MARKET REPORT 2009
NATIONAL REPORT TO THE EUROPEAN COMMISSION

E-CONTROL

A better deal – wherever competition strikes root

A BETTER DEAL – WHEREVER YOU NEED ENERGY.

Contents

Regulation and performance of the natural gas market

Annex

Only small increase in Austrian energy consumption:

Major developments in 2008

Relative size of the Austrian electricity and gas sectors

Electricity demand up slightly in 2008

Between 2006 and 2007 Austrian gross domestic energy consumption fell by 2.9 % to 1,421,029 terajoules (TJ). Natural gas consumption fell for the second year in succession, by 6.4 %. In 2007 natural gas accounted for 20.8 % of total energy consumption in Austria – slightly lower than renewables (26.9 %) but a higher share than coal (11.4 %). Oil remained the largest energy source, with a 40.8 % share. Natural gas made up some 17 % of total final energy consumption, with electricity accounting for around 19 %.[1]

ELECTRICITY INDUSTRY: KEY INDICATORS

Table 1 shows the electricity balance in 2008 and changes from 2007. Gross electricity generation increased by almost 4 %. Foreign trade in electricity dropped, while domestic electricity consumption edged up.

ELECTRICITY BALANCE IN 2008

	GWh (2008)	Change vs. 2007
Gross electricity generation	67,046	+3.6 %
Physical imports	19,796	–9.3 %
Physical exports	14,933	–5.0 %
Consumption by pumped storage power plants (PSP)	3,273	+9.7 %
Domestic electricity consumption	68,635	+1.2 %

Table 1
Electricity balance in 2008

Source: E-Control

GAS INDUSTRY: KEY INDICATORS

Table 2 shows the 2008 natural gas balance and changes from 2007. Domestic gas production slumped by approx. 17 %. However, storage movements jumped due to the expansion of storage capacity following the commissioning of the Haidach facility. Supplies to end users rose by 6 %.

[1] Source: Statistics Austria, www.statistik.at

NATURAL GAS SUPPLY AND DEMAND BALANCE IN 2008			
	bcm (2008)	GWh (2008)	Change vs. 2007
Imports	39.21	435,595	+5.6%
Production	1.53	17,017	–17.1%
Withdrawals from storage	2.74	30,424	+15.1%
Exports	31.30	347,779	+3.5%
Injection into storage	3.16	35,110	+17.8%
Own use, losses and system losses; statistical adjustments	0.62	6,920	
Supplies to end users	8.39	93,228	+5.7%

Source: E-Control

Table 2
Natural gas supply and demand balance in 2008

PRICE TRENDS IN 2008

The dip in inflation to 1.4% in December ended a succession of year-on-year increases during 2008. Electricity prices rose by 5.2% over the year, while gas prices climbed by 17.6%. Electricity and gas prices continued to contribute significantly to overall inflation. The sharp increase in gas prices in November 2008 stands out in *Figure 1*.

YEAR-ON-YEAR CHANGES IN THE OVERALL CONSUMER PRICE INDEX (CPI), THE ELECTRICITY CPI AND THE GAS CPI

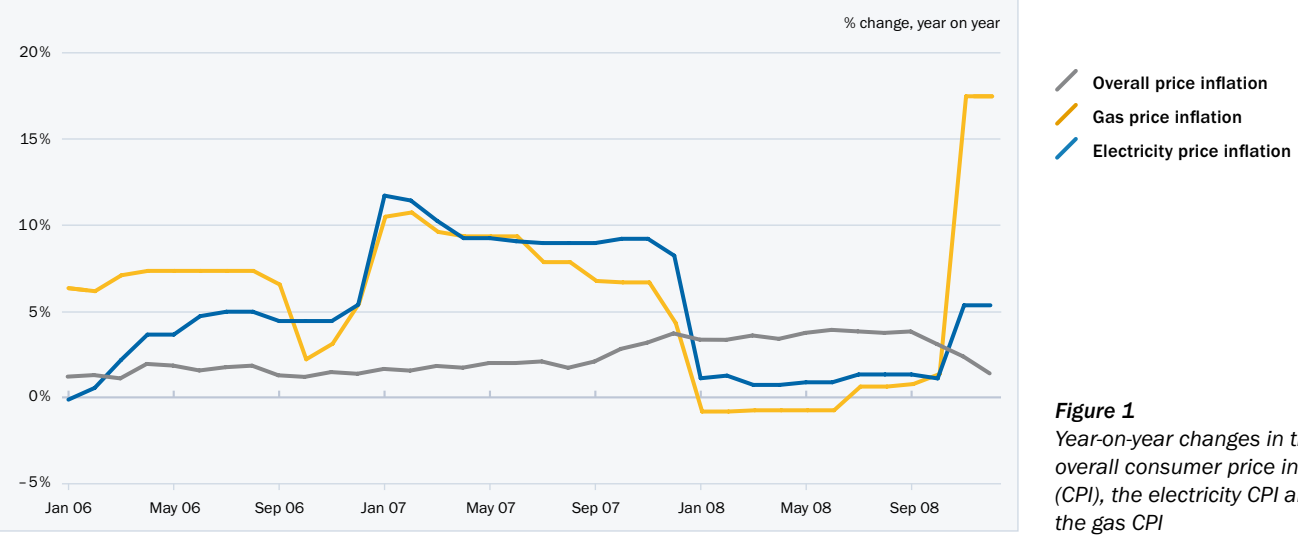


Figure 1
Year-on-year changes in the overall consumer price index (CPI), the electricity CPI and the gas CPI

Source: Statistics Austria

Main developments in the electricity and gas markets

BIG SWINGS IN WHOLESALE AND RETAIL PRICES

Wholesale electricity price movements in 2008 were marked by high and rising price levels for the first half of the year, followed by a downturn from the autumn onwards. These trends were driven by primary energy sources, as well as the overall economic situation, and movements in oil prices, which have a major influence on economic developments and energy markets. Prices on the Austrian and German electricity spot and futures markets peaked during the summer. **Wholesale prices at gas trading hubs and on gas exchanges,** as well as those under long-term contracts also fell heavily from the autumn until the end of the year. This was due to oil prices, as gas prices under long-term contracts follow oil with a time lag of three to six months, although the changes are somewhat dampened.

Price collapse at year end

Towards the end of the year, just when wholesale electricity and gas prices were caving in, Austrian **domestic consumers were faced with sharp increases in rates** after an extended period of little or no change.

Price risk largely borne by consumers

Such rapid price shifts bring opportunities and risks which also affect retail prices. Since the suppliers have not adjusted their domestic electricity prices, in 2009 consumers have not benefited from lower wholesale prices. The alternative suppliers have taken the same approach. This is particularly negative where new customer contracts are concerned, as in this case lower prices should certainly be economically feasible.

Industrial prices are mostly open to influence by consumers, since these customers determine their supply portfolios and the timing of procurement, and thus largely or entirely bear the price risk themselves. The recession has meant that energy purchased on behalf of large consumers under back-to-back contracts has remained unused and has had to be sold at lower prices.

Small commercial consumers are between these two poles. Procurement is by the suppliers who are also in control of the purchasing strategy. Here, too, there were no price reductions by suppliers. However, as would be expected, in 2009 there were some cut-price offers from suppliers who took advantage of low wholesale prices in an attempt to break into the small business market.

Price increases seldom challenged in uncertain market environment

Suppliers are required to notify household electricity and gas consumers of price changes in writing, and must accord them to right to terminate their agreements by objecting to increases. However if a consumer objects to a price increase he/she must switch suppliers, and has three months to do so. Since at the time of the announcements of price rises by the EnergieAllianz partners (Wien Energie and EVN) it was still unclear whether the alternative suppliers would also raise their prices, and if so by how much, it was hard for consumers to assess whether switching was worth the trouble. Moreover, Wien Energie and EVN ammounced that they would cut prices again soon.

As analyses of switching data for the start of 2009 show, some electricity, and a greater number of gas consumers did make use of their extraordinary termination rights and switched to alternative suppliers. The number of callers to the Energie-Control GmbH (E-Control) hotline rose sharply ahead of the price increases, reaching an all-time peak of almost 1,000 per week in August 2008. **This was the first time that there had been a noticeable reaction from consumers to price changes.**

Dramatic retail price increases

Nevertheless, considering the dramatic price increases, the number of switchers – at 47 % in the case of gas and at 23 % in that of electricity – fell short of exepectations. This shows the extent of the freedom enjoyed by the incumbents, and particularly the EnergieAllianz companies, to set prices – proof of their continued dominance. The companies with the highest market shares are also the dearest suppliers.

Differing responses to increased willingness to switch

Suppliers' responses to consumers' increased willingness to switch have differed. One approach has been to offer consumers fixed price products as a safeguard against rising prices, and another to try to unnerve them by pointing to the potential negative consequences of switching (e. g. being cut off if the switch is not carried out within the three-month deadline). The greater readiness to switch has exposed the weaknesses of the existing switching process – there is a need for simplification to permit swifter reactions to price changes.

The electricity competition stimulation package has shown that improvements to markets are possible. However it depends on voluntary agreements, which have only partly been fulfilled, and it is largely up to the companies to decide whether they will continue to do so, and how seriously they take their commitments. In reality, experience has shown that as soon as public attention shifts to other issues, compliance with such agreements is only half-hearted. It is to be hoped that the additional competition powers for regulatory authorities provided for by the third liberalisation package, and to be transposed by member states, will mean that planned measures are actually carried out.

In 2008 the regulatory authority reacted to the continuation of opaque billing practices by initiating proceedings against suppliers, and preparing model invoices designed to help companies draw up legal and transparent invoices.

ELECTRICITY WHOLESALE MARKET TRENDS

A year of two halves

The Austrian wholesale market is integrated with the German market. The main reason for the price differentials is the different trading times on the exchanges. The German EEX sets the tone for the Austrian market.

In 2008 wholesale prices were driven by two very different sets of expectations. While in the first half high oil and other primary energy prices reflected the global boom, expectations were quick to adjust when financial markets descended into turmoil, rapidly impacting electricity prices in turn. By the end of the year, spot prices on the German EEX exchange were less than half their October level of € 120/MWh.

Primary energy prices have fallen equally heavily, and have returned to about the same levels as in 2006/2007. These prices are the main determinants of retail prices in coming years, and Austrian electricity suppliers have indeed promised further price reductions. Functioning competition would ensure that alternative procurement strategies, which are cheaper at present, actually led to corresponding offers on the retail market – but as has been said, this is seldom the case.

ELECTRICITY BALANCING MARKET

Apart from the prices of the standard products traded on the wholesale market, suppliers' procurement costs are also driven by the balancing market. In 2008 the total cost of balancing power in eastern Austria was € 31.5 million (m) (2007: € 28.7 m) or 45 c/MWh of electricity supplied to consumers. A large part of these costs are incurred as a result of the return of secondary control power, which balances out most of the differences between planned and actual supply and demand. While this is relatively low-cost power, this is an illiquid market, and at times there may actually be a monopoly supplier. This is a very worrying state of affairs. We are already working with the electricity industry to improve the domestic rules, but a truly satisfactory situation will probably have to wait for structural changes (enlargement of the market).

GAS WHOLESALE MARKET TRENDS

The gas crisis at the start of January 2009 showed the effects of heavy dependence on a single transport corridor. The only way to alleviate the impact of such disruptions would be to diversify the transport routes, thereby opening up new sources of supply. Use of gas in storage played a key role in maintaining supplies. On some days 80 % of peak load demand was met by withdrawals from storage – an unusually high proportion even in winter. The incumbents were best placed to respond in this way, as they were able to call on most of the storage capacity under their long-term storage contracts. Due to the lack of available capacity this option is not open to new entrants to the same extent.

Gas route diversification essential

Another option employed by retailers to maintain security of supply was purchasing short-term contracts on West European markets. Stronger interconnection of systems and the possibility of reverse flows on some transmission pipelines would be a further step towards reducing dependence on a single transport route.

In Austria **procurement via a trading hub** – i. e. a trading point on a transport network or at the interconnection point between a number of networks – is possible at the Central European Gas Hub (CEGH). The CEGH market is located at the intersection of several transmission pipelines (the HAG, MAB, TAG and WAG, and the OMV network). The operating company, CEGH AG, is wholly owned by OMV Gas and Power GmbH.

About 15 % of the gas imported via Baumgarten is physically traded on the CEGH market. This is roughly the same as at other continental European hubs such as the TTF or the Zeebrugge Hub. The churn rate, i. e. the number of times that the gas changes hands on paper before being shipped away from the hub, is also on a par with the other continental hubs.

Lack of price transparency in CEGH trading

Nevertheless, liquidity at CEGH is still lower than at other European hubs, in that the products – day ahead, weekend ahead, week ahead, month ahead, etc. – are not all regularly traded. This means that it is still impossible to use trading on the CEGH market to put together a procurement portfolio or to hedge price risk.

Another major difference from trading at other hubs is the lack of price transparency.

A significant advance towards developing CEGH as a service provider has been the conclusion of an interconnection point agreement (IPA) between the Baumgarten hub and neighbouring system operators. This is aimed at standardising many technical details of operations at the Baumgarten interconnection point, and achieving closer cooperation between the transit system operators, thus making it considerably easier for shippers to arrange gas transits and domestic transportation. The IPA holds the key to the establishment of a formalised gas exchange at Baumgarten.

Gas exchange launch planned for autumn 2009

The launch of an organised spot market (exchange) during the autumn of 2009 should bring a big improvement in transparency at CEGH. OMV argues that Gazprom's investment in the hub and exchange operating company will boost liquidity.[2] If liquidity is actually to be improved it will be vital to ensure that information on the use of physical hub services by gas traders remains confidential. CEGH's services have already been steadily developed in consultation with the traders – despite the complexity of an environment made up of a number of system operators. The next step will be the introduction of a back-up/back-down service. This is necessary because of the need for firm deliveries to the hub if a spot market is to be launched in the autumn of 2009. It is important that the services offered by CEGH continue to be based on a neutral and objective approach to traders' wishes and the requisites for an efficient market.

[2] "The partnership with Gazprom will futher increase security of supply via the Baumgarten Hub and at the same time safeguard the liquidity for short-term trading activities." (OMV press release of 25 January 2008)

GAINING ACCESS TO NEW PROCUREMENT MARKETS

The exemption for the **Nabucco pipeline** granted in 2008 and the intergovernmental agreement signed in 2009 marked a major step towards improving the procurement situation of Austrian gas suppliers. The Nabucco project involves building a **3,300 km** gas pipeline with an ultimate annual capacity of 31 billion cubic metres (bcm) to supply Europe with natural gas from the Caspian and the Middle East. The pipeline will cross Turkey, Bulgaria, Romania and Hungary on its way to the Baumgarten gas hub. The shareholders of Nabucco International, each with an interest 16.67 %, are Botas AS, Bulgarian Energy Holding EAD, MOL Plc, OMV Gas & Power GmbH, RWE AG and Transgaz S.A.

The pipeline link with the Caspian, the Gulf and Egypt would provide access to gas reserves totalling 82,860 bcm. An initial, non-binding market survey revealed strong interest in using the Nabucco pipeline. There were expressions of interest from 16 shippers, and potential reservations exceed capacity.

Harmonised cross-border legal framework for Nabucco

Nabucco International applied for exemptions from regulated third party access under EU legislation in all four member states involved – Austria, Bulgaria, Hungary and Romania. In 2008 harmonised exemptions were granted by the regulators concerned and notified to the European Commission. The intergovernmental agreement (IGA) between Austria, Bulgaria, Hungary, Romania and Turkey – the only non-EU member along the Nabucco route – concluded in July 2009 has laid the groundwork for a uniform legal framework, including standard access and tariff determination rules, along all sections of the pipeline. The IGA is valid for the next 50 years, and guarantees political support for the project from the Nabucco countries. A political committee made up of representatives of all the signatory countries, including Germany, has been established to oversee further development of the project. Thanks to the IGA the project can now move ahead to the next stage – the open season procedure for the allocation of transport capacity.

Support for Nabucco in relevant countries

Another means of diversifying Austria's sources of supply is procuring LNG. OMV holds a 25.58 % interest in the company Adria LNG GmbH, which plans to construct a regasification terminal with an annual capacity of about 10 bcm on the island of Krk. The other partners are Eon Ruhrgas, Total, RWE and Geoplin. To use the LNG a transmission pipeline will also have to be built.

BROADENING ACCESS TO INFRASTRUCTURE IN AUSTRIA

Domestic gas transportation

80 % of Austrian gas imports transited

The network regulation provisions of the Austrian Natural Gas Act differentiate between third party access for domestic customers and for cross-border natural gas transportation. Because of the high proportion of natural gas entering Austria that is transited, this legal distinction has major practical implications. In 2008 some 80 % of all gas imports were re-exported. Of the 39.2bn normal cubic metres (Nm^3) imported, only around 9bn Nm^3 were earmarked for the Austrian market.

Cross-border capacity going into neighbouring markets is scarce. A significant proportion of the demand for firm capacity cannot be met. This acts as a barrier both to market entry and to short-term gas trading between the Baumgarten hub and the German NetConnect and Italian PSV virtual trading points, despite the fact that network capacity is often underutilised. Much of the unsatisfied demand could be met if existing infrastructure were more fully used.

Congestion limiting trading

The differing network access regimes for transits and shipments within control areas also mean that different capacity allocation and congestion management mechanisms are applied. While transportation within control areas is subject to the "rucksack" principle whereby the capacity upstream to the entry point belongs to the customer, under the transit regime interruptible contracts based on the first come, first served principle are mainly used for congestion management.

Congestion on the borders means that short-term gas trading is only possible for traders that have reserved capacity (e. g. under long-term contracts) and can use this for short-term portfolio optimisation so as to exploit arbitrage between trading points.

Action was taken to increase the transparency of the secondary market in 2008. Proceedings brought against some shippers that failed to offer unused committed transport capacity on the central trading platform led to increased use of the latter. Potential improvements to the procedure for trading transport capacity are being discussed as part of the review of the market rules initiated towards the end of 2008. Apart from the existing bulletin board, auctions of secondary market capacity, run by the operator of the central trading platform, OMV Gas GmbH, may be introduced.

Since the full liberalisation of the Austrian gas market in October 2002 the system charges for domestic gas transportation have been cut by an average of over 17 % or about € 100m per year. Thanks to the adoption of a new cost evaluation system based on the performance of the most efficient system operators, further savings are likely in future. The introduction of an investment and operating cost factor will ensure that security of supply is maintained.

Access to gas storage

Over 90 % of all storage capacity is reserved under long-term contracts, and there is thus little left for new suppliers. Although four companies market storage products, the options for anyone wishing to use these services in the Eastern control area are limited. The Haidach facility cannot be used to inject gas directly into the control area. RAG has had no free storage capacity in 2008 and 2009. Only OMV Gas offers the unbundled storage products that permit optimisation of storage utilisation in the Eastern control area. RAG and OMV Gas are at an advantage as regards the development of new storage facilities. They hold the storage licences for depleted gas fields, and it is much cheaper to convert these into storage facilities than to develop caverns for the purpose. Because of this it is unlikely that further independent storage operators will be able to enter the market.

Little storage capacity free

Not all regulatory approaches work in practice

The third liberalisation package provides for regulatory authorities to develop criteria for assessing whether storage markets are competitive or monopolistic, and hence whether negotiated or regulated access is desirable. This will need to be examined in the light of current market conditions. A comparison with the regulation of storage access in other EU member states shows that there is a wide variety of regulatory approaches – in some cases even within a single country. Full regulation has not always led to better access to storage. The importance of the Austrian storage facilities for security of supply during crises such as the gas supply cutbacks in January 2009 also needs to be borne in mind. Efforts to refine the regulatory regime for storage access will need to take account of these aspects.

Regulation and performance of the electricity market

Regulatory framework of the Austrian electricity market

ELECTRICITY TRANSMISSION: CROSS-BORDER CAPACITY AND CONGESTION MANAGEMENT MECHANISMS

INSTALLED CROSS-BORDER TRANSMISSION CAPACITY (2008)

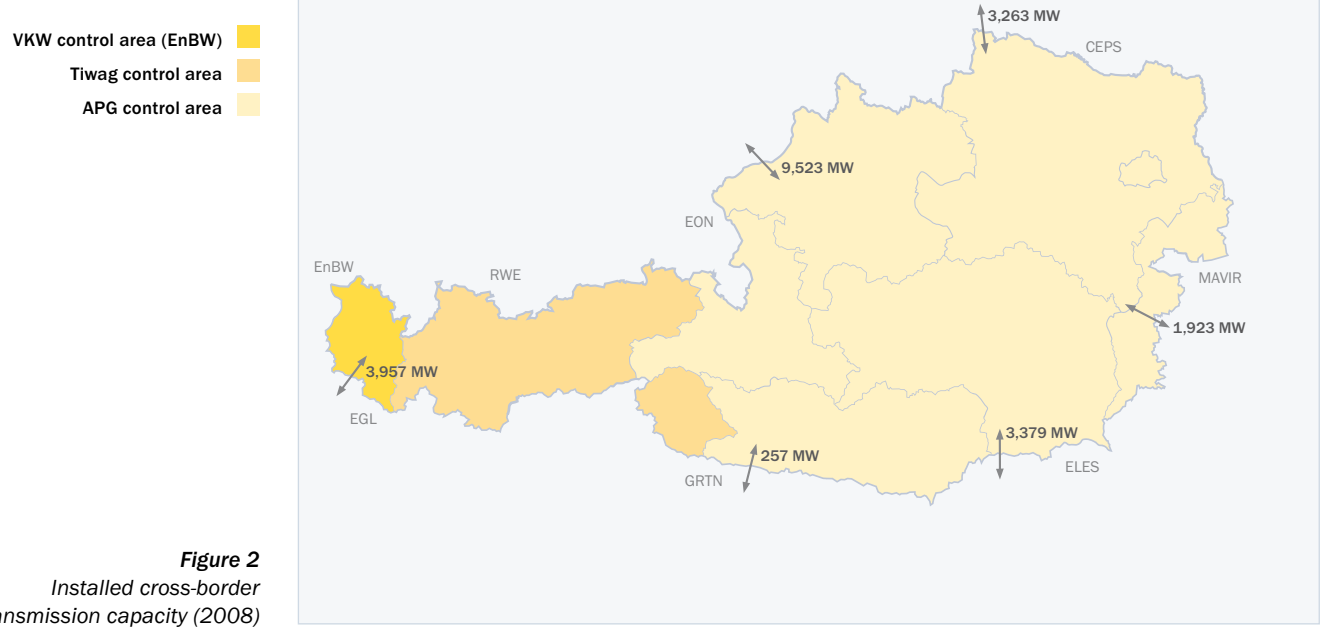


Figure 2
Installed cross-border transmission capacity (2008)

Source: E-Control

Figure 2 shows the transmission capacity at cross-border interconnection points (thermal transmission limits in MW, active load only) between the Austrian and neighbouring transmission grids. The most important change since 2007 has been the increase in cross-border transmission capacity between the APG and CEPS control areas following the commissioning of a second 380 kV transmission line in the late autumn of 2008. There were

no significant changes in the congestion on interconnectors with neighbouring markets in 2008. The congestion at the borders with the Czech Republic, Hungary, Italy, Slovenia and Switzerland is still managed by means of explicit auctions. Capacity at all of the borders is allocated bilaterally.

