gas, Telecommunications, Post and  
Railway to the European Commission on the  
German electricity and gas market.**

## Foreword

The current report describes and evaluates the implementation of major provisions stipulated in the Energy Industry Act and the corresponding ordinances as well as determinations by the Federal Network Agency. In addition the report contains a detailed analysis of the developments in central network-specific and competition related topics in the various stages of the value chain.

In the electricity sector the positive developments within the review period were the duplication of the ratio of changes of suppliers by household customers and the further reduction of network charges. However, due to significant increases in the price component "energy procurement and distribution" as well as increases in taxes and other price components required by the government, the overall price of electricity for industrial and household customers has increased. In the case of commercial customers the price levels were found to have stagnated in the period under review.

No major changes were recorded in the very large market shares of the four largest electricity producers. Nor did the market share of the supply of electricity to final consumers by the three largest suppliers change significantly. Despite an increase in changes of suppliers the majority of household customers is supplied by the universal supplier at "General prices / General tariffs", which is the most expensive form of electricity supply.

The report shows that the security of supply for electricity in Germany can be classed as high. In the short and medium term it seems safe to assume that the supply of electricity can always be ensured to the required extent. In order to preclude any risks to the security of supply, a timely implementation of planned network expansion measures must be ensured. Furthermore it is important to ensure that there is no significant delay in the implementation of required investments into power plants.

On the gas markets the changeover to the two-contract model has brought about major changes. Particularly in the wholesale segment of the market competitive behaviour is now being established. The liquidity of the gas trade at certain trading points has increased. The ratios of changes of suppliers have increased at a low level. Although the cross-border prices decreased overall in 2007, the end customer prices of all customer groups had increased at the reference date of 01 April 2008 compared to the 01 April 2007. All price components have contributed to this development.

The report revealed that the number of market areas is still far too high for effective competition in the gas sector across Germany and must be decreased significantly. The Federal Network Agency expects the network operators to continue their efforts to substantially reduce the number of market areas, to implement the previously announced measures in a timely manner and to submit further proposals on this matter.

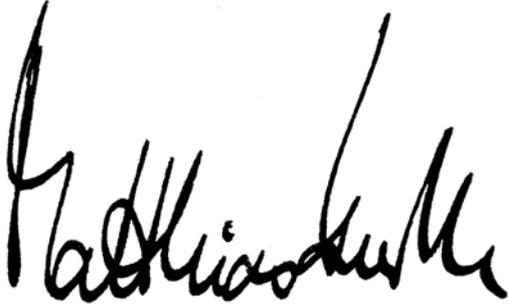
In the gas industry there is still considerable pressure for changes in 2008. The business procedures for switching gas suppliers (GeLi Gas) as well as the basic model of balancing services and balancing rules in the gas sector (GABi Gas) must be implemented. The Federal Network Agency assumes that the new models will provide a vital momentum for more competition.

The present report shows that many companies face the current challenges but that a large number of them do not implement the necessary changes at the required speed. This gives cause for concern that information relevant for balancing is not passed on in due time by all companies. Other areas of dissatisfaction are capacity management and the numerous incidences of contractual congestion, which hamper gas transport considerably.

The regulatory and legal stipulations have still not been fully implemented by companies in the gas and electricity sector. The companies are urged to create the necessary prerequisites for increasing competition on the energy markets by fully implementing these stipulations.

The Federal Network Agency appeals to the companies to make more use of the improved regulatory framework and thus contribute to a greater level of competition.

With regard to the consumers I would encourage them to make more use of the new opportunities for competition by changing contracts and suppliers and thus profit from potential savings in the consumption of electricity and gas.

A handwritten signature in black ink, appearing to read 'Matthias Kurth', written in a cursive style.

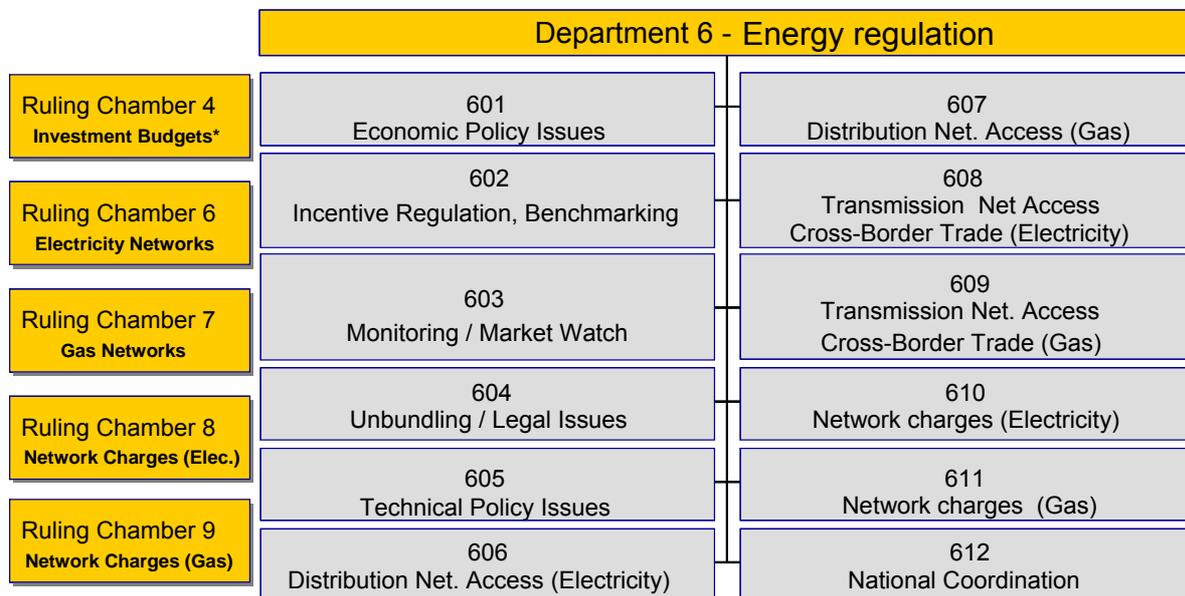
Matthias Kurth

President of the Federal Network Agency  
for Electricity, Gas, Telecommunications,  
Post and Railway

# 1 Summary / Important Developments

## 1.1 Structure and competencies of the Federal Network Agency

The Federal Network Agency is a discrete higher federal authority within the scope of business of the Federal Ministry of Economics and Technology and passes court-like judgments. In the energy sector the regulatory decisions of the Federal Network Agency are primarily made by five ruling chambers (section 59 (1) of the Energy Industry Act). They are staffed by one chairman and two assessors. The members of the ruling chambers must not own or lead undertakings in the energy sector, or be members of the management board or supervisory board of an undertaking in the energy sector. Determinations by the Federal Network Agency can be appealed under section 75 of the Energy Industry Act; the decision about the appeal rests with the Higher Regional Court (OLG). In 2007 Ruling Chamber 4, which used to be responsible for telecommunications, was reorganised and assigned to energy regulation. It is responsible for approving individual network charges for electricity, for proceedings regarding gas pipeline competition, investment budgets and equity yield rates.



\*Further tasks of RC4: Pipeline competition (gas), individual network charges (electricity), equity yield rates for electricity and gas networks

Figure 1: Organisational structure of energy regulation

## **Cooperation between government and federal states**

The Federal Network Agency and the state regulatory authorities support each other in their tasks under the Energy Industry Act. In order to ensure a standardised regulatory system across Germany, a committee of federal state representatives was set up pursuant to section 8 of the Law on the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway, consisting of one representative from each state regulatory authority responsible for performing the tasks under section 54 of the Energy Industry Act. Section 5 (1) of the Federal Network Agency Act provides for an Advisory Council to be set up at the Federal Network Agency. It consists of 16 members of the German Bundestag and 16 representatives of the German Bundesrat; the representatives of the Bundesrat must be members or political representatives of the government or of a federal state. The members and deputy members of the Advisory Council are always appointed by the German government upon the proposal of the German Bundestag and the German Bundesrat.

In addition to the obligations to provide information, to seek consent and to co-operate, as stipulated by the Energy Industry Act, the Federal Network Agency, the Federal Cartel Office and the state cartel offices and state regulatory authorities co-operate closely and extensively. This allows them, irrespective of the type of proceedings selected, to exchange extensive information and use it in their proceedings where required in order to fulfil their responsibilities. They strive for a standardised interpretation of the Energy Industry Act which upholds the spirit of the Law against Restraints of Competition (GWB).

In the period under review the Federal Network Agency was also assigned new competencies under the amended Renewable Energy Sources Act (EEG), which entered into force on 01 December 2006. This includes in particular the monitoring of the distribution of renewable energy across Germany and the passing on of costs caused by the EEG for compensation for the electricity fed in from renewable energy sources.<sup>1</sup>

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<sup>1</sup> See chapter 1.5 - Monitoring of the equalisation scheme under the Renewable Energy Sources Act.

## 1.2 Important developments on the electricity market

This chapter presents a summary of the key points of the report on the electricity market with regard to regulatory and competition-related issues as well as the matter of security of supply.

Regulatory issues include aspects such as information on the development of network charges. Competition related issues include, inter alia, development of supplier changes, the market structure and the level of electricity prices. In the chapter about security of supply its evaluation is taken on the basis of generating capacities and maximum demand per annum, development of power plants and network infrastructures as well as interruptions of supply.

### 1.2.1 Regulatory issues

#### Number of electricity network operators

The following table provides an overview of the number of electricity network operators in Germany.

	Reference date		
	22.05.2006	21.06.2007	12.06.2008
<b>Transmission system operators</b>	4	4	4
<b>Distribution system operators</b>	876	877	855
<b>Of which DSOs with less than 100,000 connected customers</b>	799	799	779

Table 1: Number of electricity network operators in Germany

On the markets for network services the Federal Cartel Office received less than five applications for mergers of network operators (electricity and gas) in 2007. In accordance with the practices of the Federal Cartel Office these markets must be geographically limited to the network coverage of one operator. An amalgamation of the networks in a joint company does not affect the conditions of competition. The spatially expanded network area is still subject to a monopoly, namely that of the new network operator. Current or potential conditions of competition are not limited. In theory, a co-operation in a joint network company could also result in a cooperation of the local partners for the distribution business (group effect), thus preventing a transition from potential competition to actual competition a priori. However, such a group effect, which is conceivable in principle, can generally be precluded a priori because of the unbundling requirements of the Energy Industry Act.