Unlike technical transmission capacity, available interconnection capacity may be used for cross-border power trading. In 2008 interconnection capacity in the main directions of trade flows on the Czech and Hungarian borders was above 2007 levels; on the other borders it remained largely unchanged. Available capacity is determined on the Swiss side of the Austro-Swiss border, as there is no congestion in the other direction.

Further, still more radical action appears necessary to improve the congestion management mechanisms across Europe if compliance with Regulation (EC) No 1228/2003 and the Congestion Management Guidelines (2006/770/EC) is to be achieved. A number of projects have been initiated to develop such measures in the Central Eastern Europe (CEE) region, where E-Control acts as lead regulator, and in the Central Southern Europe (CSE) and Central Western Europe (CWE) regions, in which Austria participates and has observer status, respectively, include:

- Use of a common network model including the transmission networks which border on a given region;
- Region-wide coordinated auctions, one-stop shops and uniform contractual terms for market participants; and
- Load-flow based capacity allocation procedures so as to improve coordination and operational reliability and overall end user welfare. [3]

The establishment of Europe's first capacity allocation agency – the CEE Central Auction Office, set up jointly by all CEE control area managers in July 2008 and based in Freising near Munich – represents a major advance towards market integration and coordinated allocation in the CEE region (interconnection points with the Czech Republic, Hungary and Slovenia). As a result compliance with the legal requirements for load flow-based capacity calculation and allocation was achieved in 2009, and according to the current project schedule the new system should be in place by the start of 2010.

[3] A study by consulter Consentec for the CEE region concludes that flow-based allocation produces most social welfare gain (i. e. causes least cost for consumers), www.energy-regulators.eu

Legal sanctions ineffective

Although regional market integration is making major strides, regional decision-making and – more importantly – potential sanctions for non-compliance with the requirements of Regulation (EC) No 1228/2003 and their imposition on parties outside Austrian territory are proving highly complex and partly impracticable. The third package for the internal energy market is expected to bring some improvements in these areas, but the level of market integration will still largely depend on coordination and cooperation between control area managers and regulators.

380 kV Styria line commissioned

The recent investments in Austria aimed at improved operational security of the grid and closer market integration were concluded by the addition of a second 380 kV transmission system at the interconnection point with the Czech Republic in late 2008 and commissioning of the 380 kV Styria line in June 2009. This means that a long-term solution to an internal congestion situation has been found, in line with Art 1.7 of the Congestion Management Guidelines.

The investment in the Styria line was partly financed by the proceeds of the auctions of cross-border capacity, thereby complying with Art 6 Regulation (EC) No 1228/2003 regarding the use of revenues from the allocation of interconnection capacity. This provides for such revenues to be devoted to: guaranteeing the actual availability of existing capacity (e. g. through power station redispatching); creating new capacity (e. g. by developing interconnection infrastructure); or reducing network tariffs. In 2008 the proceeds of interconnection capacity allocation on Austria's borders totalled some € 66 million (m). Almost half of this amount was budgeted for measures designed to maintain the availability of existing capacity, though the actual expenditure was lower. The residual funds went to investments in new capacity or to reducing system charges.

Table 3 shows the cross-border capacity included in the annual capacity allocation for 2009 (www.auction-office.at).

It is likely that the aforementioned commissioning of the 380 kV Styria line and expansion of cross-border capacity will increase availabilities on Austria's eastern borders.

NETWORK CAPACITY 2009	
CZ > AT	200 MW
AT > CZ	300 MW
AT > HU	300 MW
HU > AT	150 MW
AT > SLO	(no congestion SLO > AT) 290 MW
AT > ITA	(no congestion ITA > AT) 182 MW
CH > AT	450 MW
AT > CH	130 MW

Table 3
Network capacity allocated on an annual basis under market based mechanisms in 2009

TRANSMISSION AND DISTRIBUTION

Overview of the electricity grid

As of the end of 2006 the total length of the Austrian electricity grid was 17,335 km, of which overhead lines made up 96.4 % and underground cables 3.6 % (*Table 4*). Verbund-Austrian Power Grid AG (APG) owns 84 % of the ultra high voltage (220 and 380 kV) power lines. In 2009 a gap in the planned 380 kV rink in eastern Austria will be filled when about 100 km of additional UHV power lines come into service. In 2008 there were three transmission system operators (APG, TIWAG Netz AG and VKW Netz AG) and some 130 distribution system operators.

OVERVIEW OF SYSTEM LENGTHS IN THE AUSTRIAN TRANSMISSION GRID	
Grid levels	**km**
110 kV	11,035
220 kV	3,764
380 kV	2,535
Total transmission system length	**17,335**
Medium voltage	56,879
Low voltage	149,072
Total distribution system length	**205,951**

Table 4
Overview of system lengths in the Austrian transmission grid as of 31 Dec. 2006

Source: E-Control

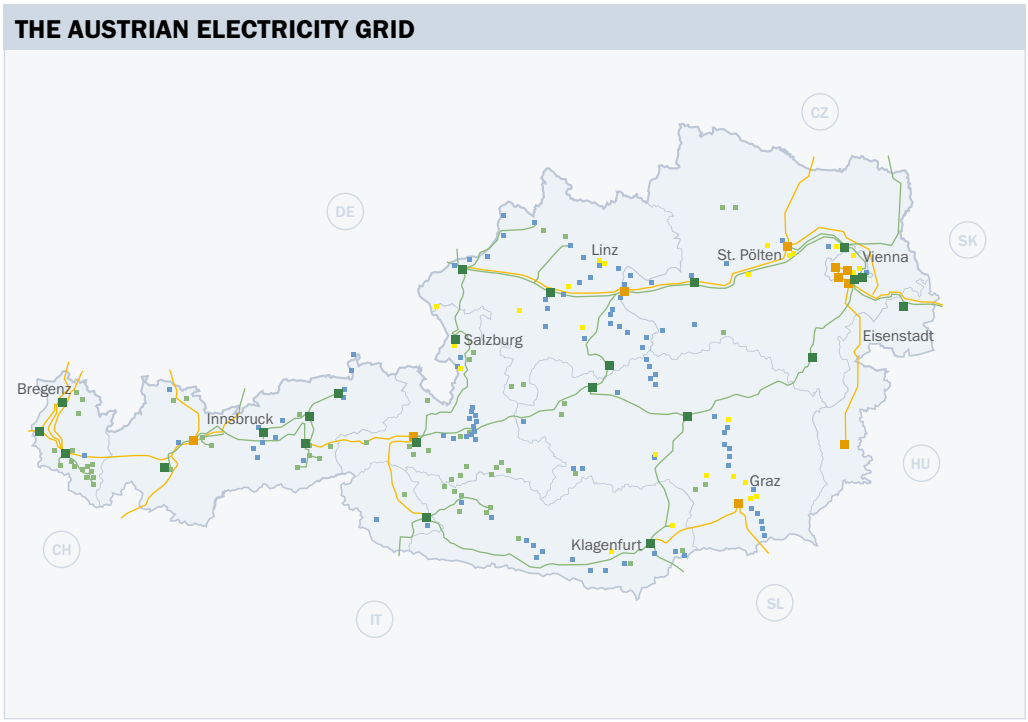


Figure 3
The Austrian electricity grid including all operational power stations owned by electricity utilities with capacities of 5 MW or more (as of 31 Dec. 2002)

Source: E-Control

Regulation of the electricity grid

Adjustments to the system charges under the incentive regulation system came into effect on 1 January 2009 (*Figure 4*). The changes to the system charges (grid utilisation charge and charge for grid losses) resulted in an overall reduction of € 6.8m in costs for end users. The total savings for consumers from liberalisation have now reached about € 500m.

In 2005 E-Control and the VEÖ (Association of Austrian Electricity Companies) issued a joint declaration of intent committing themselves to the introduction on 1 January 2006 of a multi-year (incentive) regulation system for distribution system operators' system charges to remain in place for a total of eight years. Building on the principles and parameters established for the first regulatory period (from 1 January 2006 to 31 December 2009), the regulatory framework has been developed and modernised in the course of many discussions with the industry. These consultations enabled the necessary preparations to be made for the second regulatory period.

A market driven incentive regulation system

The incentive regulation system to be introduced on 1 January 2010 takes account of general industry trends, individual firms' performance, company output trends, and changes in non-influenceable costs by applying a formula based on:

> A 1.95 % frontier shift;
> Productivity offsets;
> An investment and operating cost factor; and
> The change in the system operator price index.

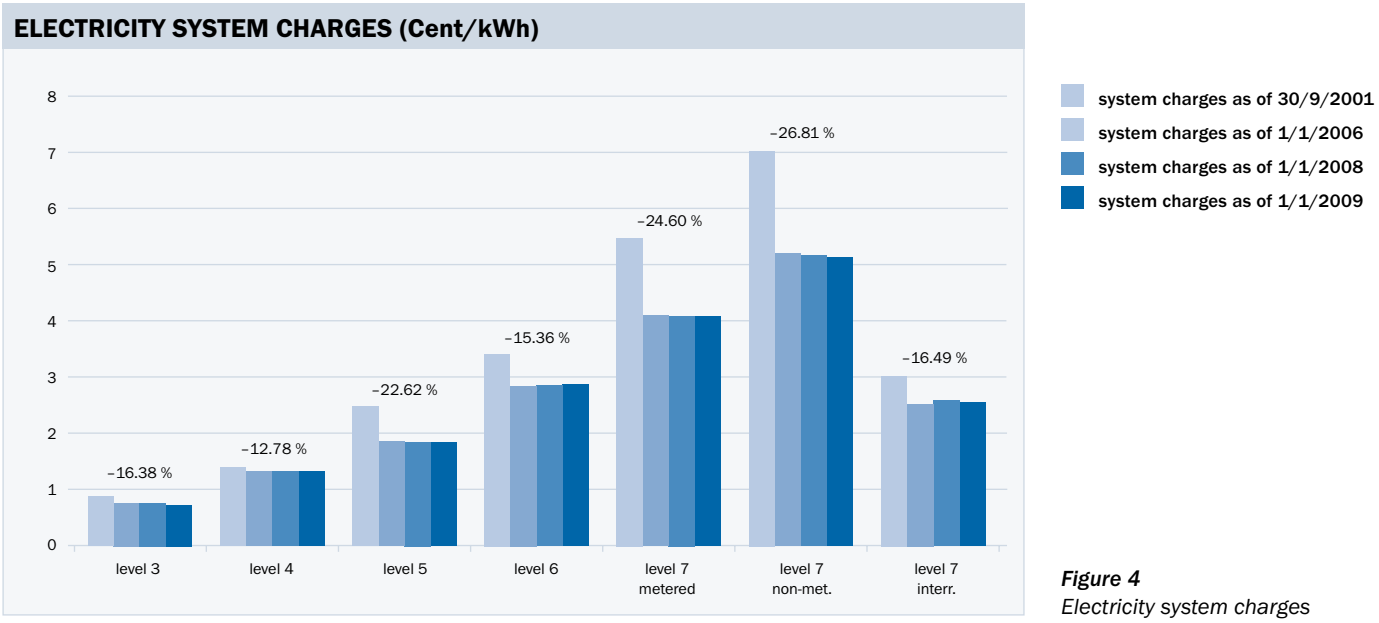


Figure 4
Electricity system charges

Source: E-Control

A "carry-over" mechanism has been developed to make the transition in the cost base from the first regulatory period to the second. This reflects current market conditions such as interest rates and current valuations of assets. In principle the benefits of the efficiency gains achieved by the system operators up to the end of the second regulatory period are to be split 50:50 between themselves and their customers. However the January 2010 tariff determination will already assign 25 % of the efficiency increases identifiable on the basis of costs in the 2008 financial year to system users.

The most important new refinement of the regulation system is the investment and operating cost factor, which is now calculated on the basis of the actual evolution of capital costs. In order to ensure that only investments that are genuinely necessary are promoted and to create appropriate investment incentives, the investment factor may also be negative. This eliminates any vagueness with regard to the volume-cost factor and maximises investment certainty for the system operators. The latter should be rewarded for making necessary and sensible investments, but network users should also benefit since in reality they bear the cost.

Electricity transmission system operators are still subject to a cost-plus regulatory regime with annual cost audits and tariff reviews.

Outlook

Future cost audits and tariff reviews are likely to be strongly influenced by heavy investment in the transmission grid and the anticipated decline in supply volumes in 2009.

EFFECTIVE UNBUNDLING IN THE ELECTRICITY SECTOR

Legal basis

The provincial governments are responsible for monitoring unbundling compliance in the electricity sector (section 26 para 3 item 4 ElWOG [Electricity Act]). The companies concerned are required to report to the provincial authorities and E-Control. The provincial authorities must submit annual reports to E-Control outlining the action taken by system operators under the latter's compliance programmes.

Provincial governments' reports to E-Control

Some compliance reports still missing

By the editorial deadline of this publication some of the nine provincial governments had failed to submit their compliance reports to E-Control. The following aspects of the reports received stand out.

The provincial governments' oversight of adherence to compliance programmes is largely restricted to ensuring that the electricity companies' compliance reports are received on time and forwarding them to E-Control. To the best of our knowledge they to do little to investigate the measures taken by the companies or to initiate action themselves.

Allocation of resources and business functions

According to the European Commission's interpretative notes[4], network operators should have enough human and physical resources at their disposal to carry out their work independently from other parts of integrated companies. They should also have sufficient financial means to maintain and develop the network. Only **one** legally unbundled system operator in the whole of Austria owns the network assets it uses. All the other companies must purchase the right to use the property, plant and equipment necessary for system operation by way of leasehold and/or operating agreements.

The head counts of the new legally unbundled system operators are between ten and 40. Only two of the integrated companies have transferred all of the human resources devoted to their power grids to their system operation subsidiaries.

Since both the human resources and the right to use networks and operating equipment are acquired through service and leasehold contracts, the services performed by the network company's own staff are confined to management and other strategic activities.

Suggestions and outlook

Most of the Austrian electricity companies have merely gone through the motions of unbundling, to the extent demanded by the vague and undemanding legal requirements. The companies have for the most part used this leeway to form network subsidiaries that neither have sufficient staff of their own, nor control the resources necessary to provide their services. The freedom of action of the typical Austrian network company is effectively limited to formulating contracts for, and billing for services provided by others under service contracts.

Half-hearted unbundling

[4] Note of DG Energy and Transport on Directives 2003/54/EC and 2003/55/EC on the inernal market in electricity and natural gas (16 January 2004)

Total supply in 2008 calendar year

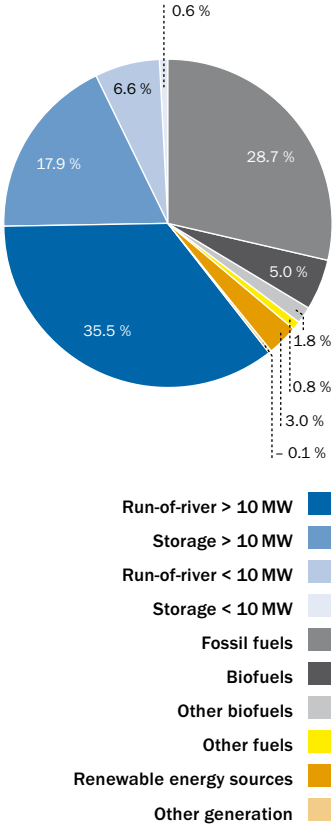


Figure 5
Austrian electricity production in 2008 as of 31 Dec. 2008

Source: E-Control

Competition on the Austrian electricity market

SUPPLY AND DEMAND

Electricity generation

Figure 5 shows the generation mix in 2008. Total output was 67,040 GWh, around 60 % of which came from hydropower stations, i. e. run-of-river and storage power stations, as well as small hydro generating stations (capacity of less than 10 MW). Natural gas is the second-most important primary energy source for power generation, at some 17 %. Hard coal and coal derivatives were responsible for approx. 10 % of output.

Renewable energy sources (including hydropower) contributed around 71 % of total production in 2008, and fossil fuels the other 29 %. Supported renewable energy sources (including photovoltaic, wind, biomass, biogas and small hydro) provided 5,440 GWh (2007: 5,757 GWh) or 8.1 % of 2008 output. This represents a slight decrease on 2007 as total production (particularly large hydro power) rose by almost 3 TWh year on year, to 67,040 GWh (2007: 64,283 GWh).

Renewable electricity generation

The 2003 – 2008 period saw a sharp increase in the output of electricity from other renewable technologies (*Figure 6*).

Meanwhile small hydropower sold to the green electricity settlement agent OeMAG were extremely volatile. Volumes have been falling constantly since 2004 – with market prices buoyant, many small hydropower plant operators have decided to leave the feed-in tariff system and sell power on the open market.

In 2008 945 GWh of power from supported small hydro stations and 4,496 GWh from "other" supported renewables were injected into the Austrian grid. Increases in biomass fuel and biogas feedstock prices in 2008 meant that about one-third of the approved plants of this type were not built. Since the end of 2008, however, biogas feedstock prices have fallen heavily. Output of "other" supported renewable energy is forecast at around 4,722 GWh in 2009.

Supported renewable energy (excluding hydro power) as a proportion of total electricity supply across the public grid (55.4 TWh) increased from 7.7 % in 2007 to 8.1 % in 2008. Wind power accounted for 3.6 % of total supply, followed by supported electricity from solid biomass at 3.4 % and from biogas at 0.9 %. Some 4.5 billion (bn) kWh (4.5 TWh) of renewable electricity and 0.9bn kWh (0.9 TWh) from small hydro stations were supported under the feed-in tariff system established by the *Ökostromgesetz* (Green Electricity Act).

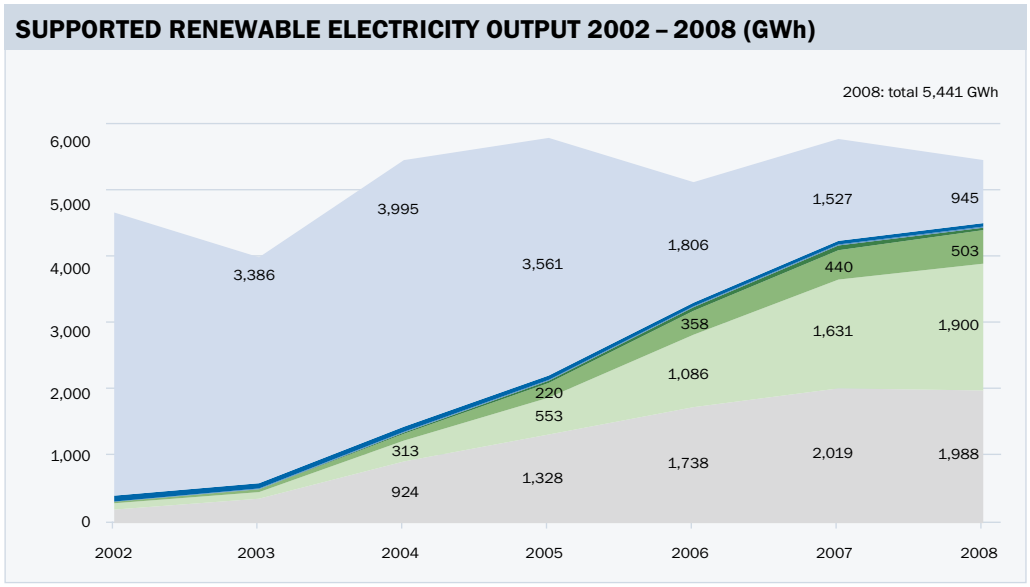


Figure 6
Supported renewable electricity output by technologies, 2002 – 2008

Sources: E-Control, OeMAG

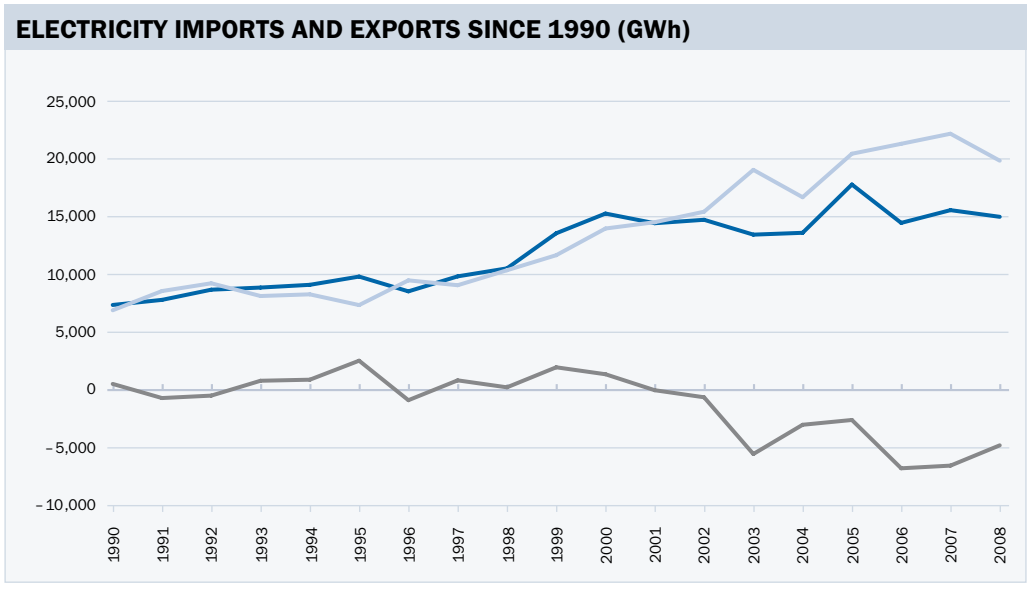


Figure 7
Electricity imports and exports since 1990

Source: E-Control

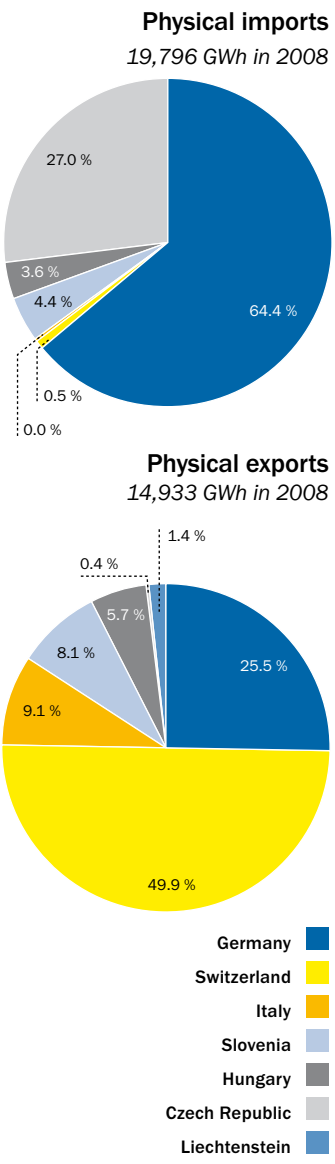


Figure 8
Physical imports and exports

Source: E-Control

Imports and exports

Cross-border exchanges between Austria and interconnected neighbouring countries have grown steadily since 1990 (*Figure 7*). Before 2002 Austria usually exported more electricity than it imported, but the trade balance has been negative since then; the trade gap was widest in 2006. Physical imports and exports both dropped in 2008, by 9 % and 5 %, respectively. Germany is the main country of origin, accounting for almost two-thirds of all imports, and Switzerland the primary destination (about half of all exports). Net imports totalled 4,820 GWh in 2008 – a decline of 21 % on 2007 – or around 7 % of total supply.

Electricity demand

Total domestic electricity consumption (excluding pumped storage) edged up by approx. 1.2 % to 68.6 TWh in 2008. Peak demand on the Austrian electricity grid, which has risen steadily for several years, stood at 9,955 MWh in 2008.

DESCRIPTION OF THE WHOLESALE MARKET

Electricity price trends

Wholesale electricity price movements in 2008 were characterised by high and rising price levels during the first half of the year followed by a downturn from the autumn onwards. These trends were driven by coal and natural gas prices, as well as the overall economic situation and oil prices. Although there is no direct causal link between oil and electricity prices since oil plays little part in power generation, oil prices are of great importance as an economic bellwether and a benchmark for energy prices. The wholesale electricity price situation in 2008 thus reflected the oil price run-up and the volatility of oil prices.

The prices of spot and futures contracts in Austria[5] and Germany peaked during the summer (*Figure 10*), the exception being the EXAA base load contract, which hit a year's high of € 119.00/MWh on 9 October. The annual average base load price for 2008 on the EXAA was € 72.92/MWh while the average price of the 2008 futures contract on the EEX over the 2006 – 2007 period was € 55.34/MWh. The spread between the spot and futures contracts was thus € 17.58/MWh during the year under review. In other words, it was cheaper for a company to meet its annual electricity needs by advance buying.

[5] The Energy Exchange Austria (EXAA) does not offer forward contracts.

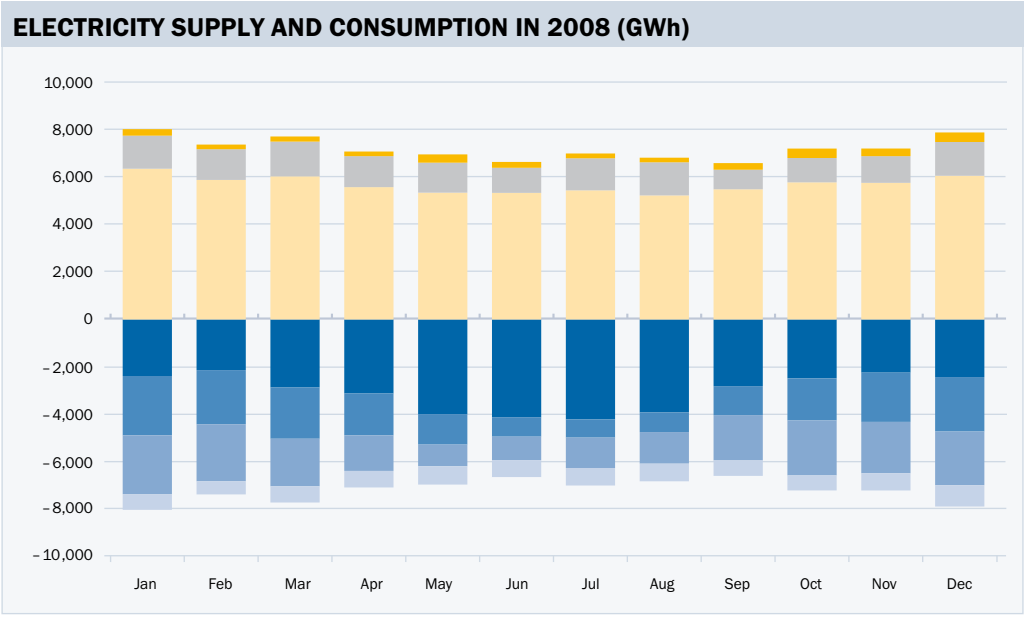


Figure 9
Electricity supply and consumption in 2008

Source: E-Control

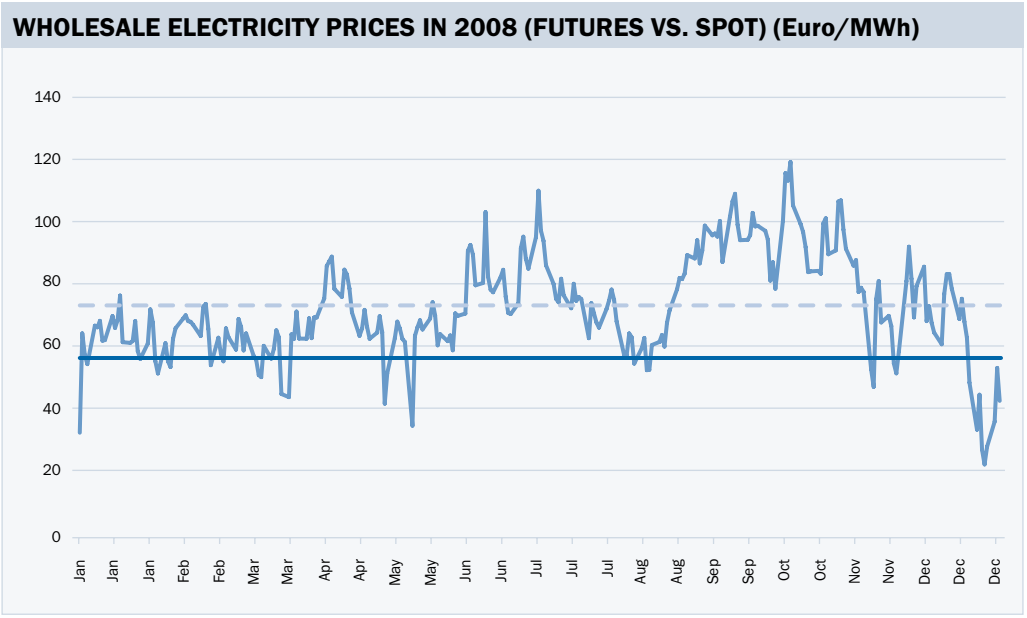


Figure 10
Wholesale electricity prices in 2008

Sources: EEX, own calculations

Oil prices set the tone

Figure 12 shows the influence of the primary energy sources and of CO_2 allowances on price formation on the wholesale electricity market. All five time series peak during the summer of 2008 – ultimately driven by oil prices. Although the different units do not permit direct comparisons without making assumptions about the calorific value of the products, the trend is highly revealing. On the assumption that the quality of the products (which is legally regulated) did not change, the spread between electricity (base load) and coal widened in the summer. This indicates that when coal prices were very high generators switched to cheaper technologies, and coal temporarily slipped down the merit order.

Volume of electricity traded

Despite an increase in membership from 40 in 2007 to 48 in 2008, Austria's EXAA electricity exchange recorded a fall in traded volume in 2008. The number of registered members of the CO_2 allowance market climbed from 17 in 2007 to 28 in 2008; the majority are foreign companies.

Apart from hourly products, block products consisting of a number of consecutive hours are traded on the EXAA. The minimum trade and unit traded is 0.1 MWh. The products are offered for all three Austrian control areas and the German RWE and E.ON control areas.

Spot market turnover hit by financial crisis

The volume traded on the EXAA was 1.77 TWh – equal to about 2.5 % of Austrian electricity consumption (*Figure 11*). This was 26 % down year on year, and thus represented a significant decline in liquidity. However, it should be noted that apart from the APX all the main continental European spot markets were hit by falls in traded volumes. The German EEX suffered a marked loss of liquidity, and volume contracted to 106.69 TWh or less than 20 % of gross demand.

Role of the exchanges

Although the EXAA spot market had 48 members in 2008, the combined monthly market share of the five largest traders (selling side) ranged between 40 – 50 %. The top five's share of the EEX spot and futures markets never reached 10 % (on a daily basis). The EXAA is highly concentrated for an exchange, although this does not show up in all the monthly concentration indicators. These monthly figures do not provide any insights into the possible dominance of generators in given hours. The fact that monthly average concentration ratios

such as CR5 [6] can reach 50 % suggests that the figure may be far higher during some hours. Only five Austrian traders – e&t [7], Energie AG, Linz Strom, Steweag-Steg and Verbund – are registered to deal in all the electricity products quoted on the EEX and EXAA.

Even in the case of the highly liquid EEX the OTC cleared volume is three times as high as the exchange-traded turnover. The ability of dominant generators to keep prices up artificially by means of their buying behaviour has come in for particularly severe criticism in the past. [8] Where a trader with substantial generating capacity chiefly figures as a buyer on an exchange it is likely that it will be trading large amounts of capacity OTC, and that this will be at higher prices (on the assumption that the exchange serves as a means of price formation for OTC trading). If wholesale trading was chiefly carried out on formalised markets, i. e. exchanges, it would be harder for dominant generators to pursue such strategies. EEX plans to launch an internet platform carrying market information from the four German transmission system operators in order to improve the transparency of the wholesale market.

TRADED ELECTRICITY VOLUMES AND MARKET SHARES 2008

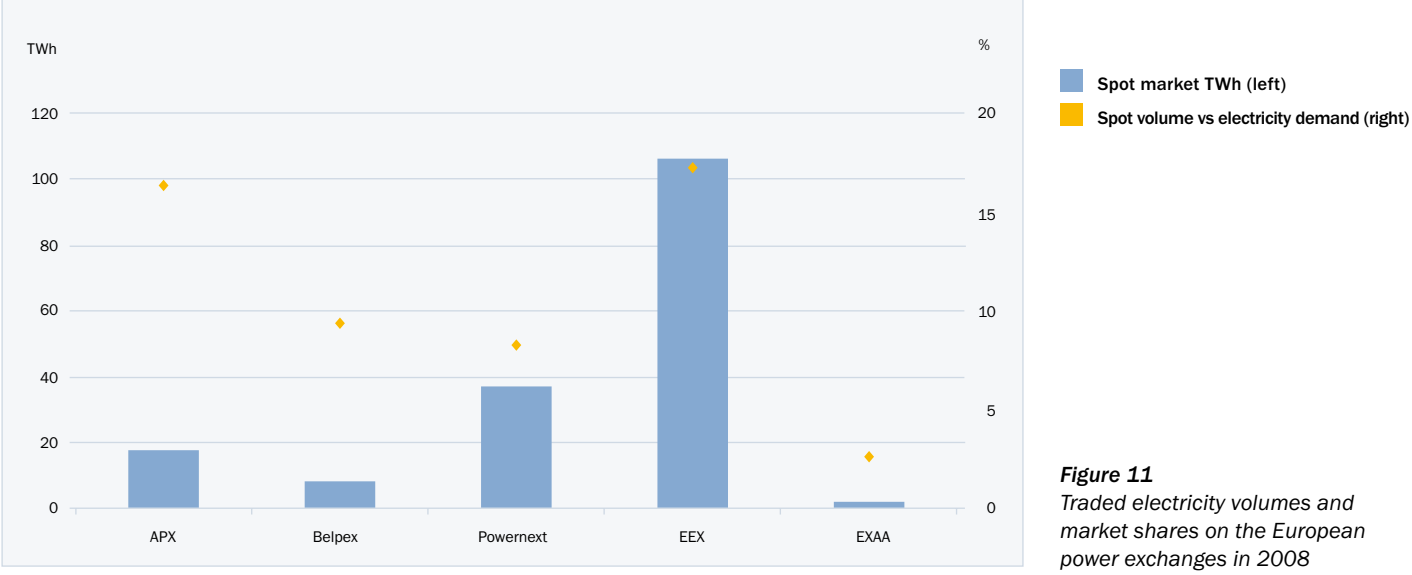


Figure 11
Traded electricity volumes and market shares on the European power exchanges in 2008

Sources: EEX, EXAA, IEA, APX, Belpex, Powernext

[6] The CR5 concentration ratio measures the cumulated market shares of the five largest traders.
[7] e&t is the trading company of EnergieAllianz.
[8] cf the European Commission's ‚Structure and Performance of Six European Wholesale Energy Markets in 2003, 2004 and 2005' (2007)

WHOLESALE ELECTRICITY PRICES AND PRICES OF PRIMARY ENERGY SOURCES

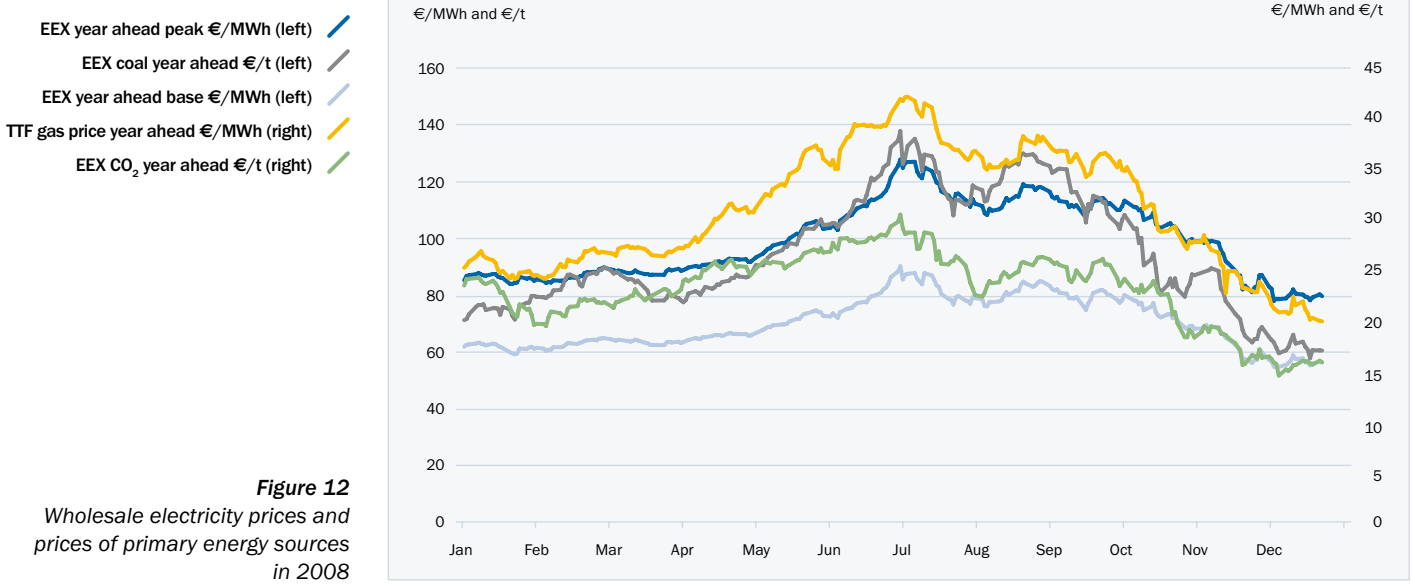


Figure 12
Wholesale electricity prices and prices of primary energy sources in 2008

Sources: Energate, EEX

BALANCING MARKET

In Austria electricity generation and consumption are matched by injecting and withdrawing balancing power, by means of:

- Primary control power (adjustments to generation within 30 seconds);
- Secondary control power (adjustments to generation within five minutes);
- Tertiary control power or "minute reserve" (adjustments within 15 minutes);
- Involuntary exchanges with surrounding control areas in the UCTE interconnected grid where adjustments within a control area are insufficient or impossible.

The Austrian balancing market is divided into three control areas. Tyrol (TIWAG Netz AG) and Vorarlberg (VKW Netz AG) both form separate control areas which belong to the German UCTE control block. The rest of Austria makes up the Eastern control area (otherwise known as the APG zone) – an independent UCTE control block.

Daily schedule transmission since 2008

In contrast to the situation in most other EU member states, in the Austrian control areas balancing energy is accounted for by independent settlement agents appointed by the control area managers. In the APG control area the agent is Austrian Power Clearing and Settlement AG (APCS), while Ausgleichsenergie- und Bilanzgruppenmanagement AG (A&B) fulfils this function in Tyrol and Vorarlberg.

Balancing power is governed by the Other Market Rules and the settlement agents' general terms and conditions (GTC). The market rules are drawn up by the regulator in consultation with the market participants. The general terms and conditions of APCS and A&B are subject to approval by the regulator.

In 2008 amendments to the GTC and the Other Market Rules brought a changeover to daily transmission of both internal and external schedules. The schedules for electricity exchanges within control areas on the following day must be sent to the settlement agent responsible by 2.30 pm. Those for exchanges with neighbouring control areas must likewise be transmitted to the control area manager concerned by 2.30 pm on the day before supply/procurement.

Intraday adjustments to deliveries across control area boundaries can still be made at 45 minutes' notice, at the end of each hour. However, under an amendment to the Other Market Rules made in 2008, intraday schedules cannot be transmitted to the control area managers until 6.00 pm.

The balancing energy clearing prices are established by the settlement agents at 15-minute intervals. They consist of the following four components:

- Minute reserve called off from the merit order list (MOL);
- Compensation for the secondary control power provided by the control area manager's automatic load frequency control;
- UCTE exchanges (involuntary exchanges of electricity with neighbouring control areas);
- Market makers' fees.

Figure 13 shows the composition of the balancing power costs in the Eastern control area, i. e. the costs less the revenue, broken down by these four components. The cost components are allocated to the quarter-hourly balancing power volumes, using a predetermined price formula, and invoiced to the balancing group representatives. Suppliers must take account of balancing power costs and risk when setting their prices for end users. However none of the balancing power cost components are directly charged on to final consumers.

Involuntary exchanges of electricity within the UCTE interconnected grid are settled by way of a compensation scheme through EXAA. Secondary control power is currently provided under bilateral contracts with power station operators; weekly auctions are held for the return of secondary control power to the generators. Changes to this system are planned for 2009.

Lack of liquidity

Only the minute reserve market has a purely market-based tendering system in the form of a merit order list. The control area manager calls off the bids as needed, in accordance with the MOL. In the case of tertiary control power there are also weekly market maker auctions so as to ensure that the market is sufficiently liquid.

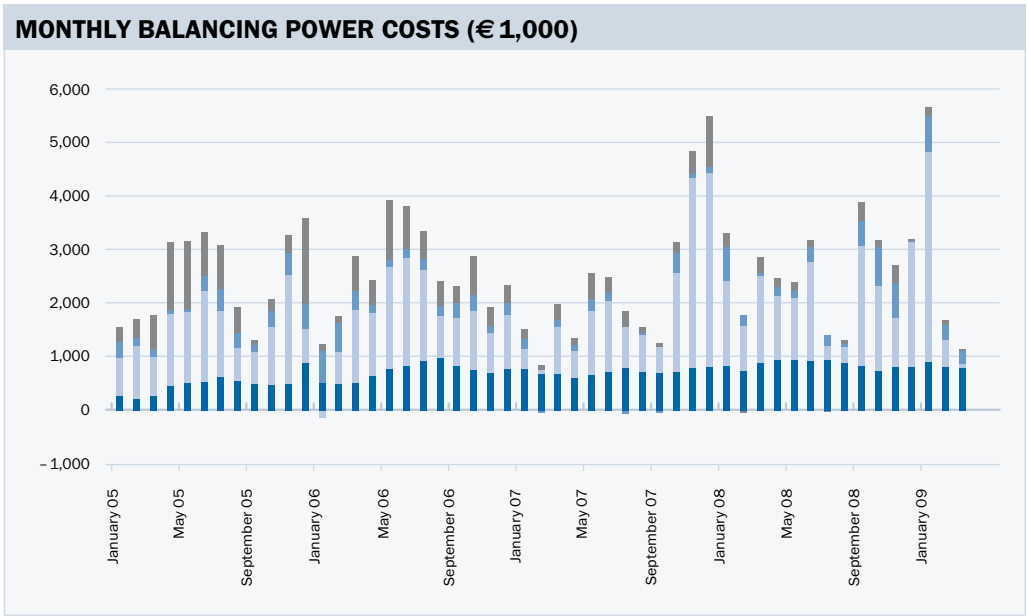


Figure 13
Amount and composition of balancing energy costs in the APG control area

Source: APCS

In 2008 total balancing power costs in the Eastern control area were € 31.5m, compared to € 28.7m in 2007. The high market prices impacted the balancing market, inflating both costs and revenue.