#### Network Charges

The cost review by the regulatory authorities is an important contribution to moderating the price increases on the electricity markets. However, it must be stated that the reductions of network charges have only partly offset the increased price components "energy procurement and distribution", taxes and other price components required by the government and have therefore ultimately not resulted in a reduction of the electricity prices. Due to the cutbacks of the network charges and the price increases on the electricity markets, the share of the network charges in the overall electricity price has decreased disproportionately. The average network charges in the three investigated customer categories<sup>2</sup> have once again

<sup>2</sup> Eurostat (Statistical Office for the European Communities) - Customer category Ig (annual consumption)

decreased in the reporting period.

When comparing the reference date 01 April 2008 with 01 April 2007, the three Eurostat categories investigated showed a decrease of 3.31 to 7.65 percent. Overall, the average network charges have, depending on the customer category, decreased between 0.19 and 1.38 ct/kWh since 2006.

In relation to the overall electricity delivery to household customers the regulatory authorities' review of network costs results in an overall cost reduction of approximately 1.6 billion Euros for household customers. Significant cost reductions were also achieved for commercial and industrial customers.

#### Auxiliary services

The sum of the current outlay costs of the German transmission system operators for auxiliary services in the reporting period 2007 amounted to approx. 1,375 mio. Euro, compared to cost-reducing revenues amounting to a total of approx. 72 mio. Euros. The overall volume of balanced costs for the three qualities of control energy (primary control, secondary control and minute reserve) amounted to approx. 777 mio. Euros. However, this only takes into consideration the costs for the provision of control power. In addition to the provision of control power as the main cost factor, the provision of loss energy (to compensate for network losses) presents the second largest item with balanced costs of approx. 431 mio. Euros.

#### Balancing

The sum of the annual financial volume for balancing between the transmission system operators and the balancing group managers decreased to approx. 307 mio. Euros in 2007 (2006: approx. 386 mio. Euros).

#### Development of the cross-border exchange in electricity

As in previous years the focus for transmission systems lay in particular on further developing the methods for congestion management at cross-border interconnections. In the period under review the responsible ministries, regulatory authorities, transmission system operators and energy exchanges of the regional market Central Western Europe signed a Memorandum of Understanding, which entails the introduction of a load flow-based market coupling between the markets in Belgium, Germany, France, Luxembourg and Netherlands.

In the regional market Northern Europe the regulatory authorities, transmission system operators and energy exchanges made a concerted effort to improve congestion management for the interconnections between Germany and Denmark by introducing market coupling. The introduction of market coupling - originally planned for the end of 2007 - is now envisaged for the end of September 2008. In the regional market Central Eastern Europe the parties involved are striving towards the introduction of regionally coordinated, load flow-based, explicit auctions.

The average import capacity in 2007 was 17 GW; the installed generating capacity according to the German Association of Energy and Water Industry amounted to 129.2 GW (2006: 124.3 GW). While the import capacity remained unchanged, the generating capacity continued to increase. This means that the degree of interconnection in Germany decreased to around 13 percent in 2007 (2006: 14 percent).

Export figures<sup>3</sup> decreased from 57 TWh in 2006 to 56 TWh in 2007. Import figures decreased from 41 TWh to 39 TWh. In the 2007 reporting period Germany once again exported

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24 GWh, maximum demand of 4,000 kW, medium voltage); Eurostat - Customer category Ib (annual consumption 50 MWh, maximum demand of 50 kW, low voltage); Eurostat - Customer category Dc (annual consumption 3,500 kWh, low voltage).

<sup>3</sup> Without the countries of Luxembourg and Sweden, which were not considered for this monitoring survey.

electricity primarily to Netherlands, Austria and Switzerland. In addition there was an increase in exports to Poland and the Czech Republic. In 2007 the most important import countries for Germany were once again France, Poland and the Czech Republic, which also ranked among the most important import countries in 2006. The import from Denmark has increased considerably in 2007.

The revenues from the allocation of cross-border transmission capacity are mainly taken into account in the calculation of network charges. However, since there is still a need to further expand the cross-border interconnections, despite improvements of the auction mechanisms and the thus related more efficient use of available capacity, E.ON Netz and Vattenfall Europe Transmission have announced the investment of a share of their revenue from the capacity allocation procedures into the expansion of cross-border interconnections.

In 2007 the revenues from the allocation of cross-border transmission capacities amounted to a total of 396 mio. Euros. Compared to 2006 the revenues from congestion management have decreased in 2007. For German transmission system operators the residual revenue from congestion management procedures in 2007 has decreased from approx. 314 mio. Euros in 2006 to approx. 219 mio. Euros in 2007.

#### Congestion in the domestic German distribution system

At high voltage level the reporting period 2007 saw a decrease of congestion in the domestic German distribution system, from 19 cases in 2006 to just 5 in 2007. As of 31 December 2007 there was no more congestion in the distribution system at high voltage level. This suggests that steps (e.g. network expansion, congestion management) were taken and successfully implemented in order to remedy or prevent congestion. As of 31 December 2007 the following congestion was found to exist in the domestic German distribution system (number in brackets): Substation level extra high/high voltage (1), medium voltage (1) and low voltage (5).

#### Minimum connection power for the allocation of customers to a network or substation level

In the reporting period 2007 a total of 1,012 (2006: 715) network customers already connected requested a change of their network connection level. However, according to the monitoring survey 2008 only 23 percent (21 percent in the monitoring survey 2007) of distribution system operators have defined minimum requirements for the allocation of customers to a particular network or substation level. In light of the savings potential of network charges for a change to a higher network or substation level, the number of companies without clear requirements for this issue is still far too high. The monitoring survey 2008 once again found a relatively large range of minimum connection power for the allocation of customers to a network or substation level.

#### Metering devices

The lack of minimum requirements for metering operators under section 21b of the Energy Industry Act can result in a delayed development of competition in this area. Compared to the monitoring survey 2007, the monitoring survey 2008 revealed a slight increase in the number of distribution system operators (electricity), who have defined minimum requirements for metering business, to 60 percent of 684 network operators .

The overall number of metering points, for which the metering business is being operated by a third party, is still very small - amounting to 88,055 (0.2 percent) compared to the total of around 47.7 million metering points<sup>4</sup>, which the distribution system operators had declared at the reference date of 31 December 2007 for the monitoring survey 2008.

Future changes are expected due to the full market liberalisation in this area, which is envisaged in the "Law on the market opening of electricity and gas metering for the purposes

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<sup>4</sup> Minus so-called virtual metering points as defined by the Metering Code 2006.

of competition" (Gesetz zur Öffnung des Messwesens bei Elektrizität und Gas für Wettbewerb), which has now entered into effect. This law will also extend the market liberalisation to the measurement which to date was still reserved for the network operators.

#### Implementation of the Renewable Energy Sources Act (EEG)

The role of the transmission system operators to convert the fluctuating feed-in from renewable energies into a profile supply will subsequently be referred to as "EEG enhancement" (EEG = German Renewable Energy Sources Act)". In 2007 the costs for this EEG enhancement rose from 526 mio. Euros (calculation) in 2006 to 570 mio. Euros (forecast) in 2007.

According to the Federal Network Agency's EEG data collection there was an installed overall capacity of approx. 28,000 MW for the 290,000 plants compensated under the EEG (reference date 31 December 2006). Nearly three quarters of the installed capacity can be attributed to wind energy plants, whose operators received the majority of the total feed-in compensation of 5,809 mio. Euros in 2006, amounting to 47 percent. Nearly 263,000 solar plants fed a relatively low amount of electricity into the network. However, operators of solar plants receive considerably higher compensation, resulting in a disproportionately high compensation of 20 percent of the total feed-in compensation for 2006.

According to the monitoring survey, plants<sup>5</sup> with a net nominal capacity of 3.5 GW in total were newly connected to electricity networks in 2007, which were operated with renewable energy sources. At approx. 1.7 GW the additional construction of wind energy plants holds the lion's share. However, "solar radiation energy" is particularly noteworthy in this context. According to the monitoring survey 2008 a maximum capacity of approx. 1.1 GW was newly connected to electricity networks in 2007; this is an increase of approx. 38 percent compared to the capacity from "solar radiation energy" installed to date.

Despite the predominantly larger wind parks connected to the transmission system (2,347 MW generating capacity as at 31 December 2007), the majority of the wind energy plants connected in Germany (19,697 MW generating capacity as at 31 December 2007) is found in the distribution system.

#### **1.2.2 Competition related issues**

All electricity markets are still characterised by a very high market concentration. There are therefore no major changes compared to the last report.

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<sup>5</sup> Net nominal capacity < 100 MW.

## **Generation**

As far as the Federal Cartel Office is aware, the market at generation level is still dominated by RWE and E.ON.<sup>6</sup>

Based in particular on the overwhelming market share of these two companies in the generated net capacity of electricity, the federal electricity markets that supply large industrial customers, municipal utilities and energy traders with electricity are dominated by an oligopoly with a dominant position and no competition, which according to the findings of the Federal Cartel Office currently consists of RWE and E.ON (cf. chapter 2.2.2.1).<sup>7</sup>

The net maximum capacity determined during the monitoring survey, which can be used for "public supply", was approx. 101,009 MW on 31 December 2007. When applying the dominance method a total of approximately 86,286 MW, i.e. 85.4 percent of the overall net maximum capacity can be attributed to the four largest vertically integrated energy supply companies.

The net capacity of electricity produced in the reporting period and fed into the "public supply" network, also showed a similar distribution of the shares at a slightly higher level. The monitoring survey for the year 2007 revealed a net capacity of 513.5 TWh of generated electricity. The net capacity of electricity generated by the four large vertically integrated energy supply companies, determined by the dominance method, amounted to 451.4 TWh, which equated to a share of 87.9 percent. The net capacity of electricity generated by the entire energy industry remained more or less constant in 2007, with 597.3 TWh compared to 597.2 TWh in 2006, as a preliminary report by the German Association of Energy and Water Industries states.

## **Wholesale segment**

Compared to 2006, the reporting period 2007 was characterised by a considerable increase of the trading volume in the spot market of the European Energy Exchange AG (EEX). In the futures market two different developments were noted in 2007. While the trading volume on the EEX futures market without OTC clearing decreased by half, the futures market volume of the OTC trade with clearing at EEX has increased considerably. Due to appropriate measures of the EEX, the trading volume of the EEX futures market without OTC clearing during the period from January to the end of May 2008 was increased by approximately 45 percent compared to the same period in 2007. Compared to 01 April 2007 the overall number of electricity traders at EEX participating in exchange transactions and clearing as well as OTC clearing increased by 31 traders to 192 traders (as at 14 April 2008).

In 2007 the day-ahead spot market prices at the EEX showed a decrease of approximately a quarter of the annual mean averages of the Phelix-Day-Base and the Phelix-Day-Peak compared to 2006. At the same time the spot market Day-ahead trading volume increased by approximately a third, which resulted in cost-reducing effects for the procurement of electricity on the Day-ahead spot market in 2007 compared to 2006.

The annual mean averages of the Phelix-Year-Futures traded on the EEX futures market for the forward prices have remained almost the same in 2007 as in 2006, both for Base and Peak. When considering the annual mean averages for these products, no signals for price increases in the retail sector were found in 2008. However, a short-term examination of the

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<sup>6</sup> Cf. 2007 Report by the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway to the European Commission on the German electricity and gas market, pursuant to section 63 ( 5) of the Energy Industry Act (EnWG), p. 78 f (chapter 3.2.1.1), 86 f. (chapter 3.2.2.1).

<sup>7</sup> Cf. 2007 Report by the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway to the European Commission on the German electricity and gas market, pursuant to section 63 ( 5) of the Energy Industry Act (EnWG), p. 78 f (chapter 3.2.1.1), 86 f. (chapter 3.2.2.1).

price developments reveals that the prices of the Phelix-Year-Futures 2008 increased in the last quarter of 2007.

### Retail sector

The situation on the markets for supplying end users without load curve metering (so-called electricity small-customers market/supply of household customers) has not changed much compared to 2006. The price strategies of the DSOs (electricity) are usually focused strongly on a particular region rather than across all of Germany. Furthermore they are partially guided by the prices of the appropriate local universal supplier and are slightly below these prices. From the Federal Cartel Office's perspective this development is still an argument against a federal market for the supply of end users without load curve metering, despite some suppliers that also operate all over Germany.

While the change rate in the area of end users without load-curve metering has increased compared to 2006, it is still at a low level overall (cf. chapter 2.2.3.1).<sup>8</sup> The monitoring survey has shown that during the reporting period 2007 only for 3.8 percent of the amount withdrawn by end users without load curve metering a change of supplier had occurred. Competition in the area of end users without load curve metering has improved, indeed. However, in the opinion of the Federal Cartel Office the reporting period has not yet shown signs of effective competition as envisaged by competition law.

### Change of contract and supplier

The overall quantitative supplier change ratio in the reporting period 2007 only increased by 0.6 percentage points to just over ten percent. The overall number of supplier changes amounted to just under 1.8 million changes. That means that the number of household customers changing suppliers roughly doubled in 2007 to approx. 1.35 million changes. However, this 100% increase occurred on the basis of a relatively low starting level, so that the supplier change ratio for household customers is considerably lower than in other customer categories.

Despite an increase in household customers changing suppliers, the considerable increase expected in electricity supplied outside universal supply failed to materialise. In the reporting period 2007 over half of all household customers, namely 58.6 percent, are still universal supply customers. 35 percent have concluded a different contract with their universal supplier. 6.4 percent of household customers are supplied by a different supplier than the universal supplier.

In the reporting period 2007 the market share of the three largest suppliers increased slightly to 46.1 percent of the total net electricity consumption from the "public supply" network.

### Development of electricity prices

In the last two years household customers in particular have seen considerable increases of electricity prices. The average increase for household customers covered by universal supply has been 14.4 percent since 01 April 2006. Had the network charges remained the same, the prices would have increased by 21.7 percent. The additional construction of plants with renewable energy sources is only in part responsible for the noticeable increase in electricity prices for household customers. The majority of the average price increase is due to increased costs of the price element "energy procurement and distribution (including margin)".

Since 01 April 2007 the overall price for household customers covered by universal supply has increased by an average of 7.4 percent. Universal supply with its volume weighted

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<sup>8</sup> Cf. 2007 Report by the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway to the European Commission on the German electricity and gas market, pursuant to section 63 ( 5) of the Energy Industry Act, p. 90 (chapter 3.2.3.1).

average total price of 21.60 ct/kWh (prices as at 01 April 2008) is actually the most expensive form of supplying household customers with electricity. Outside of universal supply (change of contract) the volume weighted average total price decreases to 21.04 ct/kWh and outside universal supply network areas (change of supplier) to 20.86 ct/kWh. The price difference that makes universal supply more expensive than other tariff options outside universal supply is primarily down to the differences in the price element "energy procurement and distribution". While network charges, taxes and other price components required by the government are almost identical for all three categories of household customers, "energy procurement and distribution (including margin)" vary as much as 0.59 ct/kWh. The Federal Network Agency therefore invites the consumers and in particular the household customers to make better use of opportunities for competition in the electricity market.

With an average of 14.8 percent since 01 April 2007, the volume weighted total price has increased the most for industrial customers compared to the other customer categories.

### **1.2.3 Security of electricity supply**

#### Assessment of security of electricity supply

The examinations of the security of supply, recently conducted as part of the monitoring, have revealed that the level of security of supply for electricity is high in Germany. In the short and medium term it seems safe to assume that the supply of electricity can always be ensured to the required extent. At present there is sufficient national power plant capacity to satisfy demand. The high degree of security of supply in Germany is also apparent by the fact that Germany has by far the shortest power failures in Europe. In recent years the domestic power plant capacity has steadily increased, in particular due to the additional construction of wind energy and photovoltaic plants as well as biomass power plants. While wind energy and photovoltaic plants contribute only slightly to the firm capacity, this was still considerably higher than the annual maximum demand in recent years, so that the quality of the security of supply was not detrimentally affected by integrating these volatile generating capacities.

We can therefore conclude as follows: For the period up to 2020 Germany should have sufficient generation capacity to ensure a secure supply of electricity in line with demand.

However, there is no guarantee that electricity prices may not increase due to problems with the acceptance of investment projects for coal-fired power plants and the correlated impediment of the construction of new, efficient power plants - with corresponding effects on the economy. Should these acceptance issues turn out to be permanent, congestion in the period 2015 to 2020 cannot be excluded.

For gas the dependence on fuel imports must be considered as increasingly critical. The construction of new and additional networks and/or transmission capacity is vital, since a trend towards a geographical separation between the main centres of electricity generation and electricity demand can be assumed.

#### Generating capacities and maximum demand per annum

To ensure security of supply it should be possible to satisfy the demand for electricity at any time with sufficient security by using domestic electricity generating capacities. Security of supply therefore entails the endeavour to be largely independent of electricity imports, even at times of heavy demand. In this context it is not so much the total installed power plant capacity at domestic level that counts but rather the firm capacity. This should be sufficiently high to satisfy the maximum demand for electric power within a year, i.e. the maximum demand per annum.

For the period 2005 to 2007 a comparison between the balances of "General electricity supply" in Germany at the time of the maximum demand per annum revealed an increase of the residual capacity (without cross-border exchanges) by 4.8 GW, from 6.0 GW (2005) to 10.8 GW (2007). The percentage of residual capacity of the overall domestic power plant capacity, which serves as an indicator for the security of supply, increased at the time of maximum demand per annum from five percent (2005) to 8.4 percent (2007).

#### Investments and decommissioning of generation capacities

Within the context of the monitoring survey 2008 the power generators notified the Federal Network Agency of planned or implemented investments for the period from 2008 to 2016. However, there was no examination of the likelihood of notified investment projects being realised. The data on investment projects (including partial extensions of plants) includes both replacement investments and new investments. The data revealed noticeable increases compared to the figures notified during the monitoring survey 2007. The notified sum of the overall investments planned or implemented has risen by 10.4 GW, from 29.3 GW to 39.7 GW.

The three energy sources coal, natural gas and lignite hold a share of approximately 85 percent in the planned or implemented total investments. In the individual categories the overall value of intra-corporately authorised investments rose from 9.7 GW in 2007 to currently 20.2 GW. The extra-corporately (officially) authorised investments rose from 7.8 GW to 10.3 GW and the number of projects actually under construction from 7.1 GW to 12.3 GW. Of the overall planned and/or implemented investments (39.7 GW), combined heat and power production (CHP) for power plants is envisaged with an overall capacity of 14.8 GW.

The planned decommissioning (including partial decommissioning of power plants) across all energy sources is 10.9 GW (reference value) in total for the period from 2008 to 2012. For the period from 2008 to 2012 the externally (officially) authorised investment projects to date and/or the projects under construction are therefore roughly equivalent to the planned decommissioning.

In the subsequent period from 2013 to 2020 it is planned to decommission 19.6 GW (reference value). The planned decommissioning for the period from 2008 to 2020 amounts to a total of 30.5 GW. The majority of decommissions planned until 2020 relates to nuclear power with 19 GW or approx. 62 percent. The expected decommissioning of conventional power plant capacity therefore amounts to 11.5 GW for the period from 2008 to 2020.

### Interruptions of supply

For the reporting period 2006 the Federal Network Agency monitored for the first time the statistic non-availability for a full calendar year, which amounted to 21.53 minutes per end user (cf. chapter 2.3.1). The value determined confirms the high security of supply in Germany, even in comparison with its neighbouring countries.

### Condition and planned expansion of the network

The transmission system operators reported a total of 38 delayed measures at the end of the first quarter 2008. Main reasons for delays stated by the transmission system operators in the implementation of projects were long official approval and authorisation procedures, amendments required under the underground cable law of Lower Saxony, resistance among the population, supply shortages among plant manufacturers as well as uncertainty regarding the implementation of offshore projects.

In 2007 the German transmission system operators spent a total of approx. 884 million Euros on the network infrastructure (including cross-border connections) in the three categories New construction / Expansion / Development, Preservation / Renewal, and Repair / Maintenance. In detail approx. 503 million Euros were spent on investments for New constructions / Expansion / Development and Preservation / Renewal, and approx. 380 million Euros on expenses for all three categories. This means that the overall spending on the network infrastructure was not just considerably below the planning data of the transmission system operators for 2007, gathered in the monitoring survey 2007, but even below the value for the year 2006. The reasons for this are partially linked to the large number of delayed network expansion projects and the correlated "investment tailback", which is supported by considerably higher budget figures for the year 2008. In 2008 the transmission system operators are planning investments of approx. 1,063 million Euros and expenditures of approx. 314 million Euros on the network infrastructure, which together amount to a budget of 1,377 million Euros.

The distribution system operators invested a total of approximately 2,127 million Euros in the network infrastructure in 2007, the monitoring survey revealed. Furthermore 1,303 million Euros were spent on New constructions / Expansion / Development as well as Preservation / Renewal of the network infrastructure. For Repairs / Maintenance additional expenses of 1,678 million Euros accumulated. The budget figures of the distribution system operators for the expected investments in New constructions / Expansion / Development and Preservation / Renewal in 2008 are 16 percent higher than the actual figures for 2007. On the other hand the budget figures for expected expenditure on New constructions / Expansion / Development and Preservation / Renewal in 2008 are 8 percent lower than the actual figures for 2007.