The problem of lack of competition due to insufficient liquidity is partly caused by the current geographical constraints on the market. Hitherto suppliers from other control areas and UCTE member countries have been unable to bid on the Austrian control power market. However a wider balancing market – initially for minute reserve and in the medium term for secondary control power as well – is essential if the conditions are to be created for greater liquidity. At present there are too few participants to prevent the exercise of market power.

DESCRIPTION OF THE RETAIL MARKET

Total electricity consumption rose by 1.2 % year on year, to 68,635 GWh in 2008. Electricity was supplied to a total of 5.738 million metering points during the calendar year. Of these around 4 million served household consumers, 1.7 million other small consumers (small commercial consumers, agricultural consumers and interruptible consumers) and 29,000 demand metered final consumers (industrial consumers).

Electricity supplied to 5.7 million metering points in 2008

The retail market can broadly be broken down into two sub-markets with contrasting conditions:

- **Small consumer market:** household and small consumers, non demand metered consumers with an annual consumption of less than 100,000 kWh; commercial customers with an annual consumption of between 100,000 kWh and 1 GWh (demand metered);
- **Large consumer market:** demand metered customers with an annual consumption of more than 1 GWh.

Changes in retail prices

The regulation of energy prices ended with the liberalisation of the electricity market in 2001. The system charges are set by the regulatory authority, and taxes, surcharges and surcharges by the federal and provincial governments, and local authorities. With the exception of the metering charges, for which maximum prices are set, all system charges are fixed. System operators are able to set lower metering charges, provided that they treat all consumers identically; in other words, they must charge all their customers the same price for a given type of meter.

Electricity prices for small consumers

> Overall prices

Figure 14 depicts the evolution of overall electricity prices charged to household consumers. It reveals that, following a fall in the immediate aftermath of liberalisation, the overall trend has been upward since the end of 2002, except in the first half of 2005. The dip in the electricity consumer price index (CPI) at the beginning of 2005 is entirely explained by the reduction in system charges imposed by the regulatory authority. Prices remained stable from January 2007 to October 2008 before rising sharply from November 2008 onwards.

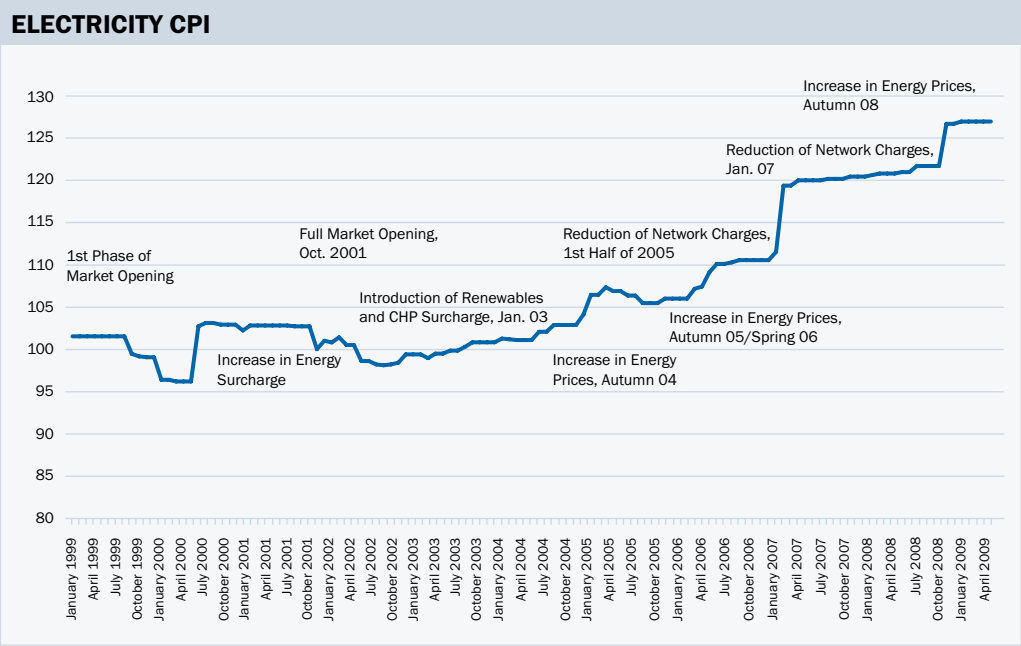


Figure 14
Electricity CPI (overall price, Oct. 2001 = 100)

Sources: Statistics Austria, E-Control

In early 2009 the regulator once again reduced the system charges. However, only a few companies have passed on the cuts to consumers; instead, most have either balanced them with energy price increases or raised their overall prices.

Prices for small consumers rose by 10 – 12 % in 2008, as shown in *Table 5*.

ELECTRICITY PRICES BY CONSUMER GROUP			
	Household	Commercial	Agricultural
2nd Half of 2007	100.00	100.00	100.00
1st Half of 2008	103.78	103.69	104.63
2nd Half of 2008	110.19	111.55	111.01

Source: E-Control market statistics

Table 5
Electricity prices by consumer group, 2008 (January 2008 = 100)

Figure 15 shows the statistical distribution of net household energy prices calculated using the Eurostat method; in other words, for example, the January 2009 figure indicates a supplier's average revenue in the second half of 2008. The distribution shows that the overall upward trend in supplier prices caused an increase in average prices in Austria. However it can also be seen that some suppliers' prices remained at 2007 – 2008 levels. Despite the wide variations in prices, potential savings were little changed. The cheapest and most expensive suppliers still tend to be small, local companies.

DISTRIBUTION OF HOUSEHOLD ELECTRICITY PRICES

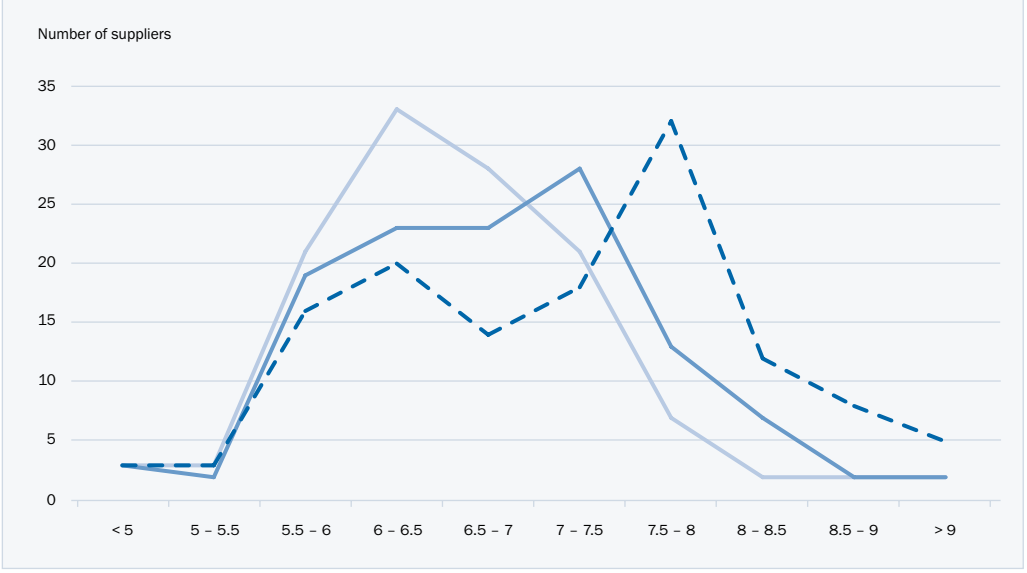


Figure 15
Distribution of household electricity prices

Source: E-Control market statistics

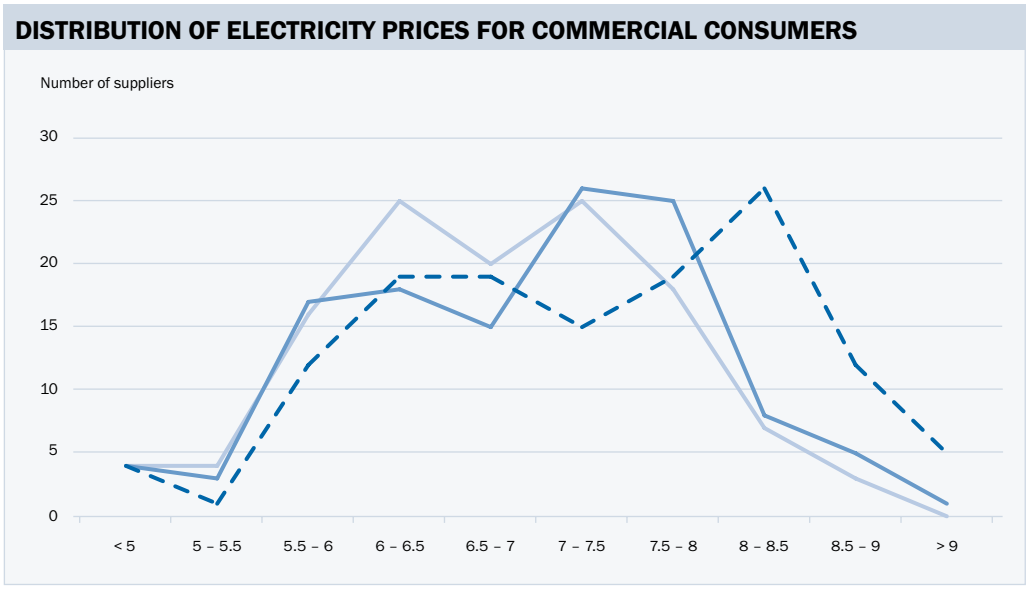


Figure 16
Distribution of electricity prices for commercial consumers

Source: E-Control market statistics

Commercial prices have been rising faster than the market average since January 2008 (*Figure 16*). The weighted average price increased from 6.4 cents/kWh in January 2008 to 6.7 cents/kWh in July 2008, going on to reach 7.2 cents/kWh in January 2009 – the same price paid by household customers.

> Price differences between suppliers

Figure 17 shows the local players' energy prices, system charges, and taxes and surcharges. Energy prices vary widely between local players – those of the most expensive local player are around 32 % higher than those of the cheapest incumbent supplier for a household customer with an annual consumption of 3,500 kWh. The most expensive local player's energy prices are some 49 % above those of the cheapest alternative supplier. The spread between the highest and lowest overall price for an average household consumer supplied by a local player is around 24 %.

This wide divergence between local players' energy prices means that the potential savings from switching to the cheapest supplier can also vary (*Figure 17*). The potential savings were greatest in the grid areas supplied by the EnergieAllianz partners, where switching in August could cut a consumer's electricity bill by as much as € 112, which equates to a reduction of up to 30 % in the energy price and 19 % in the overall price. However, despite

the substantial savings on offer, a mere 1.3 % of household consumers switched in 2008. The combination of considerable differences between the energy prices of the cheapest provider and most local players, and a low switching rate suggests that the market power of incumbent suppliers remains intact.

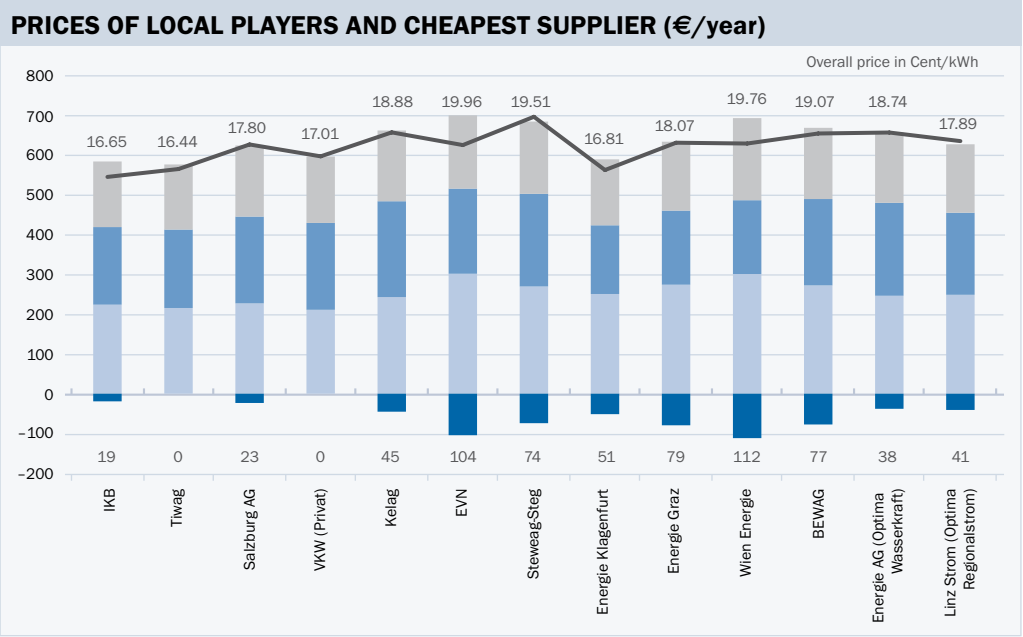


Figure 17
Price comparison of local player with the cheapest supplier, 3,500 kWh, August 2009

The figure uses the most popular offers by local players minus standing discounts and the cheapest supplier's energy price minus all discounts.

Source: E-Control

Austrian electricity companies' margins

Figure 18 shows the (imputed) gross margins of Austrian electricity suppliers based on the assumption that their supply portfolio is based on forward purchases 12 or 18 months ahead.

The chart reveals that some of the incumbents in eastern Austria have significantly higher margins than comparable retailers in the west of the country. This may be due to politically motivated instructions from the shareholder representatives – for instance, to be the cheapest provincial utility. Some local players would be prepared to sell at below opportunity cost. However, it should be noted that many of these companies also generate electricity themselves, as opposed to purchasing it on the wholesale market. Under current market conditions short-term procurement strategies are also less expensive than the assumed purchases for delivery 18 months ahead.

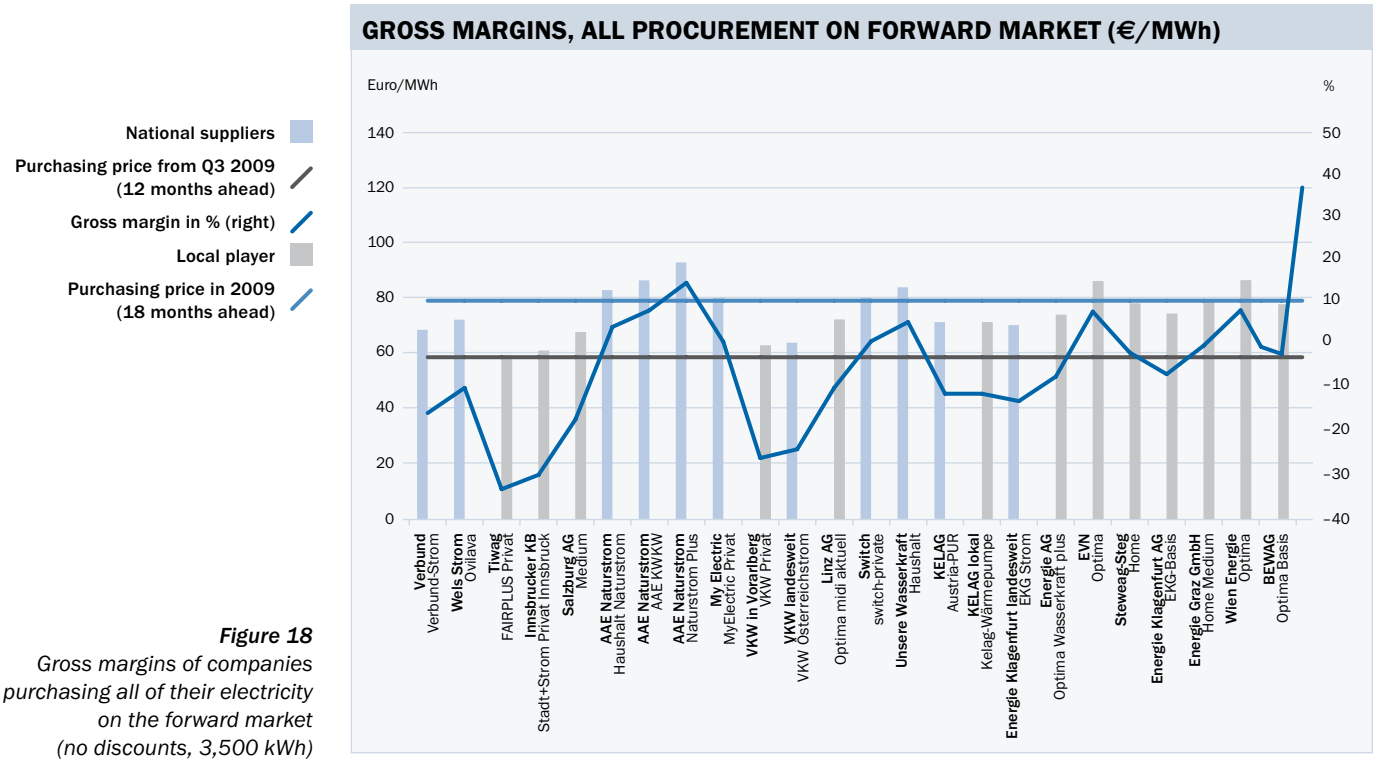


Figure 18
Gross margins of companies purchasing all of their electricity on the forward market (no discounts, 3,500 kWh)

Sources: EEX, E-Control

> Mark-up for the additional cost of renewable electricity as a component of energy prices

Household energy prices also include a settlement price for renewable power. The amounts charged by suppliers to compensate for "additional expenses" arising from renewable electricity are dependent on the market price and vary widely as a result. They represent the difference between the purchasing price and the settlement price for the allocated green power, assigned on a pro rata basis.

Green stands for higher costs

This should mean that the suppliers with the highest additional expenses charge the lowest energy prices. However a comparison of additional expenses for renewable electricity and household electricity prices does not show such a link.

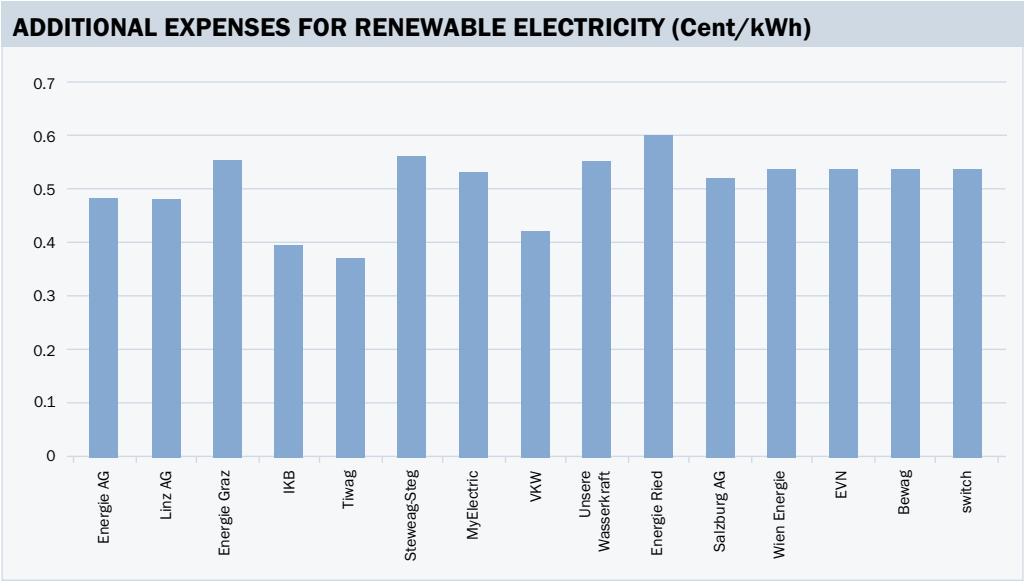


Figure 19
Additional expenses for renewable electricity (July 2009)

Sources: Company price lists and websites (July 2009)

> Prices in comparison with the rest of Europe

A European comparison reveals that overall prices including taxes and surcharges are close to the EU average. Austrian prices are below the EU-27 average in terms of system charges and energy prices (*Figure 20*). However, it should also be borne in mind that the statistical treatment of levies and surcharges is not uniform. Consequently overall costs offer the best comparison, as they include all levies and surcharges, and thus keep distortions to a minimum. On this basis Austrian prices are above the EU-15 and EU-27 averages.

It should also be noted that a new data collection methodology was introduced last year in an attempt to improve comparability.

Figure 21 shows that household electricity prices are on the increase across the EU. Prices rose in most countries during 2008, as did the EU average. The most pronounced increases were seen in Austria and the UK.