### 1.3 Important developments on the gas market

This chapter presents a summary of the report's key points on the gas market in regard to regulatory and competition related issues as well as security of supply.

Regulatory issues include aspects such as information on the development of network charges. Competition related issues include, inter alia, data on supplier changes, the market structure and the level of gas prices. A contribution on the issue of security of gas supply concludes this chapter.

#### 1.3.1 Regulatory issues

##### Number of gas network operators, network situation

The following table provides an overview of the number of gas network operators in Germany.

	Reference date		
	22.05.2006	21.06.2007	12.06.2008
<b>Transmission system operators</b>	22	22	20
<b>Distribution system operators</b>	734	719	697
<b>Of which DSOs with less than 100,000 connected customers</b>	708	694	668

Table 2: Number of gas network operators in Germany

The overall length of the network operated by the transmission system operators in 2005<sup>9</sup> was 56,476 km, that of the distribution system operators 341,324 km. Due to the number of different network operators and the network structure, Germany can be considered to have a complex gas network structure. Furthermore, due to Germany's central location in Europe, larger amounts of gas are imported and exported as well as being taken on from abroad and passed on for supplying third countries (transit).

##### Network Charges

In the first round of approvals for network charges, concluded in 2007, the Federal Network Agency received 225 applications for approval of charges in the gas sector from the network operators assigned to the Agency's sphere of competence (under general federal competence and under official delegation of powers). Ultimately the average cutback compared to the applications was 12.1 percent, the least cutback being 0.1 percent and the highest 32.4 percent. The total volume of cost reductions amounted to approx. 450 million Euros.

Of the 227 approvals for network charges to be submitted in the second round, 129 smaller network operators had their approvals extended until 31 December 2008 with their costs being largely unchanged. Another 98 applications are still undergoing a cost review and will be decided upon by 31 December 2008. The cost data determined this way will form the basis for incentive regulation, which will be launched on 01 January 2009.

<sup>9</sup> According to information by the Federal Association of German Energy and Water Industries (BDEW), no newer data available.

The cost volume cut back by the Federal Network Agency (450 million Euros by 2007) has resulted in a decrease of the average network charges when reference dates are compared.<sup>10</sup> In a comparison of the reference date 01 April 2008 with the same date in the previous year, slightly higher network charges were found across all customer categories. This development is in particular due to a decrease in the domestic consumption of natural gas over the last two years. At present the share of reported network charges for household customers makes up approx. 20 percent of the gas prices.

#### Changeover to the two-contract model in order to simplify the procedure of gas transportation

With the Federal Network Agency's decision of 17 November 2006, the use of the single-network related access model which the first co-operation agreement of the gas industry in Germany, dated 19 July 2006, had provided as an option for organising gas transport, is now prohibited since it was not in agreement with the law and the ordinance. Due to this decision all new contracts during the reporting period could only be concluded on the basis of the two-contract model, while old contracts had to be changed over by 01 October 2007 at the latest.

The reporting period of the monitoring survey 2008 relates to the entire calendar year 2007. For that reason some analyses in the reporting period refer to both the single-network related access model and the two-contract model.

#### Development of market areas

The original number of 19 market areas at the beginning of the gas business year 2006/2007 was reduced to 18 by 01 April 2007. By 01 October 2007 a further reduction of the number of market areas had been achieved. This reduced the number of market areas in Germany at the beginning of the gas business year 2007/2008 to 14. The monitoring survey revealed that those transmission system operators responsible for running and managing market areas were planning further mergers of market areas by 01 October 2008. The answers also clearly show that only inter-corporation co-operation between network operators can lead to the further reduction of market areas demanded by the Federal Network Agency.

Even after the introduction of the two-contract model the supply of consumers across more than one market area continues to be a problem. For that reason a further reduction of the number of market areas is necessary, because a supply of gas across different market areas requires additional capacity contracts. Accordingly, the monitoring survey shows that acquisition in market areas, in which the affected supplier has never before supplied consumers, tends to be the exception. In 2007 only five percent of suppliers stated to have supplied end users in a market area in which they had not supplied consumers before. Six of 13 suppliers that tried to perform a change of market area allocation for their new customers, who were located in a territory in which several market areas are overlapping, failed to achieve this re-allocation.

#### Network usage by traders and suppliers as an indicator for competition

The number of transport customers is distributed very heterogeneously both across transmission system operators, with an average of 21.5 transport customers per network operator, as well as across distribution system operators, with an average of 2.8 transport customers per network operator. In the case of some network operators the network is used by many traders, while in other networks only a few traders are active. Compared to previous years this indicator has risen considerably on average, which can be attributed to the introduction of the two-contract model in the gas sector. However, it should be pointed out that among 91 distribution system operators only one transport customer was notified. In this case the gas supply is still organised through one supplier, without competitors.

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<sup>10</sup> Reference dates 01 April 2006 and 01 April 2007.

The market share of the transport customers affiliated with the distribution system operators under section 3 no. 38 of the Energy Industry Act is still very high, both in terms of the nomination and the capacity bookings.

#### Capacity situation in the gas transmission system

Regarding the degree of utilisation of networks it becomes apparent that in an average annual review across Germany and from a purely technical perspective, without consideration of the contractual situation, there is still spare capacity in the gas transmission system (across Germany utilisation stands at approximately 36 percent, at cross-border interconnections at nearly 65 percent). The results are average figures for the year. The maximum capacity of individual points could possibly be higher, especially in winter. To begin with, the physically unused capacity should be made available to the market by means of improved congestion management methods, before those networks showing predominantly contractual congestion are upgraded through expansion measures.

In the reporting year 2007 the freely bookable capacity in the gas transmission system was only around seven percent across Germany. At the same time the refusals to grant network access reveal a high demand for firm capacity at important interconnection points - a demand that could not be satisfied. Contractual congestion usually arises because existing firm capacity is tied up early on by long term contracts to transport customers, while the interconnection points themselves are physically not fully utilised. Therefore wholesalers and suppliers use interruptible capacity mainly due to the lack of available firm capacity. On the one hand the monitoring survey shows that only two transmission system operators had to actually interrupt contracts for interruptible capacity in 2007. On the other hand wholesalers and suppliers use a combination of firm and interruptible capacity to fulfil firm delivery commitments, even though in their opinion there is no adequate information about the likelihood of interruption.

Looking back at 2007 it became obvious that interruptible capacity was almost as reliable as firm capacity. However, with increasing trade and a potential shift in the flow of trade there may be more interruptions in the future.

#### Balancing / Provision and operation of balancing services

During the reporting period different systems to balance the traders' feed-in and take-off of gas had been used. Basic balancing was performed uniformly. For the traders the timely transmission of balancing data is therefore a key to efficient and complete balancing. The transport customers need the data gathered by the network operators as quickly as possible, in particular to avoid large cumulative differences.

When using rough quantity weighting the information provided by TSOs responsible for running and managing market areas revealed that during the reporting period only data for approx. 20 percent of the off-takes was actually transmitted. Reasons given for problems with making data available were primarily computer related as well as lack of clarity regarding data formats and transmission methods. Network operators pointed out that the transmission of data to transport customers could only be successful if the complete data of all affected network operators is available, which they claimed was not the case in the reporting period. In regard to efficient balancing the transmission of incomplete data must be considered as extremely critical.

Of central importance in terms of the procurement of gas used to maintain the stability of the system is the ability of non-pressure regulated networks to absorb load fluctuations through temporary increases and reductions in pressure, i.e. through the active or passive use of the so-called network buffer. Network operators should initially exploit the potential of their infrastructure before purchasing external gas for stabilizing their network, e.g. from transport customers or storage system operators.

Based on the information provided in the monitoring survey 2008, different estimates regarding the potentially available network buffer were derived. Despite all precautions many networks stated slight differences between maximum and minimum filling, which results in a relative small overall network buffer. This creates the impression that in many cases considerable increases of the network buffer could be achievable through simple measures (greater pressure spread). It should be possible to balance the load fluctuations that result from unplanned differences of the transport customers with this potential network buffer, in many cases without the need for external system energy.

#### Standard load profiles

In particular the great increase of the implementation rate of distribution system operators (compared to 2006) in using standard load profiles pursuant to section 29 of the Gas Network Access Ordinance shows clearly that during 2007 the majority of companies has implemented a major requirement for changing suppliers in a way that is suitable for bulk business. However, at the same time it must be pointed out the use of standard load profile procedures required by the legislator has not yet been accommodated by all distribution system operators, which is ultimately still unsatisfactory. Furthermore, the use of standard load profile procedures takes on additional meaning against the background of introducing a new balancing system and requires an immediate industry-wide implementation by the DSOs.

#### Network access for biogas

Over the years companies have become increasingly interested in feeding biogas into the network. This becomes particularly clear when looking at the growing number of enquiries for network access for biogas. During the reporting period 2007 a total of 281 enquiries (2006: 134) were registered. The positive result of the survey is that only five of these applications were refused. The reasons for the refusal were restrictions related to network technology or contracts.

#### Minimum requirements for metering devices, data volume and data quality

The reporting period 2007 saw a slight increase in the share of network operators who defined the technical and data-specific minimum requirements for metering operators.

At the level of distribution system operators the share increased by ten percentage points (to 69.8 percent) compared to 2006, while the transmission system operators registered an increase of 16.1 percentage points to 90 percent. Of the 632 distribution system operators who responded, 20 said they had received a total of 98 applications in 2007 for taking over the metering business. In the year before there were only six applications. The transmission system operators, however, only received one application in 2007.

Future changes are expected due to the full market liberalisation in this area, which is envisaged in the "Law on the market opening of electricity and gas metering for the purposes of competition" (Gesetz zur Öffnung des Messwesens bei Strom und Gas für Wettbewerb), which has now entered into effect. This law will also extend the market liberalisation to the measurement, which to date was still reserved to the network operators.

#### Transparency requirements

According to the monitoring survey only three quarters of transmission system operators publish the maximum technical capacity for load flow in both directions as well as the contractually agreed firm and interruptible capacities for all entry and exit points. This lack of transparency presents a problem for (potential) customers of interruptible capacity, because information about the maximum technical and booked capacity is necessary for an assessment of the likelihood of an interruption. In addition, transport customers on the market currently still have to collect a lot of network related information themselves in order to organise their transport in the optimal and safest way for their customers. Capacity information as well as further information on networks are major parameters for this and are

incorporated in the business initiation and transport planning for transport customers. Overall the TSOs fulfil their obligation to publish historic flow data as much as their obligation to publish capacity data. The publication of historic flow data, as well as data on capacity, is considerably restricted by the fact that the transmission system operators have the option under section 20 (3) of the Gas Network Access Ordinance to withhold information on certain aspects in case of conflicting legitimate interests.