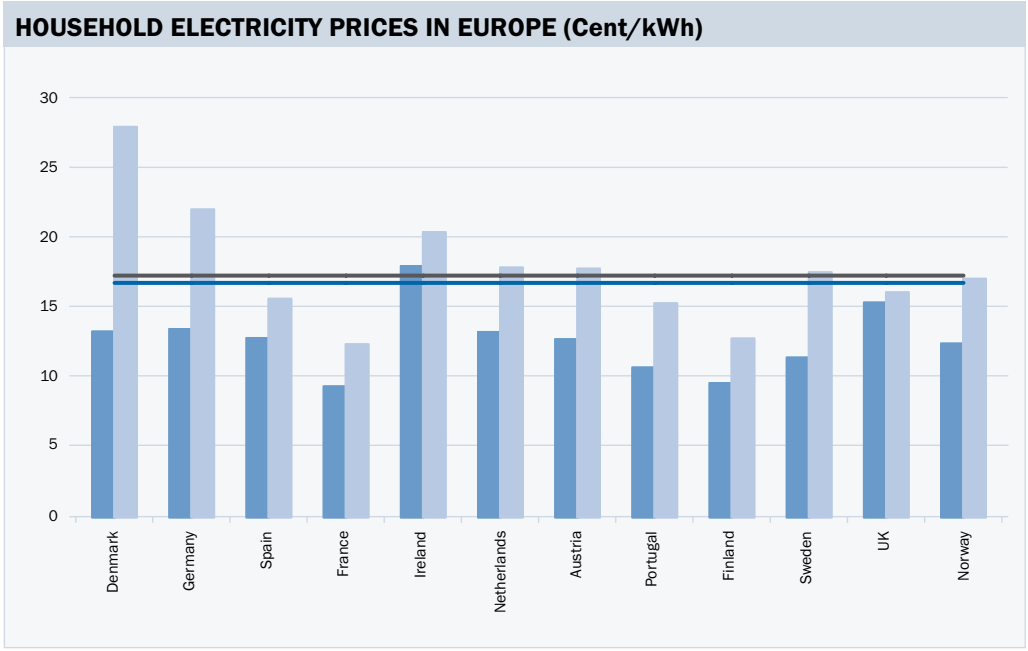


Figure 20
Household electricity prices (energy and system charges) in Europe (2,500 – 5,000 kWh), inc. taxes and surcharges, H2 2008

Source: Eurostat

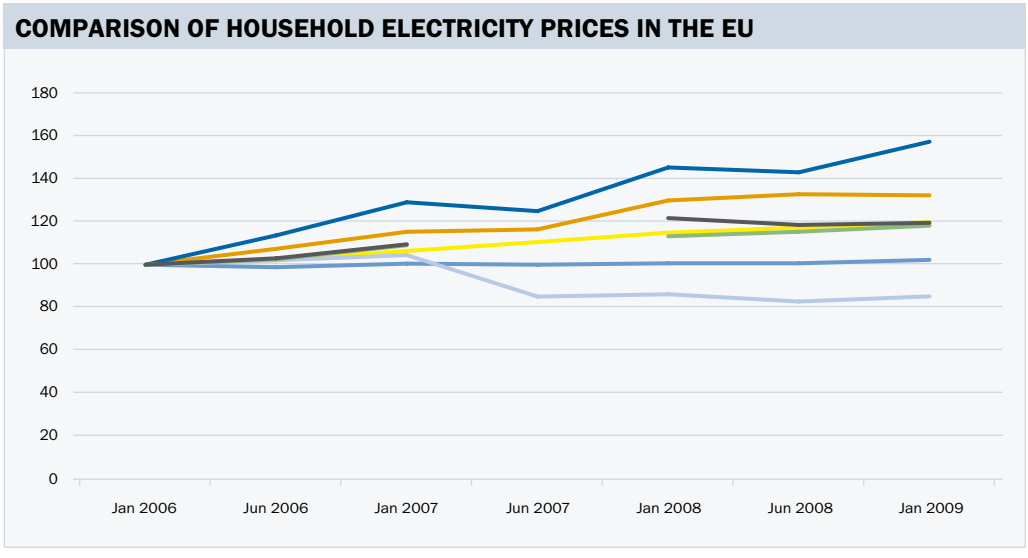


Figure 21
Comparison of household electricity prices in the EU (Jan. 2006 = 100)

Source: Eurostat

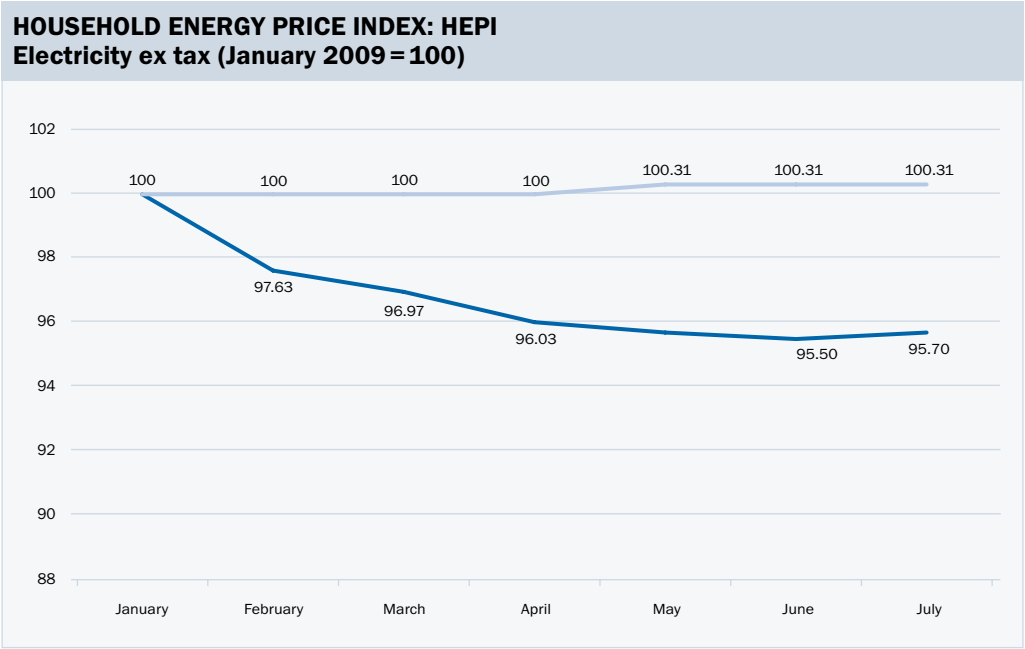


Figure 22
Household Energy Price Index (HEPI) – volume-weighted household price index for the EU-15 capital cities

Source: E-Control

The EU-15 HEPI[9] for 2009 compiled by E-Control shows a slight downward trend. In contrast Austrian household electricity prices have remained fairly constant (*Figure 22*) and are not yet moving in line with the wider European trend.

Electricity prices for large consumers

> **Industrial electricity prices**

Since the second half of 2003 E-Control has surveyed the energy prices paid by Austrian industrial consumers directly, on a biannual basis (January and July). The results are posted on our website (www.e-control.at). Since July 2007 an online form has been used to survey industrial prices.

[9] The European Household Energy Price Index (HEPI) is compiled by E-Control together with the VaasaETT Global Energy Think-Tank. It is a weighted household price index that compares the most popular electricity and gas tariffs of local incumbents in the EU-15 capital cities with those of their strongest competitors.

The survey results (*Table 6, Figure 23*) show a continued rise in prices, with most of the jumps coinciding with the expiry of contracts at the turn of the year. New contracts are now usually concluded for only one or two years. *Figures 23 and 24* depict the evolution of industrial prices for different demand categories. The charts show a steady increase in industrial prices with marked price rises at the turn of each year.

RESULTS OF THE INDUSTRIAL ELECTRICITY PRICE SURVEY

	cent/kWh	Full load hours < 4500 h/y*	Price increase vs 2007	Full load hours > 4500 h/y*	Price increase vs 2007	Total	Price increase vs 2007
Annual demand < 10 GWh	Arith-metical average	7.28	11.83 %	7.13	12.46 %	7.23	12.09 %
Annual demand > 10 GWh	Arith-metical average	7.03	11.83 %	6.75	12.46 %	6.81	12.09 %
No demand category	Arith-metical average	7.25	11.83 %	6.95	12.46 %	7.11	12.09 %

Table 6
Results of the industrial electricity price survey, H1 2009 (cent/kWh)

* Full load hours = annual consumption / capacity

Source: E-Control

Industrial electricity prices are mainly driven by changes in wholesale prices as industrial consumers usually conclude back-to-back supply contracts – in other words, the supplier buys electricity to match the customer's load profile when the contract is signed.

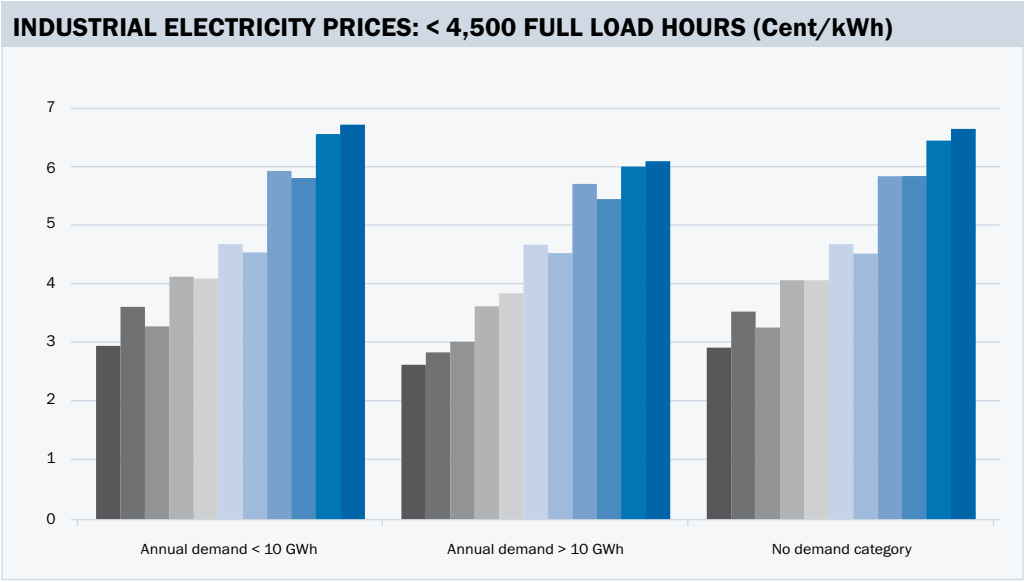


Figure 23
Industrial electricity prices: < 4,500 full load hours

Source: E-Control

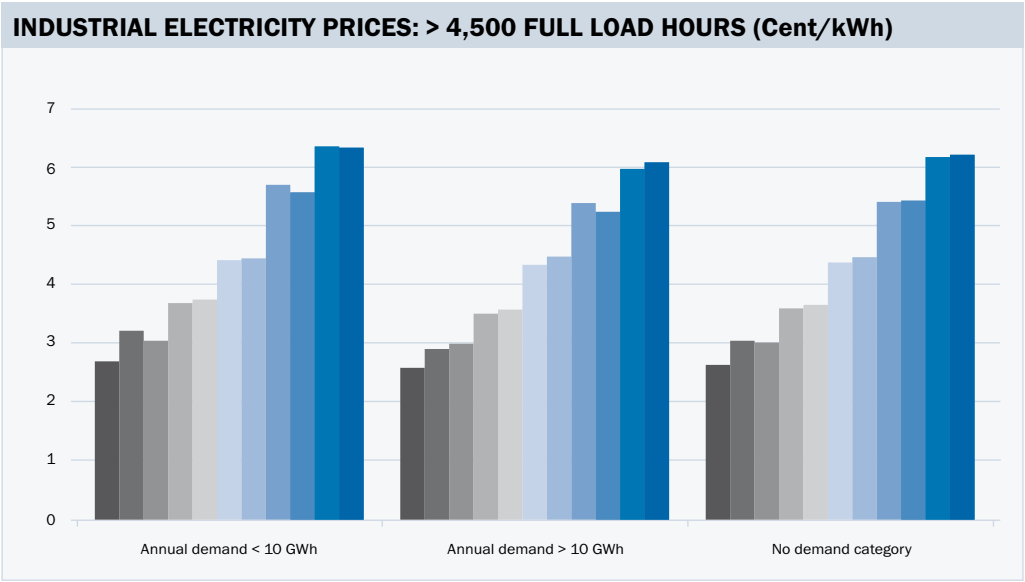


Figure 24
Industrial electricity prices: > 4,500 full load hours

Source: E-Control

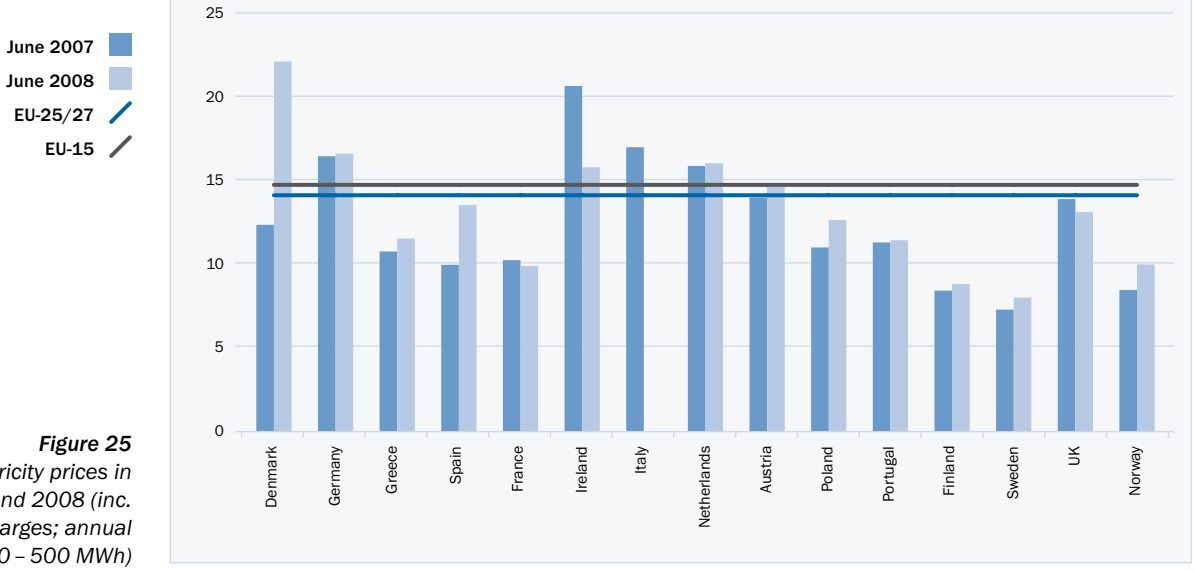


Figure 25
Industrial electricity prices in the EU, June 2007 and 2008 (inc. all taxes and surcharges; annual consumption of 20 – 500 MWh)

Source: Eurostat

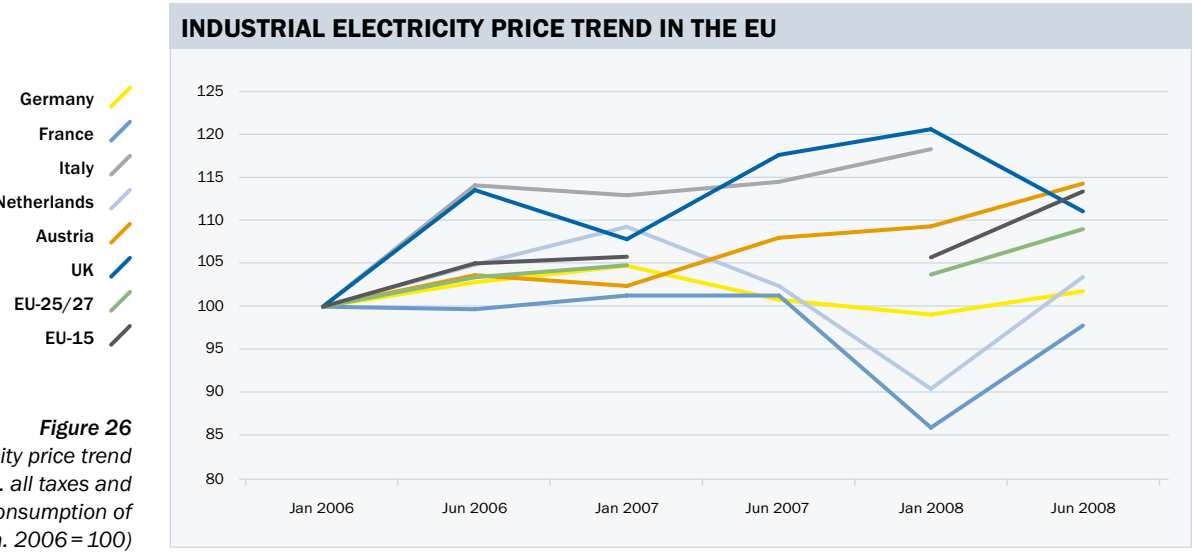


Figure 26
Industrial electricity price trend in the EU (inc. all taxes and surcharges; annual consumption of 20 – 500 MWh; Jan. 2006 = 100)

Source: Eurostat

Industrial electricity prices in comparison with the rest of Europe

The increase in prices for industrial consumers (including taxes and surcharges) with an annual consumption of between 20 and 500 GWh (*Figure 25*) was above the EU-25/27 average in 2008. This is the reverse of the situation in 2006 and 2007.

Changes in industrial electricity prices varied widely around the EU (*Figure 26*) – in most countries prices rose in 2008, as did the EU average. Following a steep run-up in recent years, industrial prices in the UK dropped sharply.

Profitability of Austrian electricity and gas companies

Figure 27 shows the evolution of energy utilities' revenues since 2001.[10] Total revenue more than doubled over the seven-year period. Growth was largely driven by the rapid increase in the contributions of the companies' electricity businesses (up by 155 %). Gas revenue grew by 27 % between 2007 and 2008, and the revenue generated by "other" services (including water supply, and wastewater and waste disposal) also advanced strongly. Between 2001 – 2008 revenue from these areas of operations rose more than sixfold, while district heating turnover progressed by about 60 %. The annual revenue growth recorded by Austrian electricity and gas companies ranged between 6 % and 36 %. Salzburg AG posted the largest revenue increase in 2008, at about 36 %. This was mainly attributable to profits from energy trading.

Electricity and gas companies posting revenue growth

Strong gas and electricity supply revenue was accompanied by rapid growth in procurement costs. Although revenue surged by 36 %, the rise in earnings before interest and tax (EBIT) was far smaller, at around 9 %. TIWAG's revenue growth was modest at 6 % or € 64m; the company's EBIT shrank by 44 % or € 45.5m. The decline in EBIT was due to rising electricity procurement costs for TIWAG's power business and provisions recognised in light of market assessments at balance sheet date.[11]

[10] The figure refers to the following utilities: Begas, Bewag, Energie AG, Energie Graz, Energie Steiermark, EVN, KELAG, Linz AG, OÖ Ferngas, Salzburg AG, Tigas, Tiwag, VEG, Verbund, VKW, WienEnergie. EconGas and EnergieAllianz were not included as their revenues are partly reflected in the shareholders' balances.
[11] TIWAG annual report 2008

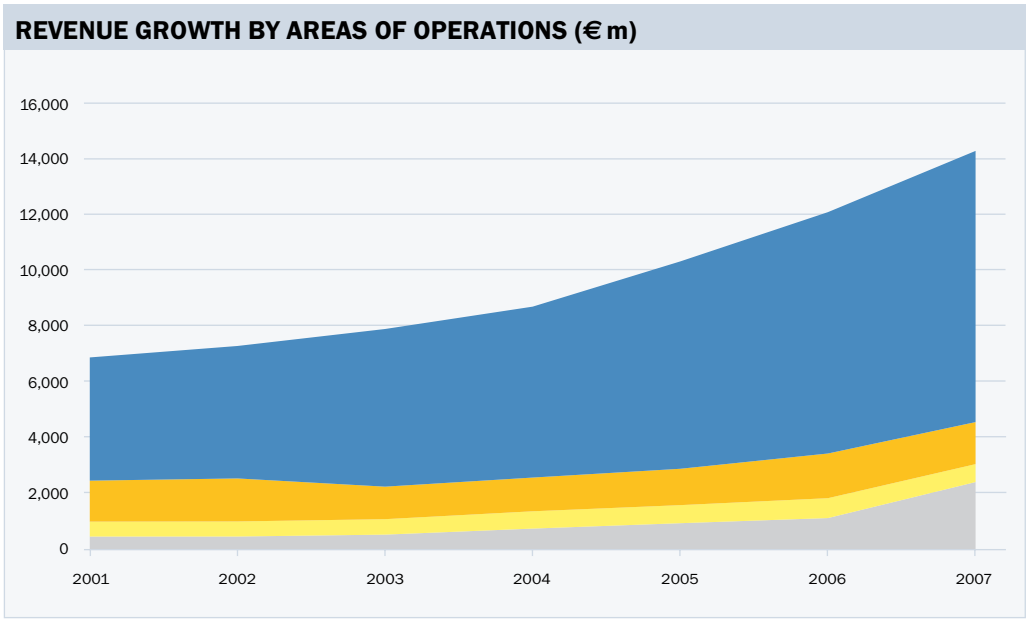


Figure 27
Revenue growth by areas of operations

Source: E-Control

Wastewater, water supply and waste disposal businesses are playing an increasingly important role for Austrian energy companies (see *Figure 28*). The same is true of their foreign operations.