DSOs, too, do not yet fulfil their obligations in this respect in a satisfactory manner. The Federal Network Agency is therefore currently examining the websites of the network operators in its sphere of competence.

### **1.3.2 Access to storage systems**

Approximately 95.8 percent of the registered total storage volume of 18.9 billion Nm<sup>3</sup> is in principle open for third party access. About 4.2 percent is reserved for gas exploration and/or network operation. At the end of 2007 only a maximum of seven out of 45 underground storage systems had freely bookable storage capacity at the relevant reference dates in the period up to 01 April 2013. This was equivalent to between 1.3 and 3.1 percent of the registered accessible overall working gas volume of approx. 18.1 billion Nm<sup>3</sup>.

The fact that demand for storage capacities far exceeds the supply is revealed by 58 refusals of access, declared by eleven underground storage system operators (2006: eight, 2005: five operators). According to information by the demand side, wholesalers and suppliers received a total of 72 refusals, mostly due to a lack of available storage capacities. For regular storage capacity allocation, just as for congestion, the methods "First come first served" or "First committed first served" are usually applied. Market oriented allocation mechanisms, such as auctions, are still only used on rare occasions. One must note that the operators of underground storage systems are well ahead of the overground storage system operators in terms of the services to be offered under the Guidelines for Good Third Party Access Practice for Storage System Operators (GGPSSO) (without online shut-off), considering that their degree of implementation has risen slightly to between 55 and 86 percent in individual categories (e.g. unbundled services, "pooling", short-term products, secondary market trade).

Eight out of nine storage systems in overlapping market areas offer the option of crossing market area borders through injection and withdrawal. The transparency requirements under section 28 (3) of the Energy Industry Act are still being fulfilled in an unsatisfactory manner. Compared to the previous year the users' satisfaction with the offered storage services has increased. However, more than half of the DSOs who responded and 35 percent of the participating traders negated the possibility of trading capacity on the secondary market.

### **1.3.3 Competition related issues**

The German gas markets are still characterised by a high level of concentration. On the four relevant gas product markets <sup>11</sup> there was no indication of effective competition as defined under competition law during the reporting period. However, there is some movement. In this definition of relevant product markets, required under competition law, the Federal Cartel Office assumes that the markets for the supply of end users with heat, natural gas and other

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<sup>11</sup> Cf. 2007 Report by the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway to the European Commission German electricity and gas market, pursuant to section 63 (5) of the Energy Industry Act, p. 159 (chapter 4.2.2.1). For the reporting period under consideration the Federal Cartel Office classified the relevant gas product markets as follows: Market for the initial supply of distributors with natural gas, Market for the supply of distributors by regional gas network companies, Market for the supply of industrial customers, Market for the supply of household and small commercial customers.

sources of heat energy is not functionally interchangeable, so that there is no standardised heat market. This was also recently confirmed by the cartel division of the Federal Court of Justice (BGH).<sup>12</sup>

With regard to the Federal Cartel Office's geographic definition of the relevant gas markets the reporting period 2007 showed no significant changes compared to 2006. Comprehensive competition covering all levels of supply was found to be inadequate.<sup>13</sup> The Federal Cartel Office's evaluation of the gas markets under competition law was still based on a network related market definition. The co-operation agreement of the gas industry, which did not come into effect before the autumn of 2007, created a network access regime which is generally suitable for bulk business. However, during the reporting period this did not bring about any instant changes from the previous market conditions. Instead, the 14 different market areas still existent in 2007 (cf. chapter 3.1.3) as well as the high level of concentration and integration in the gas industry have resulted in a continuation of the hitherto existing market conditions.

### **Gas production, gas consumption, imports, exports, transit**

Germany's domestic gas consumption in 2007 decreased by 3.6 percent compared to the previous year. According to information by the Federal Ministry of Economics and Technology (BMW) and the Federal Office of Economics and Export Control (BAFA) approximately 1000 TWh gas were consumed in the reporting period 2007. Compared to the previous year the domestic production of natural gas decreased by 8.4 percent in 2007 standing at 166.5 TWh. A syndicate of ten companies is involved in the total amount of gas produced in Germany.

In monitoring survey 21 trading companies declared that they had imported a total of 1082 TWh gas to Germany<sup>14</sup> in 2007. Sixteen trading companies declared in the monitoring survey that they had exported a total of 159 TWh gas from Germany<sup>15</sup> in 2007.

The transit volume can be roughly estimated by looking at the differences between the overall amounts transported by network operators into and out of Germany on the one hand (cf. chapter 3.3.1) and the amounts imported and exported on the other hand. Such an examination results in an estimated transit volume of 370 to 412 TWh<sup>16</sup> for Germany, based on the data for the monitoring survey 2008.

### **Gas wholesale**

In the wholesale sector some changes were noticeable due to the fact that decisions by the Federal Cartel Office had prohibited long-term gas supply contracts between importing wholesalers and regional and/or local traders and suppliers<sup>17</sup>. In 2007 the municipal utilities increasingly began to optimise their gas procurement portfolio and to purchase at least parts of the natural gas needed for sales purposes from different suppliers. However, this development in the wholesale sector is still not sufficient to for effective competition as defined under competition law. From the Federal Cartel Office's perspective the wholesalers

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<sup>12</sup> BGH, judgment of 29 April 2008, file ref. KZR 2/07, official transcript of the decision, paragraph 12 - "Erdgassondervertrag", cf. also BGHZ 151, 274, 282 - "Fernwärme für Börsen"; also in this sense Higher Regional Court Düsseldorf, judgment of 16 April 2008, file reference: VI-2 U (Kart) 8/06.

<sup>13</sup> Cf. 2007 Report by the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway to the European Commission on the German electricity and gas market, pursuant to section 63 (5) of the Energy Industry Act, p. 151f.

<sup>14</sup> Imports without consideration of transits.

<sup>15</sup> Exports without consideration of transits.

<sup>16</sup> Depending on whether the calculations are based on the overall amount of the respective gas flows to the amounts imported or exported (cf. chapter 3.3.1).

<sup>17</sup> Cf. 2007 Report by the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway to the European Commission on the German electricity and gas market, pursuant to section 63 (5) of the Energy Industry Act, p. 30f. (chapter 1.6).

concerned in 2007 still had a dominant position on the relevant gas markets in the wholesale sector.

For the gas trade markets, October 2007 with its mandatory introduction of the two-contract model by the Federal Network Agency was an important date. At those virtual trading points in Germany where any appreciable gas trade was recorded at all, the quantities declared have increased considerably. In terms of quantity the trade at virtual points concentrates primarily on the short-term quantities (spot market). The futures trade is still developing very slowly.

On 02 July 2007 gas trading commenced at the EEX. There was no liquid trade yet during the reporting period.

Following two years of considerable price increases, the annual average of price developments for the cross-border prices regressed in 2007 (minus 6.3 percent). However, due to developments in the oil market the year 2008 is expected to bring an increase again.

### **Gas retail sector**

With regard to the supply of end consumers without load curve metering the competitive situation in 2007 has barely changed. The possibilities for this customer group to change their gas supplier were still limited to few regions. Some sporadic regional centres of competitive activities by competing suppliers were observed (especially in the cities of Hamburg, Berlin and Bonn). The switching rates by costumers having changed their suppliers were very low.

The monitoring survey showed that only one percent of household customers changed their supplier in 2007 (for details cf. chapter 3.2.3.2). According to findings by the Federal Cartel Office, the respective universal suppliers usually still have a dominant position on the market for the supply of household customers.

### **Change of supplier**

With its decision about standardised business processes for switching gas suppliers (GeLi Gas) across Germany and the correlated standardisation of processes and data formats, the Federal Network Agency created important prerequisites in 2007 for more competition, thus offering the consumer suitable opportunities for changing suppliers. For the reporting period 2007 nearly all network operators (97.1 percent of distribution system operators and 95 percent of transmission system operators) declared that they generally have and apply procedures for supplier changes.

The overall number of supplier changes shows an annual average volume related switching rate of 3.8 percent in 2007 (2006:1.3 percent). All customer categories showed an increase in supplier changes. However, the values for the individual categories varied greatly. For household customers an annual average volume related switching rate of one percent was determined. Overall the information is based on 137,000 supplier changes in 2007.

The three largest wholesalers/suppliers hold a joint market share of 26.32 percent (2006: 30.87 percent). 45 percent of the gas capacity for large industrial customers (>100,000 MWh/year) were supplied by the three largest companies (2006: 50 percent). Therefore this sales segment showed the highest level of concentration.

### **Development of gas prices**

Compared to the reference date the year before, the price level for all customer categories was found to have increased across the board. Within the universal supply areas the average volume weighted total price is 4.52 ct/kWh for industrial customers (plus 6.9 percent compared to 01 April 2007). For commercial customers the total price is 6.06 ct/kWh (plus 5.6 percent) and for household customers in the category universal supply 6.90 ct/kWh (plus

5.0 percent) or 6.51 ct/kWh (plus 4.2 percent) for household customers with special contracts.

For industrial customers outside the universal supply area the determined volume weighted total price is 3.38 ct/kWh. For commercial customers outside the universal supply area the total price is 6.01 ct/kWh, for household customers 6.41 ct/kWh. When looking at the results of the monitoring survey, the retail price level of providers outside their own universal supply area is on average cheaper across all customer categories than the price level of established providers. However, the results of the monitoring survey 2008 also show clearly that in particular those customers which are still supplied with gas subject to General prices/General tariffs pay a considerably higher price than customers with a special contract.

### **1.3.4 Security of gas supply**

In 2005 Germany sourced approximately 85 percent of its gas from imports, exclusively via pipelines from different supplying countries. After the United States, Germany is therefore the largest importer of gas worldwide. With a share of 35 percent, gas from Russia in particular contributed significantly to the fulfilment of the German gas demand. Due to the large Russian gas reserves Russia will continue to play a central role in supplying gas to Germany and Europe. Norway delivers approximately 27 percent of Germany's demand for gas. The Netherlands follow with approximately 20 percent. There are plans to expand the import pipeline system for Europe. For Europe and Germany the construction of the North Stream-Pipeline is of particular importance, because this will allow for a direct supply from Russia.<sup>18</sup>

Germany's production of natural gas has been declining since 2004. On 1 January 2008 the reserves-to-production ratio of the estimated firm and probably producible natural gas reserves in Germany was just over 12 years. In order to maintain the level of production, increasing amounts are invested in domestic exploration. Since the 1990s gas consumption has risen noticeably, but is currently stagnating. The share of domestic production for gas consumption has declined steadily in recent years. A possible domestic contribution to ensuring the gas supply may also come from the use of biomass and the biogases produced from biomass.

On 31 December 2007 the operative working gas volume of storages located in Germany<sup>19</sup> was 19.9 billion Nm<sup>3</sup>. The storage capacity therefore stands at approximately one fifth of the annual consumption and is due to be increased by 20 percent according to current plans.

#### Increase of import capacity

In 2007 additional import capacity amounting to approximately 13 mio. kWh/h was created. In the period from 2008 to 2010 additional capacity amounting to 68 mio. kWh/h is planned, while another 63 mio. kWh/h is to be created in the period from 2011 to 2013.

#### Investments of transmission system operators

For the period from 2007 to 2010 an annual investment volume for expansion, amounting to approximately 450 mio Euros, was declared in the monitoring survey 2008. A similar magnitude was recorded for expenses related to repairs / maintenance in the same period.

#### Investments of distribution system operators

The distribution system operators declared that they had invested a total of 496 mio. Euros for new construction / expansion / development in the reporting period 2007. For 2008 565 mio. Euros are to be spent in this area. The investments in preservation / renewal and

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<sup>18</sup> Source: Federal Ministry of Economics and Technology (BMWi). Data analysed for the year 2005.

<sup>19</sup> According the information by the Lower Saxony State Authority for Mining Energy and Geology (LBEG).

the expenses for maintenance / repairs are roughly the same for 2007 and 2008, amounting to 1 billion Euros per annum.

#### **1.4 Important developments in the area of unbundling**

For the monitoring survey 2008 the responses on the subject of unbundling from 1,153 distribution system operators for electricity and/or gas were analysed.

The reporting period was primarily characterised by the implementation of the provisions of the Energy Industry Act regarding legal unbundling. These became mandatory from 01 July 2007 for all electricity and gas DSOs with at least 100,000 directly or indirectly connected customers. As a consequence, the year 2007 saw the foundation of 105 new network companies, which helped to achieve a degree of implementation of legal unbundling of 98 percent in medium and large distribution system operators. Distribution system operators with less than 100,000 directly connected customers can also be subject to this requirement, if they exceed this limit through the addition of customers from affiliated companies with decisive influence, as set out in the European Merger Regulation. This group of companies has so far been able to achieve legal unbundling at a level of 96%, with the majority of the remaining companies already undergoing the implementation phase.

In order to review the degree of implementation of operational unbundling, which is an important prerequisite for legal unbundling, network companies are examined as to whether they have sufficient, qualified staff of their own to fulfil their tasks independently and on their own authority. A critical analysis is required in with number of companies (electricity and/or gas) that have to complete extensive and complex tasks with sometimes very few staff members.

The Federal Network Agency has already carried out first proceedings. In addition, the monitoring revealed that a number of network companies do not yet act as independent companies on the market. Some of them have no separate website or have not yet established their own brands and logos and even the spatial separation to other system operations of supplying energy is not always guaranteed. The Federal Network Agency will continue to monitor the implementation process closely, with the aim of achieving effective operational unbundling, cooperating with the state regulatory authorities and intervening in those cases in which the existing structures prevent autonomy of the network company.

The same applies to the implementation of unbundling of the use of information. Besides some very good examples a large number of network operators are still in the implementation phase. The aim must be for the network companies to review their processes with regard to the unbundling provisions of the Energy Industry Act and to modify them where necessary.

In 2007 the gas market saw the first example of ownership unbundling through the sale of the subsidiary BEB Erdgas and Erdöl GmbH.

#### **1.5 Main areas of the Federal Network Agency's work**

##### **Access to electricity supply networks**

##### **Cross-border congestion management**

The Federal Network Agency is closely involved in further developing methods of congestion management for the transmission system at Germany's external borders. This is done in cooperation with the regulatory authorities of the neighbouring countries and the affected transmission system operators. In order to achieve a transposition of the Congestion Management Guidelines of the relevant regulation (EC) 1228/2003 as quickly as possible,

the Federal Network Agency and other national regulatory authorities have begun to introduce the necessary steps before the Guidelines entered into force. Optimisation of congestion management in different European regions was one particular aspect that was discussed at the Electricity Regional Initiative of the European Regulators Group for Electricity and Gas (EREG). The introduction of implicit auctions for the allocation of day-ahead capacities via market coupling is to improve efficiency. The region Central Western Europe for example is currently developing a project for the launch of load flow-based market coupling. On the German-Danish border the introduction of market coupling is planned for September 2008. In Central Eastern Europe regionally coordinated load flow-based explicit auctions are to be introduced.

#### Network expansion

In 2007 the Federal Network Agency drew up a report which analysed the reports of transmission system operators on the condition and development of their network as well as the quarterly status report that the TSOs have been submitting since December 2006 on the implementation status of the major network expansion projects cited in their network expansion reports. The Federal Network Agency published this report on its website in early 2008.

#### Transparency (transmission system operators)

In four of the seven regional energy markets which were set up by EREG as part of the Electricity and Gas Regional Initiatives and that Germany belongs to (Northern Europe, Central Western Europe, Central Eastern Europe and Central Southern Europe), transparency reports were drawn up and have already been adopted and published, with the exception of Central Southern Europe. The aim of the Federal Network Agency is to harmonise the transparency requirements of the Congestion Management Guidelines for TSOs all across Europe in order to ensure a consistent understanding and transposition of these Guidelines.

Furthermore the Federal Network Agency also assumed a leading role in EREG's work on assessing transposition by TSOs of transparency requirements in the current Congestion Management Guidelines (annex to regulation (EC) 1228/2003).

#### EEG enhancement

The provisions under section 14 of the Renewable Energy Sources Act (EEG) also require TSOs to perform the task referred to as "EEG enhancement", i.e. to convert the fluctuating feed-in from renewable energy sources into a profile supply, currently a monthly band (cf. chapter 2.1.9.1).

Market players criticised repeatedly that up to date, the task of "EEG enhancement" has been largely fulfilled by the transmission system operators' affiliated generation and trading companies. The Federal Network Agency is currently developing a paper on principles for reforming "EEG enhancement".

#### Transparency requirements (distribution system operators)

The results of the monitoring reports 2006 and 2007 and the Federal Network Agency's analysis of numerous websites of network operators have shown that many companies still do not fulfil their transparency requirements under the Energy Industry Act and the ordinances passed thereunder at all or only in part, or that the relevant information is sometimes very hard to find. The Federal Network Agency has therefore drawn up guidelines regarding the transparency requirements of network operators regarding their websites, which were published on the Agency's website in January 2008. They are to serve the companies as recommendation for the fulfilment of their statutory duties. However, due to the short period of time between the publication of these guidelines and the data collection for the monitoring survey 2008, which queried the implementation status of the transparency requirements on 01 April 2008, there was no noticeable progress in the fulfilment of statutory transparency requirements compared to the previous year.

### Electric storage heaters / Reverse cycle heating systems

Although the supply of electricity to customers operating electric storage heaters or reverse cycle heating systems is an area characterised by high consumption, there are hardly any sourcing alternatives for customers - besides the supply division of the affiliated network operator for the supply area. This leads to a situation where customers, even in cases of price increase, factually have no alternative sources to buy from. The reason for this is the great effort involved in supplying these customers, who require complex temperature-dependent load profiles. The Federal Network Agency has commissioned an expert opinion that is currently being drawn up and which aims to simplify the currently used standard load profiles procedures in a suitable manner, thus creating effective competition for this market segment, too.

### Business processes and data formats

The Federal Network Agency's decision of 11 July 2006 on Business processes for supplying customers with electricity provided standardised business processes and data formats across the market and thus rules on how network operators and network users (namely suppliers) must cooperate in order to efficiently process the supply of end customers with electricity and how they must exchange information. In the reporting period the time limits for transposition set out in the decision expired on 01 August 2007 for the majority of requirements and 01 October 2007 for enabling electronic billing for systems usage. At the end of the time limits for transposition all network operators and suppliers were obliged to fulfil the stipulated requirements fully. However, parts of the market were unable to meet these requirements in time. The Federal Network Agency has heard the affected market players regarding the causes and potential remedies.

In most cases the defects ascertained by the Federal Network Agency in this context do not mean that the change of electricity supplier initiated by the consumer will fail. However, they will in any case cause considerable and unnecessary additional work and expense for the customer's new supplier and often give rise to separate enquiries and complaints. In August 2008 the Federal Network Agency therefore threatened nearly 40 network operators who had not yet fully implemented the relevant official requirements, with administrative fines amounting to a total of around 1.7 mio. Euros.

### Metering

In 2007 the Federal Network Agency received an increasing number of enquiries from metering operators and electricity suppliers regarding section 21(b) of the Energy Industry Act. Within the existing legal framework conditions under the Energy Industry Act, the Federal Network Agency requested framework agreements and minimum technical requirements for metering operators and reviewed these in terms of their compliance with the statutory requirements. At the same time the Agency accompanied further liberalisation in the areas of metering, which had been initiated primarily because of the German government's evaluation report and the so-called 'Meseberg paper' (key elements of an integrated energy and climate programme). In addition, the Federal Network Agency concerned itself with innovations in the areas of metering and network technology (smart metering / smart grid).

On 13 June 2007 the Federal Network Agency organised a forum entitled "Smart Grid", with numerous representatives from sectors such as the energy industry, information technology, science, associations and authorities. During this forum the potential of a smart network was discussed and which opportunities exist for further development, in order to ensure a secure, reliable and efficient supply of electricity in the future, too.

### Power plant connections / power plant construction

When the Ordinance on Network Connection of Power Plants (Kraftwerks-Netzanschlussverordnung – KraftNAV) entered into force on 30 June 2007, regulations were passed that aim to achieve connection of large power plants ( $\geq 100$  MW) to the network in a fair way, with

appropriate and transparent connection terms. The Ordinance stipulates a specific procedure for both the network operators of high and extra high voltage and the party requesting connection, to ensure that the connection and the construction of the power plant can be accomplished in a timely manner. For the purpose of transparency network operators are obliged to draw up a joint power plant register for plants with an electric power of  $\geq 100$  MW. For this purpose the Federal Network Agency has conducted a survey in which all affected network operators were identified. Furthermore discussions were held on the contents of the register with the Federal Association of German Energy and Water Industries e.V. and the network operators.