The companies have succeeded in improving their EBIT[12] as well as their revenue. The profits after tax of the electricity and gas companies included in the analysis are up more than fourfold since liberalisation, although they slipped in 2007 and 2008. This was mainly due to net finance costs. Some companies actually posted losses in 2008, despite revenue growth. This was probably a harbinger of the economic crisis, which will probably impact results more severely in 2009. Bewag recorded a loss after tax of some € 5.5m in 2008. This fall in profits was the result of lower income from investments and writedowns of securities held as fixed assets to fair value in accordance with prudent accounting principles, as well as lower gains on disposal of financial assets.[13]

[12] EBIT = Earnings before interest and taxes
[13] Bewag annual report 2008

REVENUE CONTRIBUTIONS BY AREA OF OPERATIONS (%)

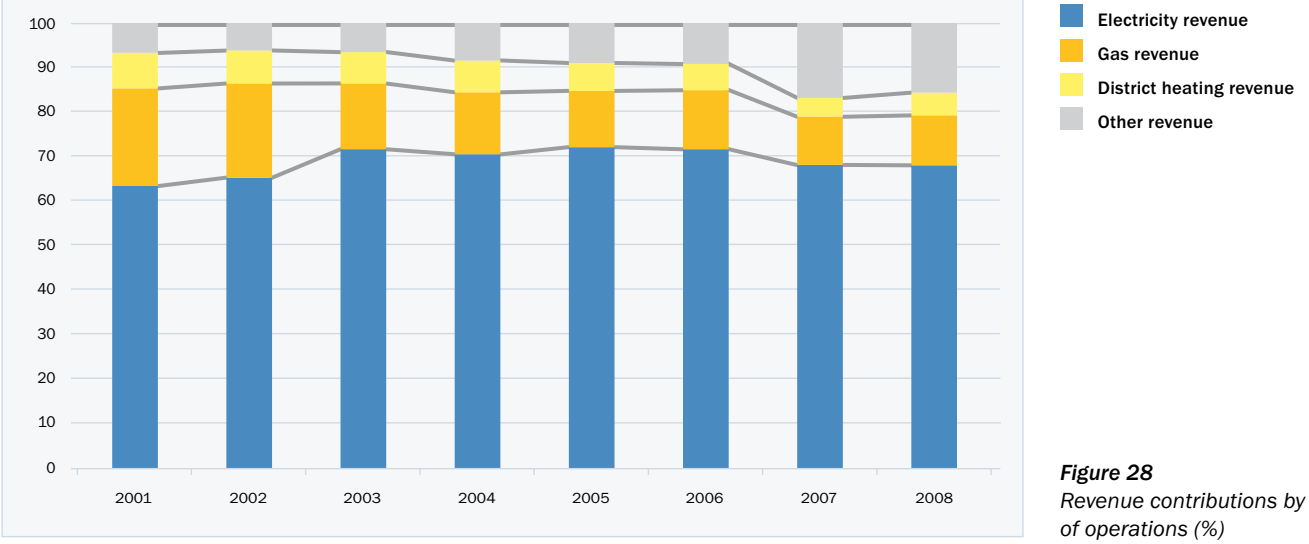


Figure 28
Revenue contributions by area of operations (%)

Source: E-Control

ANNUAL PROFIT AFTER TAX, EBIT AND TOTAL REVENUE

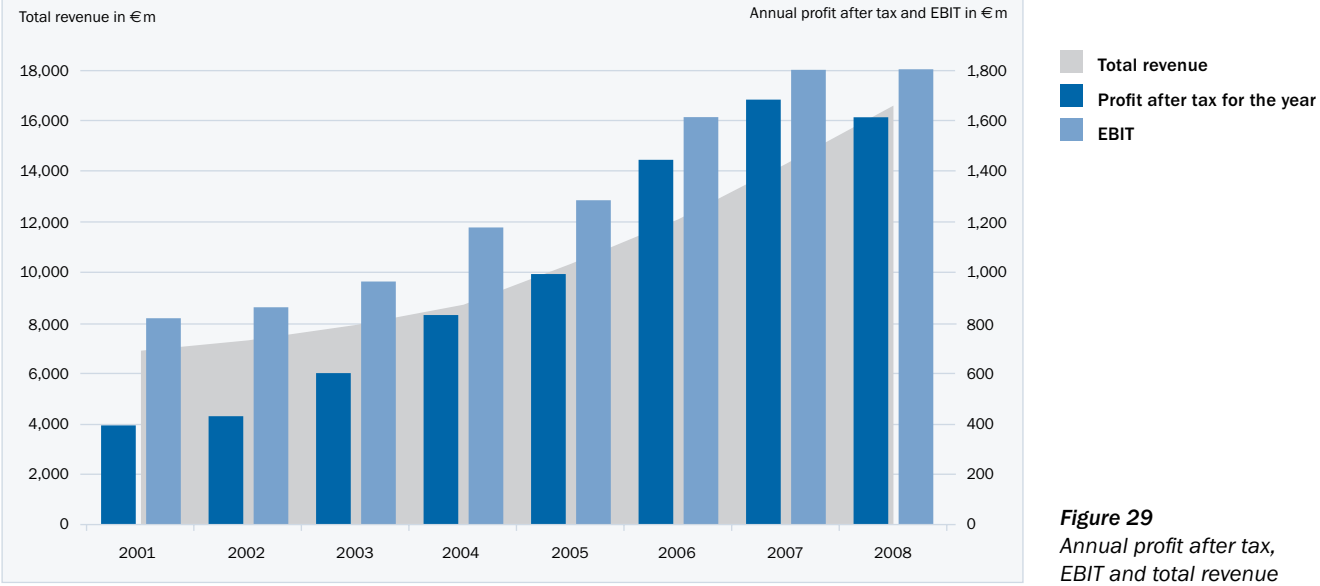


Figure 29
Annual profit after tax, EBIT and total revenue

Source: E-Control

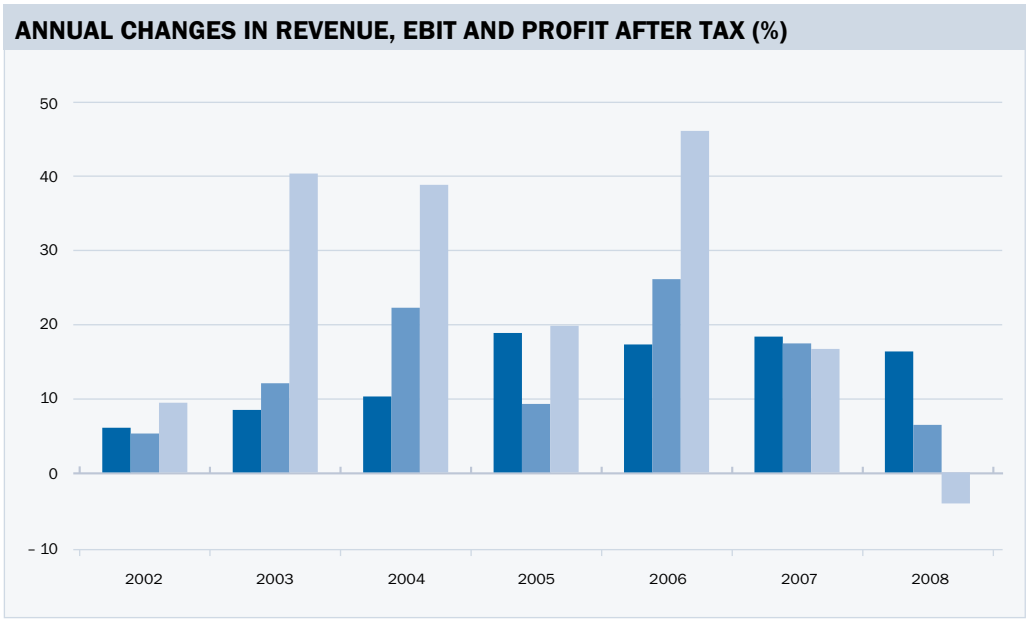


Figure 30
Annual changes in revenue, EBIT and profit after tax (%)

Source: E-Control

The companies recorded an average gain of around 6 % in EBIT in 2008, while profits after tax decreased by 4 %. Return on sales slipped below 10 % for the first time in two years.

Figure 30 shows the annual growth of revenue, profit after tax and EBIT over time. All grew constantly from 2002 until 2007, but profits after tax dropped in 2008. This trend is expected to continue in 2009.

Overall, though, companies have enjoyed rapid revenue and earnings growth since 2001, as shown by *Figure 31*.

The effects of the financial crisis have mainly been seen in companies' net finance income (*Figure 32*), which was close to zero in 2008. While this remained positive the decline affects profit on ordinary activities and after tax.

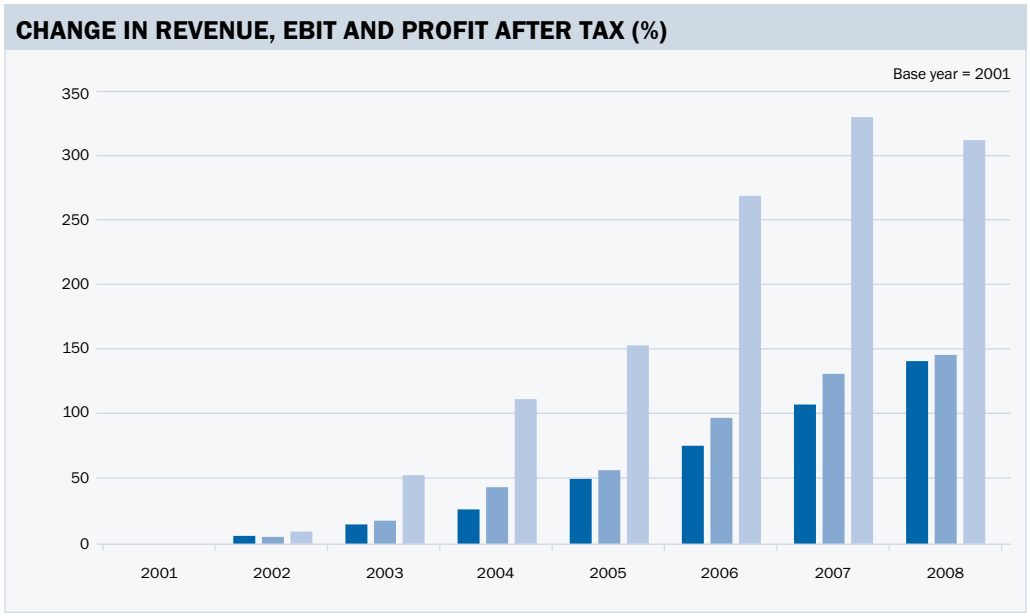


Figure 31
Change in revenue, EBIT and profit after tax; 100 = 2001 (%)

Source: E-Control

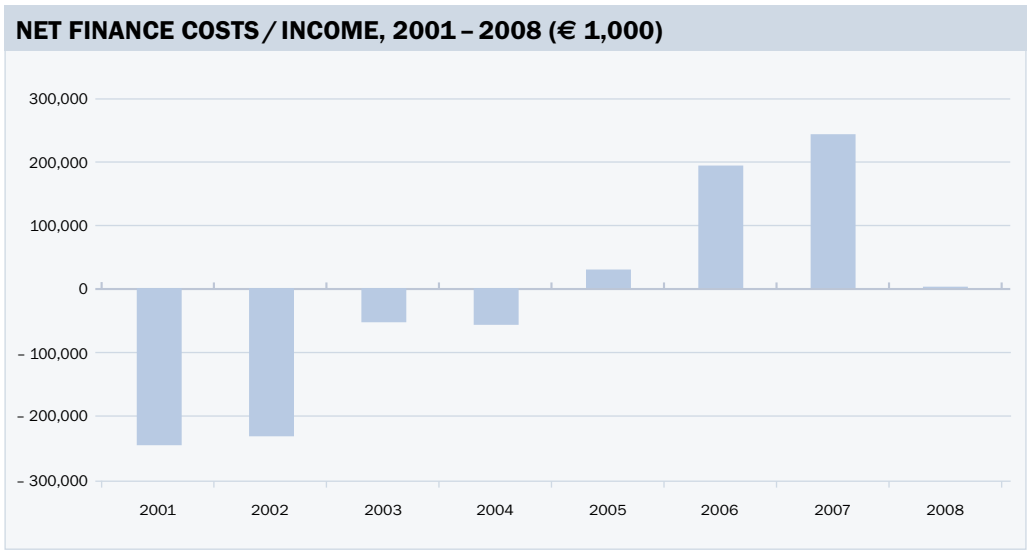


Figure 32
Net finance costs / income, 2001 – 2008 (€ 1,000)

Source: E-Control

Income from investments was also down in 2008 (see *Figure 33*), although this was the second-best result since 2001.

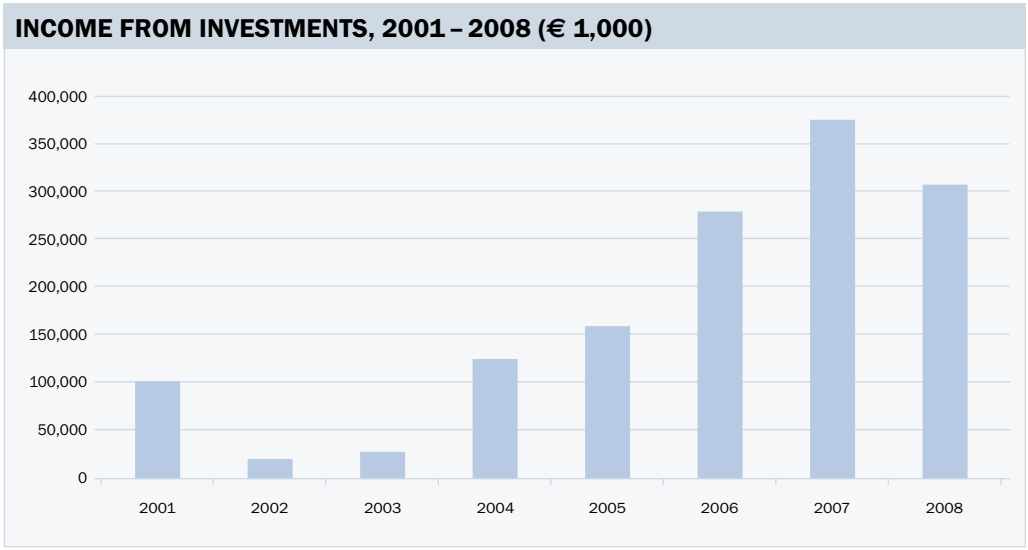


Figure 33
Income from investments, 2001 – 2008 (€ 1,000)

Source: E-Control

Economic growth in Southeastern European countries where most of the Austrian energy utilities now operate is above the Eurozone average. This could explain the relatively small decline in income from investments.

Structure of the retail markets

Supplier side

The structure of the supplier side of the Austrian electricity market is hallmarked by a high level of provincial and local government ownership (*Figures 34 and 62*). This is prescribed for the main companies by legislation with constitutional status [14], meaning that amendments require a two-thirds parliamentary majority which is unlikely to be forthcoming in the short to medium term. The owners of the utilities – the provincial and federal governments – can influence the legislative process. For example, the implementing legislation on unbundling is a provincial responsibility.

[14] Constitutional act on ownership (Federal Law Gazette I no 143/1998)

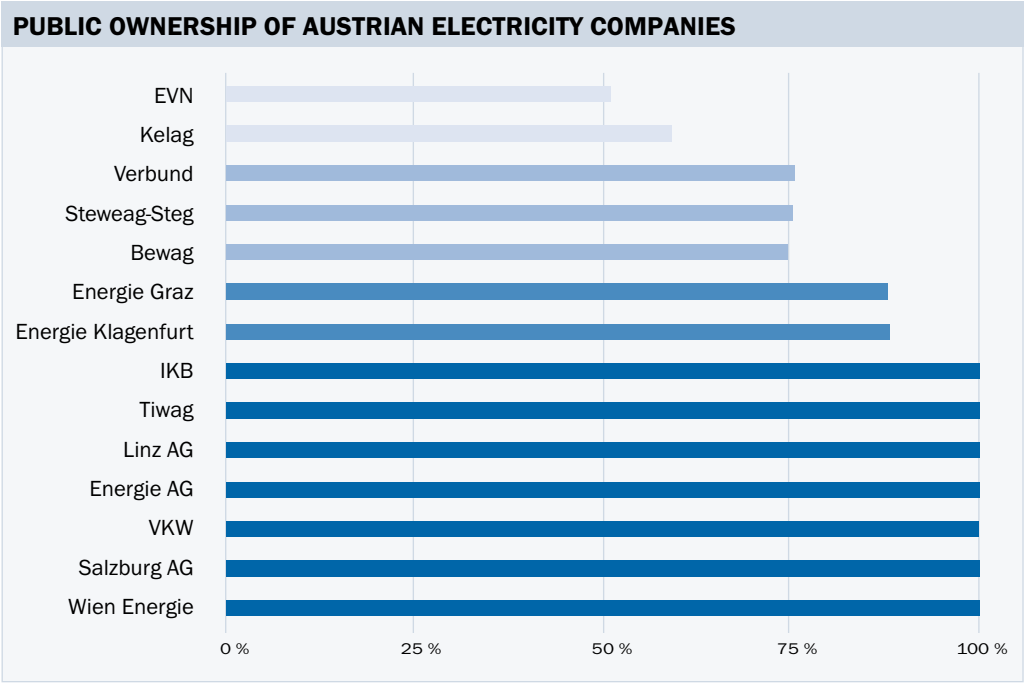


Figure 34
Public ownership of Austrian electricity companies

Sources: Company annual reports and calculations by E-Control

There are currently 141 suppliers on the Austrian electricity market, but not all of them operate nationally. The former monopolists supply customers in their respective grid area under the name of the incumbent. Some providers have introduced new brands for nation-wide supply operations.

Joint ventures have reduced the number of competitors. For instance, Wien Energie, EVN and Bewag (formerly Energie AG and Linz Strom) have joined forces to create EnergieAllianz. According to the partners, the principal benefit of such part-mergers is the exploitation of synergies, thanks to economies of scale in their core energy business.[15] Sales in EnergieAllianz's major markets are the responsibility of the partners' marketing subsidiaries, and are not carried out under the EnergieAllianz brand. Electricity is sold under the Switch brand in other grid areas. The establishment of EnergieAllianz led to a sharp increase in market concentration.

[15] cf. www.energieallianz.at

In 2007 Energie AG and Linz Strom GmbH pooled their marketing activities in the **Enamo** joint venture, which is 65 % owned by Energie AG and 35 % by Linz Strom. MyElectric, which supplies electricity throughout Austria except in the Salzburg AG and TIWAG grid zones, is a 50:50 joint venture between TIWAG and Salzburg AG.

Apart from the incumbents and their joint ventures, a number of smaller suppliers serve the small consumer market either nationally or only in given grid zones. The alternative suppliers are still largely restricted to the Eastern control area, as most of the smaller retailers regard serving consumers in other control areas as a loss-making activity.

Comparison of the small and large consumer markets
The supply-side structures of the small and large consumer markets differ in several respects:

- EnergieAllianz and Enamo do not operate as suppliers on the **small consumer market**, but sell electricity through their partner companies instead (Wien Energie Vertrieb, EVN Vertrieb, Bewag Vertrieb for EnergieAllianz, Linz Strom and Energie AG for Enamo). The Austrian nationwide suppliers are Verbund (APS), VKW, MyElectric, Kelag, AAE Naturstrom, Energie Klagenfurt, Unsere Wasserkraft, Ökostrom, Naturkraft and Weizer Naturenergie. No foreign suppliers are active in the small consumer segment.

- EnergieAllianz and Enamo supply electricity under their own brands on the **large consumer market**. Verbund (APS), VKW, Kelag, AAE Naturstrom, Energie Klagenfurt, Unsere Wasserkraft, Ökostrom, Naturkraft and Weizer Naturenergie also serve large consumers across the country. The presence of foreign suppliers in the large consumer segment is very limited, and they only serve consumers with an annual demand upwards of 10 – 20 GWh. Moreover, this is generally on a site-specific basis.

Market concentration in the Austrian small consumer segment [16]
The market shares and HH index (HHI) scores of the three largest suppliers [17] are above the threshold values in some segments, indicating a highly concentrated market (CR 3: 50 %; CR 5: 66.7 %; HHI above 1,800). The low level of competition on the various retail markets confirms this conclusion. The low switching rates – even after price increases – are also a sign of the strong positions of the former monopolists in their markets.

[16] Data refer non demand metered small consumers. There are no data for market shares in the demand metered consumer segment, i.e. market concentration cannot be calculated.
[17] HH index (Herfindahl-Hirschman Index): sum of the squares of all companies' market shares; concentration and competition indicator.

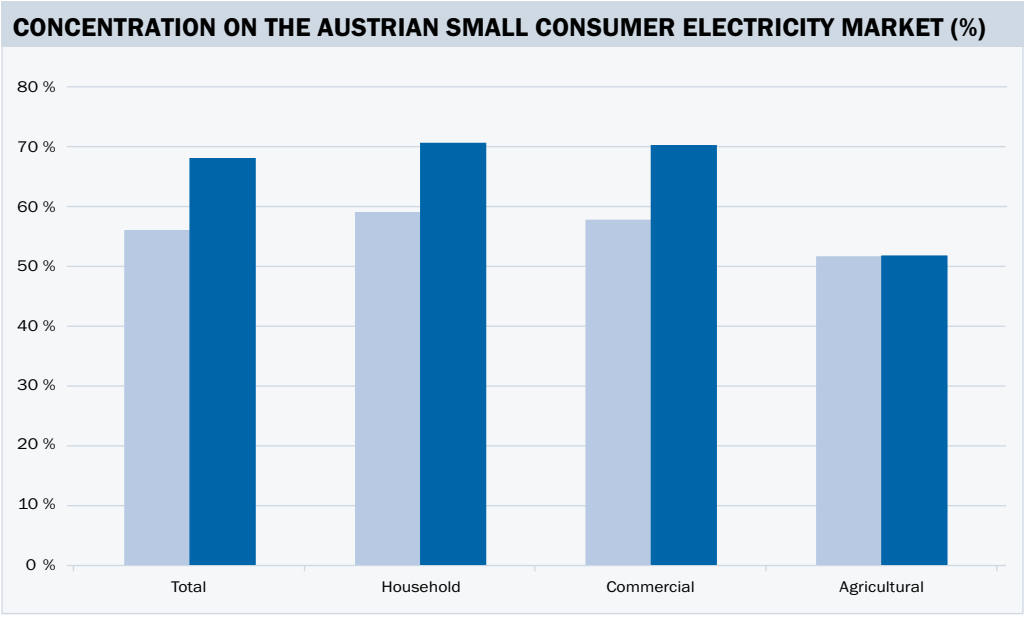


Figure 35
Concentration on the Austrian small consumer electricity market (non demand metered customers) – CR 3 and CR 5 [18]

Source: Market statistics questionnaires and calculations by E-Control

Market concentration and market share

The HHI scores for the highest volume segments – household and small commercial consumers – were above the 1,800 threshold, at 1,929 and 1,854, respectively. Scores above this level indicate a highly concentrated market.

The cumulative market share of the three largest suppliers of household customers in 2008 was around 60 % (*Figure 35*), and that of the five largest suppliers was 71 %. This means that two-thirds of all demand was satisfied by the three major suppliers – further proof of the high level of concentration on the Austrian electricity market and the market power that the former monopolists still exert. The cumulative market share of the top three suppliers of small commercial consumers was 58 % and that of the five largest suppliers 70 %.

[18] Sum of the market shares of the 3 (5) largest suppliers.

Owing to the low switching rates there have been scant changes in market shares over the past few years. Although new entrants have succeeded in attracting customers, their market share continues to be negligible, and the dominance of those firms with the highest market shares is unchallenged.

Neither market structures nor the activities of foreign companies in Austria testify to the existence of regional markets. The Austrian market shares of foreign suppliers are negligible.

Even within Austria, only some of the suppliers operate on a nationwide basis in the large and small consumer segments, though the legal environment is the same for all of them. The boundaries of the control areas are a barrier, particularly for the smaller suppliers. It is therefore not possible to speak of a regional market stretching beyond Austria's borders. The aim should be to make market access as easy as possible, and to harmonise the legal frameworks in today's largely national markets, and the rules under which the Austrian control areas operate.

Demand structure

Electricity was supplied to a total of 5.762 million metering points during the calendar year. Of these around 4 million served household consumers, 1.7 million other small consumers (small commercial, agricultural and interruptible consumers) and 30,000 demand metered final consumers (industrial consumers).