On 08 March 2007 the Federal Network Agency drew up a "Progress report on the current power plant projects in Germany and their implications for the transmission system" ("Sachstandsbericht zu den aktuellen Kraftwerksprojekten in Deutschland und deren Implikationen für das Übertragungsnetz"). This paper deals with the individual questions that arose in conjunction with the connection of a power plant, e.g. the transmission system operator's obligation to expand the transmission system and the related cost recovery for this expansion. The background to this were complaints by investors/project sponsors who desired a new connection for a power plant but encountered numerous obstacles up to the outright refusal of a network connection due to possible congestion. In this context the Federal Network Agency is working to settle disputes in a number of power plant projects.

#### Offshore wind parks

In 2007 varied issues arose in connection with the integration of offshore wind parks. After the amendment of the Energy Industry Act, which under section 118 (7) now obliges transmission system operators to connect those offshore wind parks whose construction has begun by 31 December 2011<sup>20</sup>, numerous talks were held with offshore wind park investors, the offshore forum Wind Energy, transmission system operators and licensing authorities. The objective of these talks was to clarify technical issues of network connection and usage, including the associated network expansion. In addition the Federal Network Agency closely examined questions regarding the acceptance and allocation of costs, which are related to investments arising in connection with the integration of offshore wind parks. In doing so the Federal Network Agency was able to create legal certainty so the investments due in 2007 could be made.

#### Connections (contributions to construction cost)

The practice of imposing contributions by network customers to construction cost was very inconsistent and lacked transparency in 2007. In the meantime, the Federal Network Agency has developed principles for an appropriate calculation of contributions to construction cost. However, these will not take effect until 2008.

#### Monitoring of the equalisation scheme under the Renewable Energy Sources Act

Under the amended Renewable Energy Sources Act (EEG), which entered into force on 01 December 2006, the Federal Network Agency was also assigned competencies which, inter alia, involve the monitoring of the distribution of energy volumes across Germany and the passing on of costs caused by the EEG for compensation for the electricity feed-in from renewable energy sources (the multi-level equalisation scheme). Distribution system operators and electricity supply companies must submit to the Federal Network Agency their final accounts for the previous year by the end of April, in electronic format. Each year the transmission system operators have to transmit their data to the Federal Network Agency by 30 September. This data was first transmitted in 2007. Based on the transmission system operators' aggregate EEG data for 2006 the Federal Network Agency performed a statistic analysis, which was published on the Agency's website as "Statistikbericht

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<sup>20</sup> This insertion was made on the basis of art. 7 of the "Gesetz zur Beschleunigung von Planungsverfahren für Infrastrukturvorhaben vom 09.12.2006." (Law on the acceleration of planning procedures for infrastructure projects, dated 01 December 2006). [The envisaged time limit is currently being changed as part of a revision of the Renewable Energy Sources Act.]

Jahresendabrechnung 2006 nach dem Erneuerbare-Energien-Gesetz" (Statistics report on the final accounts 2006 pursuant to the Renewable Energy Sources Act). In future this report will be published every year.

## **Network charges for electricity**

### **General network charges**

In the reporting period 2007 one of the primary tasks in the area of network charges for electricity was the approval of charges for network access under section 23a of the Energy Industry Act. In the now second round of approvals since the new regulations came into effect, the network operators were requested to submit their applications for approval of their network charges. While reviewing the applications the regulatory authorities made once again significant cuts to the network costs applied for. In most cases these cuts could also be used to reduce the approved charges to a lower level than the network charges that resulted from the first round of cost reviews. During the second round of approvals for electricity more attention was also paid to pricing among other aspects. The prices for metering and billing for example were scrutinised more closely and differentiated in order to create more room for a competitive structure for the metering business.

### **Individual network charges for electricity**

At the end of the calendar year 2007 Ruling Chamber 4 assumed responsibility for tasks in the energy sector, among them the approval of individual network charges under section 19 (2) of the Electricity Network Charges Ordinance (StromNEV). By mid-2008 12 decisions were made on individual network charges under section 19 (2) sentence 2 of the StromNEV. For the first time it was also possible to issue 7 approvals of individual network charges under section 19 (2) sentence 1 StromNEV. The Federal Network Agency's interpretation principles on individual network charges pursuant to section 19 (2) sentence 1 of the Electricity Network Charges Ordinance are up for renewed discussion with market players in the third quarter of 2008. It is hoped that this will achieve wider acceptance in the market.

## **Access to gas supply networks**

### **Market areas for gas**

Due to the Federal Network Agency's involvement as a moderator it was possible to further reduce the number of market areas in the reporting period. The initial number of 19 market areas (as of 01 October 2006) was reduced to 14 market areas (as of 01 October 2007). Following talks during the last quarter of 2007 it appears likely that market areas will be merged across networks operators by 01 October 2008.

The market areas H-Gas Norddeutschland and Ontrans introduced balancing across market areas with effect from 01 October 2008. Bayernets and E.On Gastransport have in the meantime declared their intention to merge their market areas. Gas-Union Transport intends to relinquish its market area entirely and to integrate itself into the market area landscape as a downstream network.

### **International activities in the gas sector**

In the international sector the Federal Network Agency's primary tasks were the development of guidelines for the application of article 22 of Directive 55/2003/EC as well as the consolidation of regional co-operation in the context of the Gas Regional Initiative North-West.

Article 22 of Directive 2003/55/EC is the European legal provision for national regulations on the basis of which exemption from certain regulatory requirements can be granted in order to allow for particularly risky, larger gas infrastructure investment projects. The voluntary guidelines of ERGEG created in this context under leadership of the Federal Network Agency aim to harmonise the practical application and to achieve closer cooperation

between regulatory authorities as well as a careful application of exemptions from regulation. According to the guidelines a partial exemption should usually suffice to absorb specific higher investment risks, thus ensuring at the same time a minimum of competitive third party access for the infrastructure in question.

On the basis of a voluntary cooperation between network users, network operators and regulators, the Regional Initiative North-West is concerned with the development of practical solutions to promote the regional North-West European market, which considers itself an intermediate step for the creation of an EU-wide internal gas market. In this context the questions of market transparency and provision of capacity were particularly important. For the German-Dutch cross-border interconnection Oude Statenzijl a concept for increasing firm transport capacity was drawn up. At the same time the secondary trading of transport capacity was promoted by a "day-ahead" capacity trading project. Market transparency was and continues to be advanced through voluntary publication initiatives. In this context the German network operators have assumed a leading role in the region.

#### Business processes for switching gas supplier (GeLi Gas)

In a decision dated 20 August 2007 the Federal Network Agency set out standardised business processes for switching gas supplier (GeLi Gas), which apply across Germany. The decision provides legally binding steps which must be followed for a change of gas supplier. According to the provisions of this determination the processes will be carried out largely automatically and based on a standardised electronic data format. This is intended to considerably speed up supplier changes and the exchange of data required for such changes. Based on the detailed process description the market players are now requested to develop standardised IT processes. Compared to the inconsistent practices to date, which were based on costly, intransparent and cumbersome individual solutions, this will eliminate a considerable competitive restraint for the free choice of gas suppliers.

In order to let multi-utility companies profit from experiences already gained, the Federal Network Agency followed the business processes for supplying customers with electricity (GPKE), which were already set out in 2006, when defining the processes of the GeLi Gas.

The definition of the change processes presents a central component of an effective competitive framework in the gas sector. On the one hand it provides the necessary conditions needed by end customers to pursue a future change of supplier more forcefully and with the prospect of success. On the other hand the standardised processes make it easier for gas suppliers operating across more than one region to enter the mass customer business. Instead of these heterogeneous and preserving process structures there will now be business processes that must be applied consistently by all market players across Germany.

#### Balancing, system energy and balancing energy (GABi Gas)

In a decision dated 28 May 2008 the Federal Network Agency set out new rules for balancing in the gas sector. The aim of the decision was to create mechanisms for balancing energy which would further open the gas market to competition. Competitive restraints are to be reduced in order to support the successful market entry of new suppliers. In this sense the decision simplified the processes to be carried out between suppliers and network operators as part of the balancing.

From 01 October 2008 all new balancing group agreements must meet the substantive requirements of the decision. The core of the new regulations is a transition from hourly balancing used to date to daily balancing. Fluctuations within a day will therefore no longer affect the balance and thus the supplier's related costs. That alone will considerably simplify network access for the majority of suppliers. In addition the price for balancing energy will be guided by published prices of liquid markets. Household and commercial customers whose consumption is not measured hourly but estimated by means of a standard load profile, will

no longer be subject to the risk of forecasting. To date these customer groups were subject to greater imponderables than any other group, which made a cost effect supply more difficult. Similar simplifications also apply to industrial customers. At the same time these new regulations contain financial measures to prevent the abuse of the balancing services system by individual customers.

### **Network charges for gas**

In the first round of approvals the Federal Network Agency reviewed approximately 225 gas network operators. 97 network operators appealed against their approved charges. Of the 43 proceedings that have so far been ruled on by the Higher Regional Court Düsseldorf, 42 were decided in favour of the Federal Network Agency. Due to appeals on a point of law, some cases will require a ruling in the last instance by the Federal Court of Justice.

In the current round for the approval of network charges a total of 227 applications for approval were received from the gas sector. For this purpose the Federal Network Agency had provided on its website a data collection form with explanations on the required report. Both the data collection form and the reports were largely familiar from the first round of approvals and were adapted to current circumstances for the second round. The further procedures in terms of hearings and cost reviews with specific focuses were also based on the first round of approvals. In addition to the main aspects reviewed during the first round of approvals, the second round included operative costs such as charges for operational management, reserves and further current outlay costs.

Of the 227 applications for network charges 129 smaller network operators had their approvals extended until 31 December 2008 with the costs being largely unchanged. The 98 applications for approval of charges, which are still undergoing a cost review, will be decided upon by 31 December 2008. The cost data determined this way will form the basis for incentive regulation, which will be launched on 01 January 2009.

### **Unbundling**

The focus of work in the area of unbundling was and still is changing, not least of all due to the time difference between the implementation provisions for network operators. For the reporting period 2007 the main focus was on legal unbundling. With its completion, aspects of the operational structure of network control take centre stage. The first supervision proceedings have been initiated. At present one of the main areas of work is setting the details of the legal framework in formal and informal proceedings. In addition the monitoring of unbundling progress requires a continuous tracking of information and in particular the analysis and review of the equal treatment reports, which have to be drawn up each year by network operators with at least 100,000 customers. This enables not just the Federal Network Agency to get an idea of the procedures within the companies. The network operators themselves are also called upon to scrutinise any steps taken and to make improvements.