Market behaviour

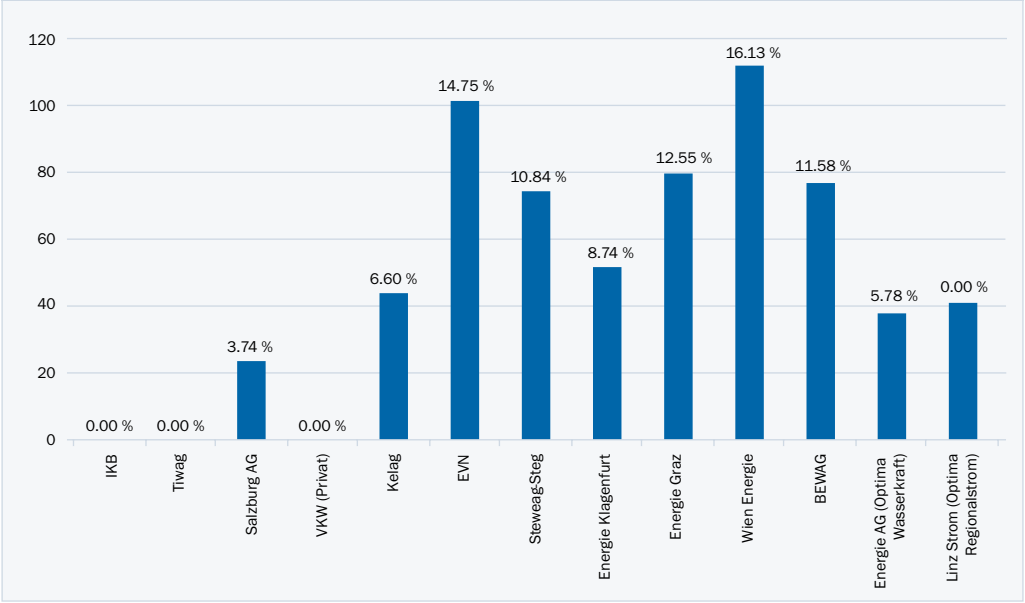
Consumer behaviour: switching

Switchers around 7 % of all consumers to date

Since 1 October 2001 all electricity consumers have been free to change their suppliers. By December 2008 a total of 286,000 household customers, representing 7.2 % of all electricity consumers, had done so.

Household consumers can make substantial savings by switching (*Figure 36*). Potential savings of up to € 112 are possible in eastern Austria, representing a reduction of as much as 19 % on overall prices. However, despite the substantial savings on offer, a mere 1.3 % of household consumers switched in 2008 (*Figure 37*). The combination of substantial differences between the energy prices of the cheapest provider and those of most local players, and a low switching rate points to the existence of switching barriers.

POTENTIAL ANNUAL SAVINGS FOR HOUSEHOLD CONSUMERS SWITCHING TO THE CHEAPEST SUPPLIER, BY GRID ZONES



Source: E-Control

Figure 36
Potential annual savings in euro for household consumers switching to the cheapest supplier, by grid zones (3,500 kWh, May 2009), less general rebates offered by local players and total rebates offered by the lowest-cost supplier

When and how consumers switch suppliers

After a sharp decline in 2005, switching rates among household consumers rose steadily in 2006 and 2007. However, they fell back in 2008, down from 1.5 % to 1.3 %. In other words, 6,000 fewer households switched, a drop of about 10 %.

Some 2.4 % of the other small consumers changed their electricity suppliers in 2007. This group has had a relatively constant switching rate over time in comparison to household consumers.

The demand metered consumers, which include large consumers in the industrial, agricultural and service sectors, had the highest switching rate in the electricity market in 2008, at 2.4 %. The reasons for this pattern are the greater absolute savings to be made and the fact that these consumers are better informed.

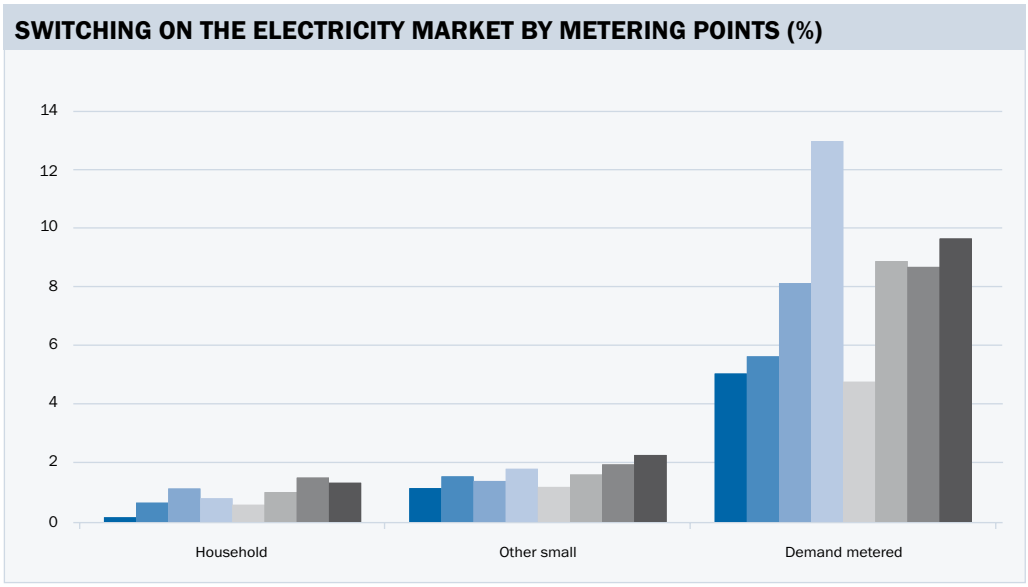


Figure 37
Switching on the electricity market by metering points

Source: E-Control

Despite sizeable increases in electricity prices in autumn 2008, consumers were reluctant to switch suppliers, and quarterly switching rates actually fell slightly year on year, from 0.7 % to 0.5 %.

Supplier behaviour: product policies
In an effort to retain customers looking to switch, suppliers offer loyalty rebates if the consumer agrees to remain with the company beyond the specified minimum term of the supply contract. Suppliers generally offer fairly similar tariffs, but the rebates on offer can lead to substantial differences in price. Incentives are also extended to new customers and customers paying by direct debit, and customers who recruit others to a particular supplier.

Product differentiation usually involves offering “clean energy” from renewable sources such as hydro, wind or solar power.

> *Electricity companies' advertising activities*

Large-scale advertising activities are still rare on the Austrian retail market. As in previous years, during the period under review incumbent suppliers used advertising primarily for image maintenance in an attempt to bolster brand loyalty. Most advertising appears in regional titles published in the incumbents' catchment areas.

A few companies – mainly alternative suppliers – use price or product advertising designed to encourage consumers to cut their electricity bills by switching. Such advertisements also appear in the national press.

SUMMARY OF MAJOR DEVELOPMENTS IN THE ELECTRICITY MARKET

Wholesale prices rose steadily until mid-2008, but then fell heavily. Analysts see the downturn continuing in 2009.

The various consumer groups face widely differing market conditions. Large consumers have seen persistent increases in electricity prices since 2007. Household electricity prices held steady until October/November 2008 before taking off at the end of the year, in some cases rising by up to 23 %. The EnergieAllianz partner companies, which have the largest shares of the retail market, have raised their prices particularly rapidly without losing many customers. This also illustrates the considerable strength of individual companies and highlights the structural problems on the Austrian electricity market.

Electricity prices up to 23 % higher

The suppliers themselves share the view that there is little competition. According to a study by Ernst & Young[19] 19 % of all Austrian utilities believe that competition on the country's electricity market is weak or non-existent. The authors conclude that competition is developing more slowly in Austria than in many other countries.

[19] cf Ernst & Young, Die Zukunft der Stadtwerke, Stadtwerkestudie 2009, in cooperation with BDEW, June 2009 (the future of municipal utilities); 16 managing directors and board members of Austrian energy suppliers contributed to the study.

ACTION TO PROMOTE COMPETITION ON THE AUSTRIAN ELECTRICITY MARKET IN 2008

Legislative developments

During the period under review there were less abuse proceedings than in previous years. This was due to the fact that market participants generally comply with the law, and infringements are the exception. Some cases of companies' abusing their market positions were resolved informally. We were often able to prevail on market participants to comply with the law without initiating proceedings.

Amendments to the Electricity Act strengthened consumers' rights. Electricity companies must now present prices, information and invoices in a transparent and consumer friendly fashion, and itemise certain parameters, such as the price in cent/kWh, on their bills.

Since 1 January 2007 suppliers have been obliged to submit their general terms and conditions to the E-Control Commission, which has a duty to prohibit any unethical or illegal clauses. To date, it has not been necessary for the Commission to do so, as it has always been possible to restore legal compliance by means of fast-track negotiations.

More help for consumers

Rising energy prices, increases in the overall cost of living and debate about energy saving measures have all contributed to a wider awareness of energy issues. In response to this trend and growing public interest, E-Control has improved and expanded its consumer services. Although E-Control has long been well known as an independent service provider, the demand for information has grown significantly of late. The number of calls to our consumer hotline has jumped, ever more consumers are visiting our website, and use of the tariff calculator is at record levels.

The tariff calculator – objective and incorruptible

The E-Control tariff calculator remains the only source of simple and objective gas and electricity price comparisons open to Austrian consumers. This makes it important to keep developing the calculator and adjusting it to changing circumstances. After a thorough analysis, last year a number of changes were made to increase its user friendliness. The number of companies whose prices are displayed on the tariff calculator has also been considerably expanded, meaning that still more consumers now have access to quick and easy price comparisons.

However energy companies are still not obliged to input price data to the tariff calculator themselves, or to send updated price lists to E-Control when their prices change. Reliable price comparisons are both particularly important and especially difficult to provide when information on price increases that have recently been announced or introduced is given at short notice.

Improved monitoring

Consumers can also contact our hotline for answers to questions on bills and other issues. The system for monitoring these calls was improved in 2008 in order to identify hot topics more quickly, respond to inquiries more efficiently, and take appropriate action. Use of the website, tariff calculator and hotline is constantly tracked, and this yields a wealth of information that underpins our regulatory activities and helps us optimise our media relations work and customer information services.

Regulation and performance of the natural gas market

Regulatory framework of the Austrian gas market

GAS NETWORK REGULATION

There are different regulation systems for gas transits, and domestic transmission and distribution.

Different regulation systems for domestic shipments and transits

Access to the domestic transmission and distribution grids is a "one stop shop". End-users only need to make system access contracts with their local system operators, and transportation along upstream networks is governed by contracts between the system operators concerned, and by the "rucksack" principle. This means that the transportation capacity required to supply the quantity of gas specified by the end user's agreement belongs to the customer and cannot be lost in the event of a supplier switch. The system charges are determined by the system charges orders enacted by the E-Control Commission.

OMV Gas GmbH coordinates access to the transit systems ("one-stop" principle). The *Gaswirtschaftsgesetz 2006* (Natural Gas [Amendment] Act 2006)[20] introduced arrangements for cross-border transportation which came into force on 1 January 2007. These brought a changeover to regulated third-party access. The system charges are not determined by the regulatory authority (the E-Control Commission), but the methods for calculating the rates require its ex ante approval.

Regulation of transit pipelines

The network regulation provisions of the Austrian Natural Gas Act differentiate between third party access for domestic customers and for cross-border natural gas transportation. Because of the high proportion of natural gas entering Austria that is transited, this legal distinction has major practical implications. In 2008 about 80 % of all gas imports were re-exported. Of the 39.2bn Nm^3 imported in 2008, only around 9bn Nm^3 were earmarked for the Austrian market. The lion's share of the transited gas – about 23.5bn Nm^3 in 2008 – went to Italy (*Figure 38*).

The transmission systems, which are largely used for cross-border shipments, have a total length of 792 km. OMV Gas GmbH operates all of the Austrian transit pipelines. It markets the capacity on the Penta West, Hungaria-Austria-Gas-Pipeline (HAG) and Süd-Ost-Gasleitung (SOL). The capacity on the West-Austria-Gasleitung (WAG) is marketed by Baumgarten-Oberkappel Gasleitungs GmbH (BOG), and that on the Trans-Austria-Gasleitung (TAG) by Trans Austria Gasleitung GmbH (TAG).

[20] *Energie-Versorgungssicherheitsgesetz 2006,* Federal Law Gazette I no 106/2006

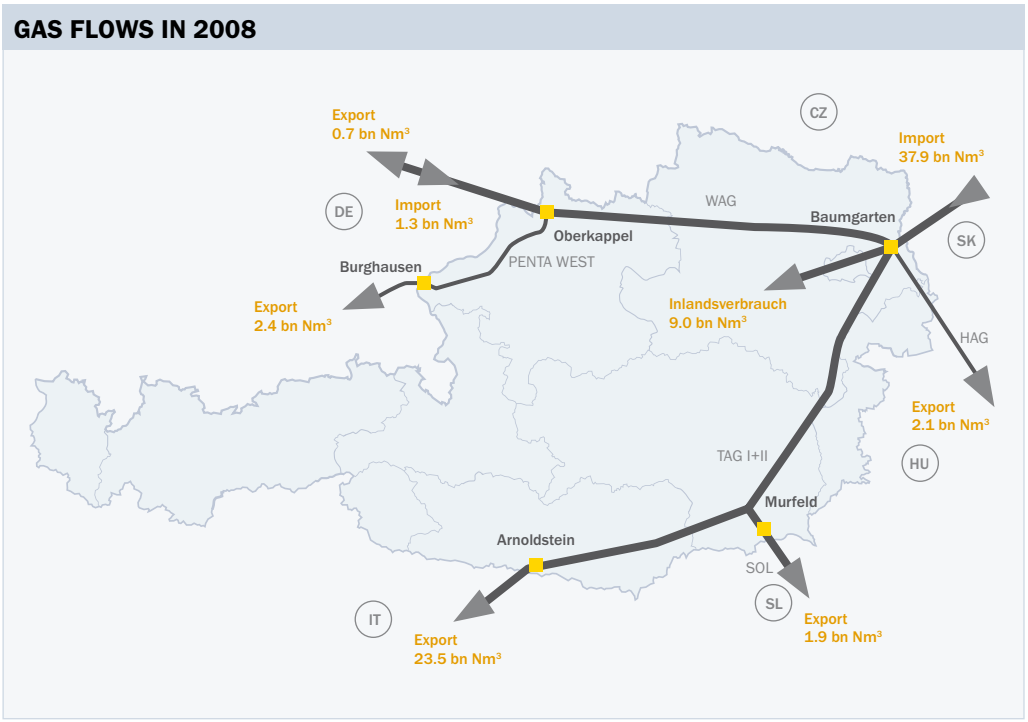


Figure 38
Gas flows in 2008

Sources: E-Control, OMV Gas GmbH, TAG GmbH, BOG GmbH

Capacity allocation and congestion management

Cross-border capacity into neighbouring markets is in short supply. A significant proportion of the demand for firm capacity cannot be met (see *Figure 39*). This acts as a barrier both to market entry and to short-term gas trading between the Baumgarten hub and the German NetConnect and Italian PSV virtual trading points, despite the fact that network capacity is often underutilised. Much of the unsatisfied demand could be met if existing infrastructure were more fully used.

The differing network access regimes for transits and shipments within control areas also mean that different capacity allocation and congestion management mechanisms are applied. While transportation within control areas is subject to the "rucksack" principle whereby the capacity upstream from the exit point belongs to the customer, under the transit regime interruptible contracts based on the first come, first served principle are mainly used for congestion management. *Figure 39* illustrates the capacity situation at the entry points on Austria's borders.

FREE INJECTION CAPACITY 2009/10

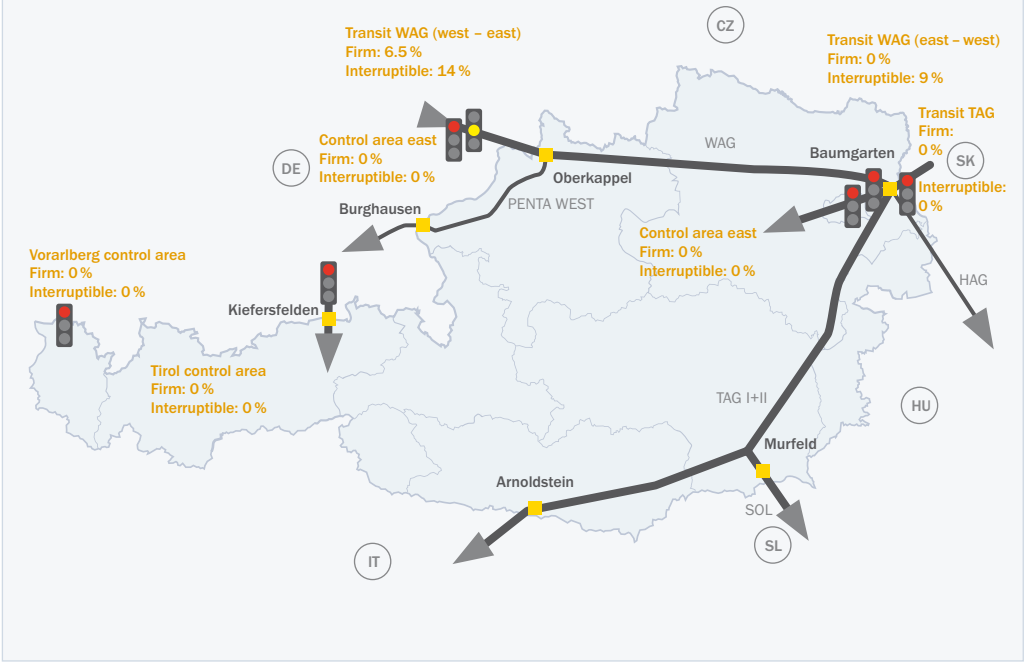


Figure 39
Free injection capacity[21] (firm and interruptible) for transits and shipments within control areas during the 2009/10 gas year

Sources: AGGM AG, TAG GmbH, BOG GmbH, TIWAG-Netz AG, Bayernets GmbH, VKW-Übertragungsnetz AG, GVS Netz GmbH

[21] The calculation is based on system operators' and control area managers' information. The available firm and interruptible capacity between 1 October 2009 and 30 September 2010 was divided by the design capacity of the transit pipeline and the maximum firm capacity allocatable to the control area east at the Baumgarten and Oberkappel entry points.

Congestion on the borders

Congestion on the borders means that short-term gas trading is only possible for traders that have reserved capacity (e. g. under long-term contracts) and can use this for short-term portfolio optimisation so as to exploit arbitrage between trading points. Moreover, short-term transportation contracts – products with durations between one day and less than one month – have five-day notice periods.

In order to cut the notice period for day-ahead services BOG is offering a day-ahead contract that entitles shippers to nominate a certain amount of linepack gas in the WAG pipeline system for the following day. The company assesses the unused capacity and makes it available under day-ahead framework contracts.

OMV Gas offers capacity reservations for single gas days, but only with notice periods of five working days, and has no framework contracts. TAG does not offer capacity for single gas days.

While the physical capacity of the TAG system is fully utilised during the winter months (*Figure 40*), that on the HAG is only about 50 % utilised although it is fully booked (*Figure 41*).

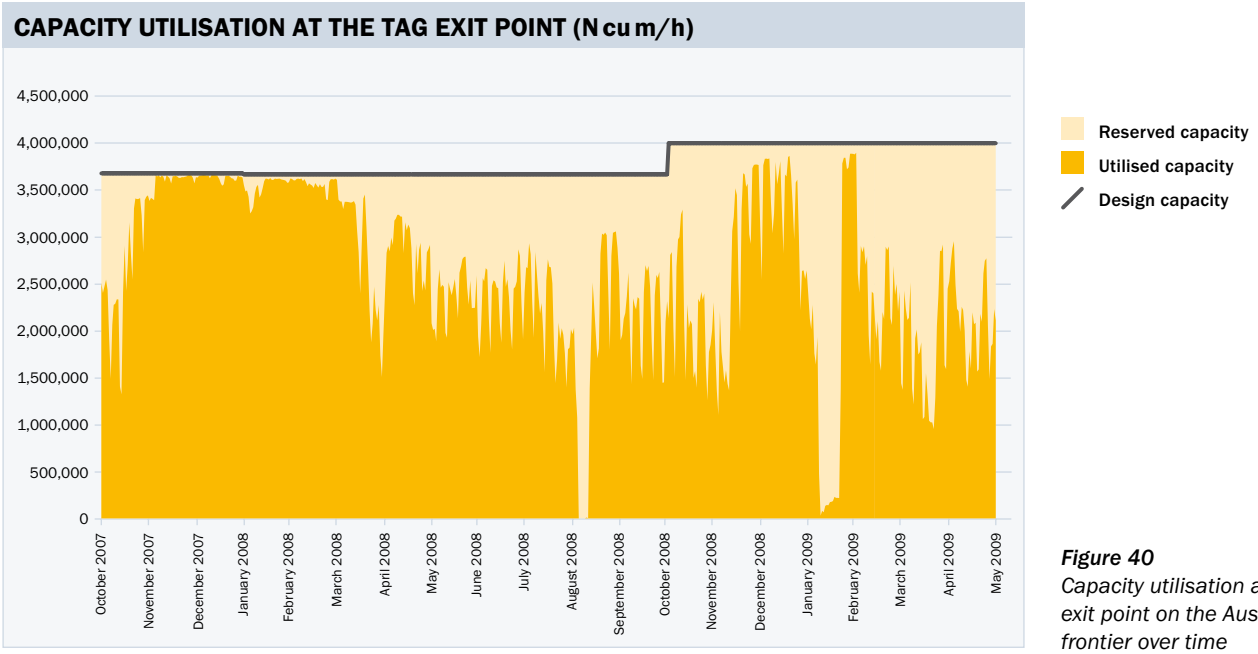


Figure 40
Capacity utilisation at the TAG exit point on the Austrian/Italian frontier over time

Source: TAG GmbH

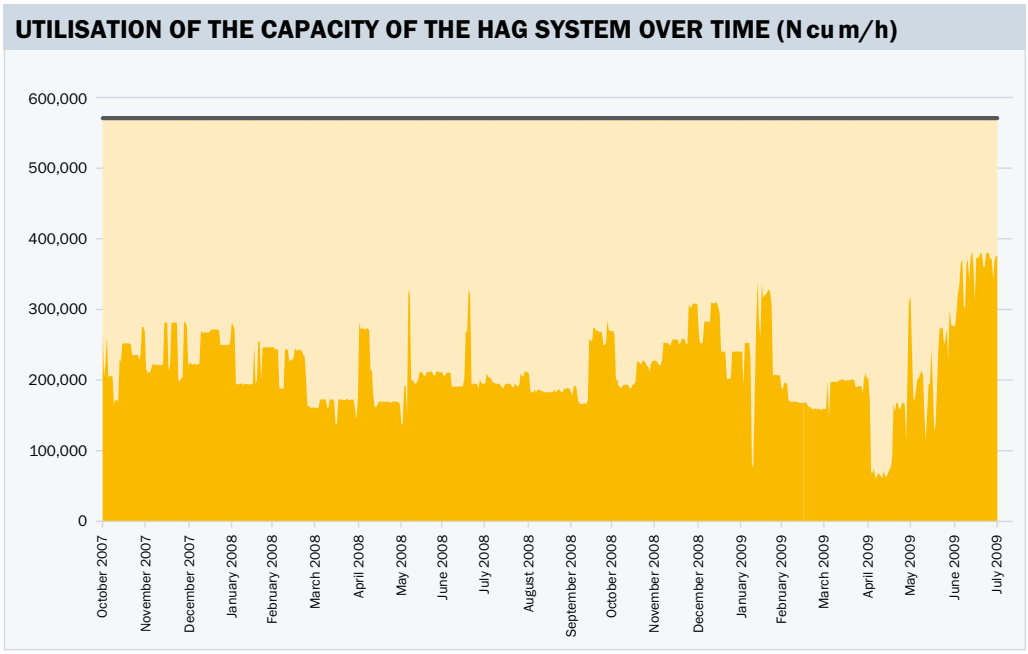


Figure 41
Utilisation of the capacity of the HAG system over time

Source: OMV Gas GmbH

Tariffs

The Natural Gas (Amendment) Act 2006 [22] contains provisions governing the determination of tariffs for cross-border shipments which entered into effect on 1 January 2007. The Act transposes Directive 2003/55/EC and Regulation (EC) No 1775/2005 by requiring transmission companies and holders of transportation rights to provide access to their networks on the basis of charges that conform to the principles of cost reflectiveness and non-discrimination. The methods for calculating the rates require the ex ante approval of the E-Control Commission. In October 2007 the Commission for the first time approved the calculation methods of OMV Gas, BOG and TAG.