### **Supply quality**

Based on the reporting obligation under section 52 of the Energy Industry Act, 2007 saw the first collection of data on interruptions of supply for a full calendar year (2006). The analysis of 781 power network operators revealed that in 2006 a final customer in Germany had an average of 21.53 minutes without power.

### **Incentive regulation**

The Incentive Regulation Ordinance, which entered into force on 06 November 2007, stipulates the definition of revenue caps for in principle 5-year regulation periods<sup>21</sup> from 01 January 2009, thereby replacing the approval of rates employed to date. Efficiency

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<sup>21</sup> In derogation of this the first regulation period for the gas segment will be four years.

benchmarks will be conducted for distributions system operators (gas and electricity) and transmission system operators (gas and electricity).

#### Distribution system operators (gas and electricity)

The efficiency benchmarks for DSOs (electricity and gas) will be conducted pursuant to section 12 (1) in conjunction with appendix 3 of the Incentive Regulation Ordinance, using the "Data Envelopment Analysis (DEA)" and the "Stochastic Frontier Analysis (SFA)". The efficiency targets are guided by the most efficient companies (frontier companies); during the first regulation period they are based on the requirement that the distribution system operators (electricity) have ten years and the distributions system operators (gas) nine years to overcome established inefficiencies. The efficiency benchmarking methods DEA and SFA used partly the capital costs of the network operators, which were made comparable, and partly the network operators' actual capital costs for their calculations. That means that four efficiency values are determined for our network operators, with the most favourable result for each operator being used ("best-of-four method"). In addition the Incentive Regulation Ordinance provides for a minimum efficiency of at least 60 percent.

Across Germany approx. 650 network operators and approx. 540 gas network operators have made use of the so-called "simplified procedure". As a result operators of approx. 200 distributions systems (electricity) and 190 distributions systems (gas) will be included in the efficiency benchmark for incentive regulation. For network operators that take part in the "simplified procedure" the efficiency value in the first regulation period is 87.5 percent. Furthermore there was no need for a renewed examination of these network operators' tariffs before the first regulation period, if the costs of the network operators had not changed substantially. For the network operators that take part in the "simplified" procedure 45 percent of the overall costs are estimated to be permanently non-controllable.

#### Transmission system operators (electricity)

For transmission system operators, incentive regulation requires an international efficiency comparison on the basis of the DEA or SFA method. The efficiency benchmark will incorporate data from 23 TSOs in 18 countries. The efficiency values of the German TSOs will be available shortly. In case the results thus determined were not sufficiently reliable, the Incentive Regulation Ordinance provides for the additional application of a relative reference system analysis. The reference system analysis can also be applied on its own, if the international efficiency comparison was to prove unreliable. The Federal Network Agency is also preparing for the application of a reference system analysis by developing appropriate models.

#### Transmission system operators (gas)

For TSOs (gas) that have not submitted an application on pipe-to-pipe competition, the Incentive Regulation Ordinance has made special provisions for an efficiency benchmark. Initially a national efficiency benchmark is to be conducted. Should this prove not to be reliable, an international efficiency benchmark must be attempted first. Should this, too, lead to unreliable results, the application of a relative reference system analysis is prescribed. At present appropriate calculations are being made.

#### Return on equity

On 07 July 2008 the Federal Network Agency determined the return on equity for electricity and gas networks. These rates are standardised across the board for all electricity and gas networks at 9.29 percent before tax for new plants and 7.56 percent before tax for old plants. This means no major changes for gas networks. At present the rates for gas networks are 9.21 percent for new plants and 7.8 percent for old plants. For electricity networks there are considerable increases, since the rates to date were 7.91 percent for new plants and 6.5 percent for old plants. These interest rates are valid from 01 January 2009 and apply already for the determination of revenue caps for incentive regulation, which are to be applicable from that day.

## 1.6 Main areas of the Federal Cartel Office's work

The Federal Cartel Office's main areas of work in the electricity and gas sector during the period under review covered both merger control and the fight against agreements restricting competition as well as the control of anti-competitive practices of companies having a dominant position.

### Merger control

In 2007 the Federal Cartel Office continued its previous, restrictive line regarding the control of mergers between municipal utilities and their upstream suppliers with a dominant position.<sup>22</sup> Further mergers, which related to the purchase of shares in regional or local traders and suppliers by RWE and E.ON, were only allowed in line with the appraisal clause of section 36 (1) clause 2 of the Law against Restraints of Competition, after the relevant buyers had committed to give up their shares in other municipal utilities, whose upstream suppliers they had been.<sup>23</sup>

These divestiture commitments were likely to lead to improved competitive conditions, which both in qualitative and quantitative terms outweighed the strengthened dominant position of the upstream wholesale gas and/or electricity suppliers that would result from the mergers. In future the municipal utilities can act and decide independently regarding their procurement and energy generation, since vertically secured volumes will be opened to competition. Alternative suppliers can branch out into the relevant supply area. Due to the divestiture of shares in municipal utilities the gas and electricity volumes released for procurement is greater than the volume affected by the new merger.

In addition the reporting period saw the purchase of shares in trac x Transport Capacity Exchange GmbH, a subsidiary of VNG AG, by Thyssengas GmbH, E.ON Transport AG & Co. KG and EWE AG.

### Intervention against agreements restricting competition and abusive practices

#### Electricity

In the area of electricity wholesale the abusive practice proceedings against RWE were closed by way of a decision to declare the company's commitments binding, pursuant to section 32b of the Law against Restraints of Competition. The proceedings had been opened on suspicion of abusing the trade in CO<sub>2</sub> certificates, established in 2005, to include emissions certificates allocated free of charge in their pricing for electricity in order to obtain unjustified revenues.<sup>24</sup> The subject matter of the proceedings was the pricing for electricity with regard to the supply of industrial customers, based on bilateral agreements. In a decision dated 26 September 2007 the Federal Cartel Office obliged RWE AG to sell to industrial customers a total of 6,300 MW of electricity in transparent procedures over the next four years. The first two of a total of 16 auctions took place on 13 February 2008 and 15 May 2008 (cf. chapter 2.2.4). Proceedings initiated in parallel against E.ON Energie AG were initially deferred. At the time of writing this report talks about the further procedure in this matter were still being held with the parties involved.

#### Gas

In the gas wholesale segment the cartel and abusive practice proceedings, which the Federal Cartel Office had initiated against wholesalers on the grounds of the market

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<sup>22</sup> Cf. 2007 Report by the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway to the European Commission on the German electricity and gas market, pursuant to section 63 (5) of the Energy Industry Act, p. 28f. (chapter 1.6), 160 (chapter 4.2.2.1).

<sup>23</sup> This concerns the decisions in the merger control proceedings B 8-93/07 (RWE/Stadtwerke Krefeld-Neuss) of 23 October 2007 and B 8-123/07 (E.ON/Wasser- und Energieversorgungs mbH Salzgitter) of 19 December 2007.

<sup>24</sup> 2007 Report by the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway to the European Commission on the German electricity and gas market, pursuant to section 63 (5) of the Energy Industry Act, p. 29f. (chapter 1.6), 110 (chapter 3.2.4).

foreclosure caused by long-term gas supply contracts between importing wholesalers and regional and local traders and suppliers, were brought to a close by the Cartel Office.<sup>25</sup> The prohibition order issued by the Federal Cartel Office in January 2006 against E.ON Ruhrgas AG, which was a landmark decision for further proceedings, was in the meantime confirmed by a decision of the Higher Regional Court Düsseldorf on 04 October 2007 in the main proceedings; the appeal lodged by E.ON Ruhrgas AG and some municipal utilities was rejected in full.<sup>26</sup> E.ON Ruhrgas AG has appealed against this decision to the Federal Court of Justice; at the time of going to press the decision was still pending.

The Federal Cartel Office has enforced the principles established in the proceedings against E.ON Ruhrgas also against the other affected wholesalers and by way of decisions declared those commitments to be binding, pursuant to section 32b of the Law against Restraint of Competition. The companies have committed themselves to adopt the principles of the Ruhrgas decision in their area.<sup>27</sup>

In the area of end customer supply, household customers experienced considerable increases of the gas price in the gas business year 2007/2008. This trend continued in 2008 due to the fact that in the large majority of traders' and suppliers' procurement contracts the gas price is still linked to the price for light fuel oil or heavy fuel oil, albeit with a delay. According to information gathered by the Federal Cartel Office, there were only a few exceptions, in particular municipal utilities that had agreed with their upstream suppliers fixed price offers that were not linked to the oil price index, so that the increase in oil prices did not affect them.

During joint price surveys by the Federal Cartel Office and the States' cartel offices of regional and local gas suppliers conducted at the beginning of the gas business year 2007/2008 price difference between 25 and 40 percent for the supply of household customers were found.

In March 2008 the Federal Cartel Office initiated formal abusive practice proceedings against 35 undertakings (cf. chapter 3.2.3.2.1) in order to clarify whether the dominant regional and local gas suppliers had abused their market position in their pricing for the supply of household customers and thereby contravened the prohibitions of section 19 (1) and (4) no. 2 as well as section 29 of the Law on Restraints against Competition. This provision was enacted at the end of 2007 for the electricity and gas sector. At the time of going to press the proceedings were still pending.

During the period under review a number of States' cartel offices also initiated some formal abusive practice proceedings and some preliminary investigations against gas suppliers having a dominant position on regional or local markets. In some cases these proceedings were concluded by formal orders issued during the period under review. In other cases preliminary investigations could be closed after price cuts or price moratoria.

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<sup>25</sup> Cf. 2007 Report by the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway to the European Commission on the German electricity and gas market, pursuant to section 63 (5) of the Energy Industry Act, p. 30f. (chapter 1.6).

<sup>26</sup> Higher Regional Court Düsseldorf, decision dated 04 October 2007, file reference: VI-2 Kart 1/06 (V).

<sup>27</sup> Cf. decisions dated 29 January 2007 (B 8-113/03-6, 7, 8, and 15); decision dated 07 August 2007 (B 8-113/03-5); decision dated 06 September 2007 (B 8-113/03-4); decision dated 17 September 2007 (B 8-113/03-11); decision dated 08 October 2007 (B 8-113/03-3); decision dated 10 October 2007 (B 8-113/03-10); decision dated 06 February 2008 (B 8-113/03-12); decision dated 18 February 2008 (B 8-113/03-9), decision dated 07 August 2008 (B 8-113/03-2).