The approved calculation methods include investment incentives in the form of reserves created by allocating the proceeds of capacity auctions and the sale of interruptible capacity, which may be used to invest in capacity expansions. Alternatively, such reserves are used after four years to reduce transportation charges.

[22] Energy Security of Supply Act 2006, Federal Law Gazette I no 106/2006

Interconnection point agreement for Baumgarten

The system operators in control areas neighbouring the Baumgarten interconnection point signed an IPA at the start of 2009. This is aimed at standardising many technical details of operations at the Baumgarten interconnection point, and achieving closer cooperation between the transmission system operators, thus making it considerably easier for shippers to arrange cross-border gas shipments. The IPA holds the key to the establishment of a formalised gas exchange at the Baumgarten trading point.

Secondary capacity trading

Proceedings brought against some shippers in 2008 because of their failure to offer unused committed transport capacity to third parties on the central trading platform led to increased use of the site. Potential improvements to the procedure for trading transport capacity are being discussed as part of the review of the market rules initiated towards the end of 2008. Apart from the existing bulletin board, auctions of secondary market capacity, run by the operator of the central trading platform, OMV Gas GmbH, may be introduced.

REGULATION OF DOMESTIC NETWORKS:
REFINEMENT OF THE SYSTEM ACCESS REGIME

Domestic transmission and distribution: system charges

The new system charges under the Gas System Charges (Amendment) Order 2009 came into force on 1 January 2009. They were slightly increased by the new investment and operating cost factor. As with the regulation system for electricity, this factor was introduced in order to reward investment. It takes account of investments in network development by recognising depreciation and capital costs. Network development investment comprises expansion of the network, as well as material investments in security of supply such as spending on pipelines across the Danube, and on the rehabilitation of PVC and cast iron gas mains.

System charges cut by approx. € 100m since liberalisation

Increased capital costs are only recognised if companies submit evidence that they have been incurred.

In the case of selected projects involving grid level 1 (development of *Südschiene* [southern trunk line]), reasonable interest on borrowings has been included in the calculations of actual financing costs for 2008 and the estimated costs for 2009, and thus influences tariff determination. The recognition of interest expense reduces the risk borne by system operators and ensures that they are capable of prefinancing projects.

It should not be forgotten that since the full liberalisation of the Austrian gas market in October 2002 the system charges have been reduced by an average of over 17 % or € 100m.

Thanks to the adoption of a new cost evaluation system based on the performance of the most efficient system operators, further savings are likely in future, while the introduction of the investment and operating cost factor will ensure that security of supply is maintained. The least efficient firms are to be brought up to the level of the most efficient within two regulatory periods, i. e. over the ten years up to and including 2017. There will not be a review for the first five years, but there will be annual adjustments to the gas system charges.

"Other" shipments

On 1 January 2009 the Other Gas Shipments Order – which establishes the system charges for cross-border "other" gas shipments, and for cross-border shipments from control area entry points to control area exit points – was amended for the second time (*Table 7*) since its entry into force in October 2007.

Table 7
Current charges as of January 2009 under the Other Gas Shipments (Amendment) Order 2009

CURRENT CHARGES AS OF JAN. 2009		
Route	**Up to 150 km**	**Over 150 km**
Energy charge in cent/kWh	0.0134	0.0537
Capacity charge in cent/kWh/h	110.06	440.25

Source: E-Control

The determination of the distance related tariff does not create competition between control areas and the transit systems, since control area capacity is largely devoted to supplying end users and availabilities for cross-border shipments are thus limited. Shipments to storage facilities, and shipments from them into the control area for the purpose of supplying end users are free of charge and are covered by domestic postalisation.

Figure 42 depicts the maximum allocatable firm capacity for the use of the control area at the Baumgarten and Oberkappel entry points. This consists of the firm allocated capacity

for end users and “other” shipments as well as the available firm capacity. Transit capacity represents approx. 80 % of total capacity in Baumgarten and approx. 54 % in Oberkappel.

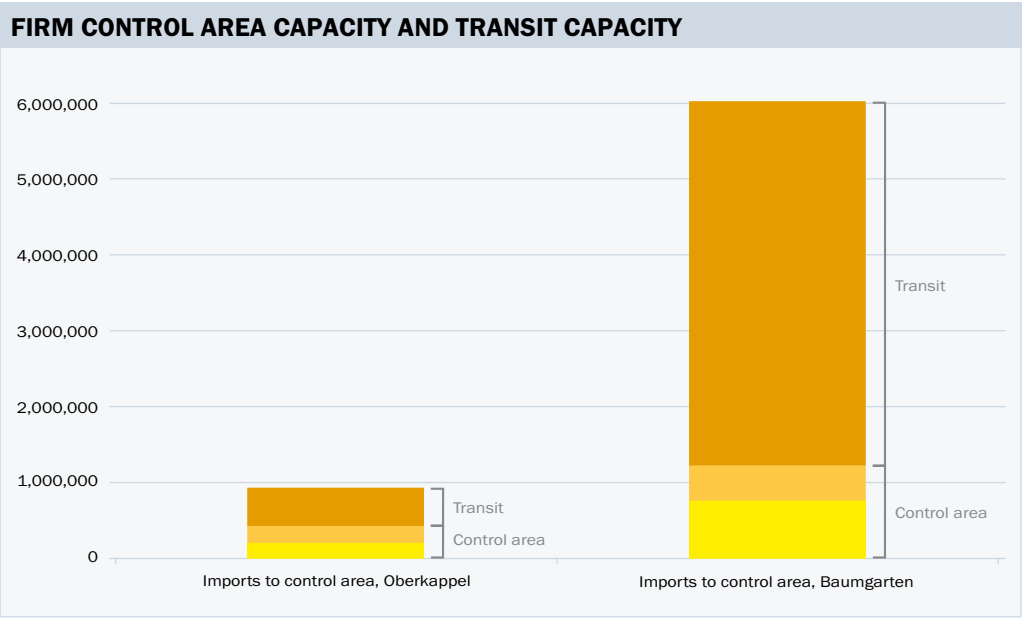


Figure 42
Firm control area capacity (end users, “other” shipments and availabilities) and transit capacity

Sources: E-Control, AGGM

Capacity expansions

The Natural Gas (Amendment) Act 2006 introduced formal arrangements for capacity expansions which entered into effect in 2007. Section 19a(2a) Natural Gas Act[23] creates an entitlement to submit capacity expansion applications in the event that insufficient domestic transportation capacity is available. This provides adequate incentives for necessary investments in transportation infrastructure. The network development contracts introduced by the Natural Gas Act enable system users and operators to enter into reciprocal obligations in the interests of greater planning certainty for transmission pipelines and other investments.

[23]“(2a) In the event that access to the system for transports within the control area is refused pursuant to section 19 para. 1 item 2, the party entitled to system access shall be given an opportunity to submit an application for capacity extension. The capacity requirement underlying such application shall be taken into account by the control area manager in carrying out its long-term planning pursuant to section 12e. The application shall be granted subject to the following principles:
1. the long-term plan which incorporates the requisite implementation measures to cover the capacity requirement underlying the application for capacity extension was approved by Energie-Control Kommission;
2. any contracts which may be required by the affected transmission and distribution undertakings have been entered into with the control area manager regarding the implementation of the measures foreseen in the long-term plan;
3. the application for capacity extension may be granted subject to conditions where necessary.”

Approval of the projects in question by the E-Control Commission as part of the long-term planning assures system operators of regulated tariffs adequate to finance their investments, and means that system operators and end users can rely on projects' being implemented. System users that have reported a need for additional capacity must conclude capacity expansion agreements with the system operators in order to provide contractual safeguards for network development projects.

Contractual safeguards for network development

Most of the capacity expansions required for the Eastern control area transmission system stem from new power stations or growing demand for gas shipments to storage facilities. AGGM's long-term plan forecasts an increase in transport capacity of over 50 % over the next decade. During the second quarter of 2008 the necessary network development contracts were signed by the system users and system operators concerned. The southern trunk line is currently expected to be completed and commissioned on schedule in 2011, meaning that adequate supplies for the Mellach power station will be in place in good time and there will also be sufficient capacity for all other gas consumers. The long-term plan provides for the completion and commissioning of the Westschiene (western trunk line) in 2012.

EFFECTIVE UNBUNDLING IN THE GAS SECTOR

The Natural Gas Act requires system operators to draw up compliance programmes stating what action is to be taken to prevent discriminatory behaviour. Since last year transportation rights holders have also been obliged to prepare compliance programmes and submit annual reports on them to E-Control. Compliance programmes must set out the duties of staff members with regard to equal treatment. Companies must appoint compliance officers tasked with formulating the programmes, monitoring compliance and reporting to them. The compliance officers are responsible for submitting annual reports to E-Control on the measures taken.

In fulfilment of its statutory duties, E-Control compiled a report on Austrian gas system operators' compliance programmes in 2007. This report was posted on our website in December 2008. The findings are summarised below.

> Functional unbundling

The top and second-tier managements hold a wide variety of positions in non-related or fellow group companies and associations. This problem should be watched particularly closely. The management level should on no account be active in the competitive areas of other group companies' operations, and attention should also be paid to indirect relationships where this is the case.

> Organisational unbundling

While most companies have unbundled the marketing of energy and network services in organisational and legal terms, reciprocal service contracts generally result in the same staff members' selling both types of product.

Same staff members often still selling energy and network services

All the companies' compliance programmes include training in the prevention of discriminatory behaviour. These courses are usually held once a year and are, as a minimum, attended by staff members who perform roles that are potentially relevant to discrimination and/or are in direct contact with customers. Only a few of the companies train staff employed under service contracts.

Variable pay components related to the earnings targets of group companies are rare. However the fact that members of top and middle management are permitted to hold shares in other group companies is a cause for concern. We believe that companies should desist from this practice in order to avoid creating incentives for discriminatory behaviour.

> Unbundling of decision-making

Some gas system operators' articles of association prohibit instructions from group management on day-to-day operations or decisions on the construction or modernisation of pipelines (see section 7 para 3(c) Natural Gas Act). However most content themselves with claiming in their compliance reports and programmes that there are no such instructions. In the main, we are not in a position to state whether this actually prevents instructions from being given.

> Informational unbundling

As a rule awareness of, and commitment to informational unbundling have grown. However there are still many grey areas, and much remains to be done.

Some companies have made efforts to formulate policies for authorisation to access commercially sensitive and potentially advantageous information, but in most cases there was no real improvement as compared to the previous year. We take the view that data access policies cannot be developed until the relevant data categories have been precisely defined.

Authorisations should be based on the principle that each organisational unit only has access to the commercially sensitive/potentially advantageous information that it requires for the efficient functioning of its business processes and to which it is legally entitled.

Suggestions and outlook

Treatment of commercially sensitive data still a problem

Last year we initiated proceedings relating to some gas system operators' corporate structures. We argued that the system operation function should not come under the parent company of the distribution subsidiary as it cannot be independent if this is the case. All of these proceedings were dropped because the companies voluntarily changed these structures.

Most of the Austrian gas companies have merely gone through the motions of unbundling, to the extent demanded by the vague and undemanding legal requirements. The treatment of commercially sensitive/potentially advantageous data is still an unresolved issue. The inadequacy of the physical and financial resources allocated to system operators is a further indication of their lack of independence.

E-Control plans to mount an unbundling monitoring drive, and will use the full room for interpretation and armoury of legal remedies open to it to promote equal treatment, data protection and the independence of system operators.

Competition on the Austrian gas market

There were no fundamental changes in the structure of the Austrian natural gas industry in 2008. Austria remains a major transit country for gas exports from Russia to Southern and Western Europe. Domestic demand is far lower than the quantities of gas transited through the country. At the same time Austria is highly import dependent (approx. 80 % of consumption). Most of the imports come from Russia, followed by smaller volumes from Germany and Norway.

AUSTRIAN NATURAL GAS SUPPLY AND DEMAND BALANCE

Table 8 shows the main indicators for the Austrian natural gas market in 2008. The most notable development is the 17.2 % drop in production. Supplies to end users rose by 5.7 %.

NATURAL GAS SUPPLY AND DEMAND BALANCE, 2008

	bcm (2008)	GWh (2008)	Change vs. 2007
Imports	39.21	435,595	5.60 %
Production	1.53	17,017	–17.10 %
Withdrawals from storage	2.74	30,424	15.10 %
Exports	31.30	347,779	3.50 %
Injection into storage	3.16	35,110	17.80 %
Own use, losses and system losses; statistical adjustments	0.62	6,920	19.61 %
Supplies to end users	8.39	93,228	5.68 %
Peak daily consumption	39.1	434.4	
Baseload daily consumption	8.8	97.9	

Table 8
Natural gas supply and demand balance, 2008

Gas supply and demand in Austria in 2008

Figure 43 shows natural gas supply and demand in Austria in 2008. End users were supplied with 5,000 GWh more natural gas in 2008 than in the previous year. Imports and exports both increased, by 6 % and 4 %, respectively. Storage movements (increased injections and withdrawals) rose significantly as a result of the commissioning of the Haidach facility. Production declined markedly.

On the demand side the variation in consumption between summer and winter is clearly apparent, as is the seasonal use of gas storage facilities. On the supply side (the positive balance) these variations in consumption are compensated for by adjustments to imports and withdrawals from storage. Domestic production of natural gas was relatively constant throughout the year. *Figure 43* underlines the importance of storage as a source of seasonal flexibility.

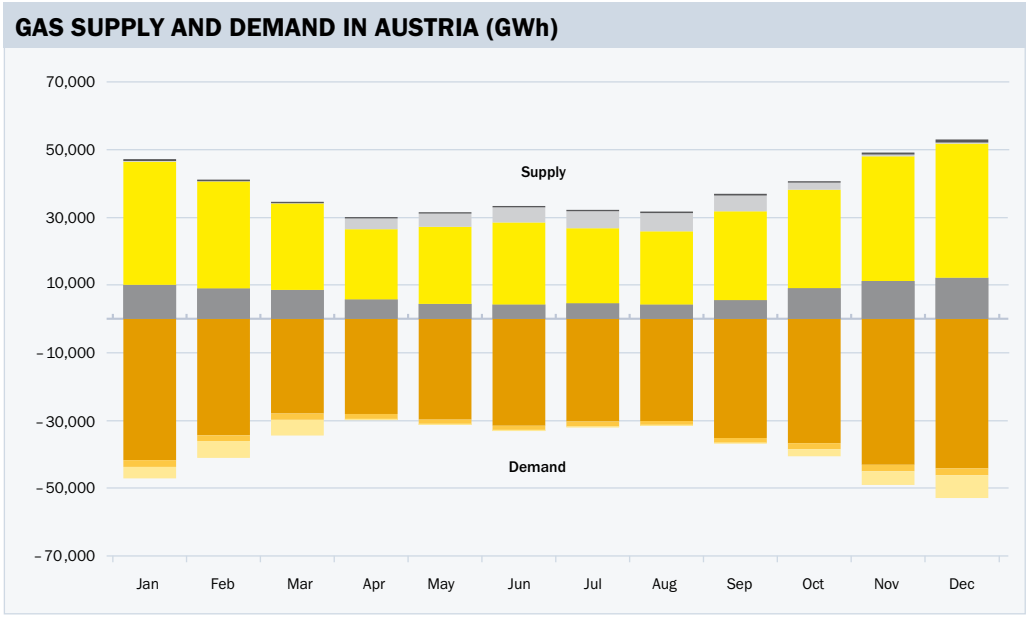


Figure 43
Gas supply and demand in Austria, 2008

Source: E-Control

Domestic gas production

Austria has two domestic gas producers – OMV Austria Exploration & Production GmbH and Rohöl-Aufsuchungs AG (RAG). Domestic natural gas [24] output totalled around 1.5bn Nm³ in 2008 [25], a decrease of some 16 % on the previous year. OMV's share of production rose to approximately 79 % (see *Table 9*).

[24] This includes associated and non-associated natural gas.
[25] cf Geological Survey of Austria, http://www.geologie.ac.at/

NATURAL GAS PRODUCTION IN AUSTRIA, 2008			
	In m Nm³	in %	% change 2007
OMV Austria Exploration & Production	1,223	79.2	-6.6
Rohöl-Aufsuchungs AG	321	20.8	-29.5
Total	**1,544**	**100.0**	**-15.9**

Table 9
Natural gas production in Austria, 2008

Source: Geological Survey of Austria, http://www.geologie.ac.at/

As of 1 January 2008 proven and probable reserves totalled 34.4 bcm. This is equivalent to a lifespan of 23 years (ratio of reserves to annual output).

DESCRIPTION OF THE WHOLESALE MARKET

Procurement of natural gas on the European wholesale market is carried out on the basis of either long-term bilateral contracts between producers and wholesalers, or based on short-term contracts concluded at trading hubs. Procurement at hubs currently plays only a minor role in Austrian gas suppliers' portfolios.

Gas procurement under long-term contracts

Price trends

Import prices based on long-term contracts are pegged to oil prices (product prices), with a time lag of 3 – 6 months. Purchasing prices were extremely volatile in 2008 as a result of oil price movements. They rose sharply until September 2008 but fell heavily thereafter (*Figure 44*), also as a result of the recession and the resultant decline in demand. Although the ups and downs in oil prices are smoothed out by the use of three-month average prices gas import prices have seen swings of up to 100 % (September 2008 to April 2009).

Statistics Austria publishes an average gas import price. Since it is based on the Russian, Norwegian and German import prices this figure is an accurate guide to the cost of 80 % of the gas sold on the wholesale market. There is no information on the pricing of domestically produced gas, but it is assumed that this depends largely on changes in import prices.

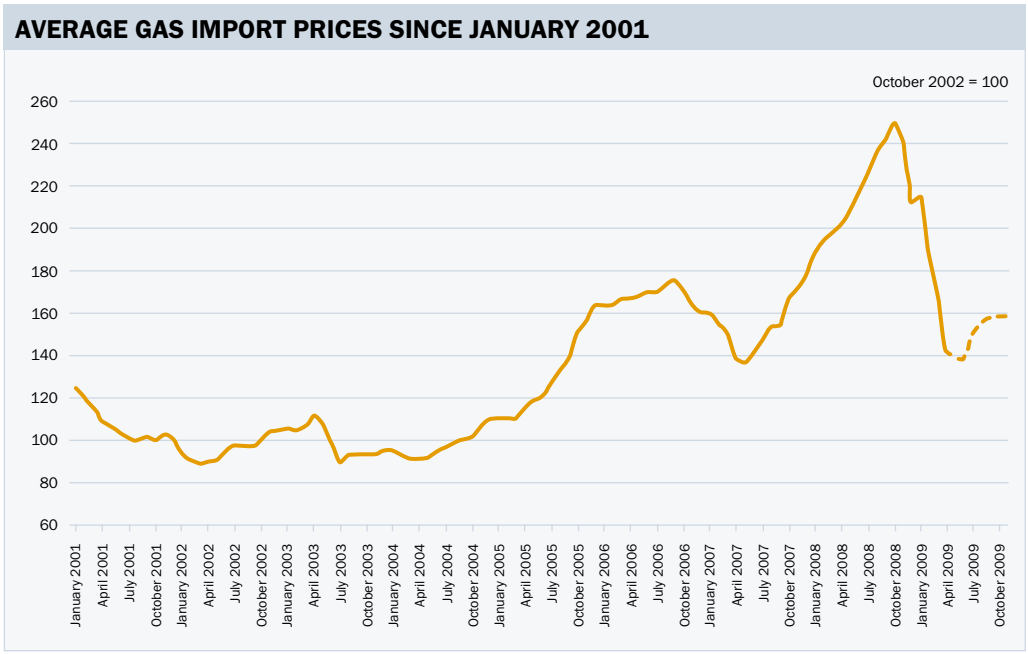


Figure 44
Average gas import prices since January 2001

Sources: Statistics Austria; broken line E-Control estimates

Import trends

Net imports in 2008 amounted to about 8 bcm. Imports have accounted for around 80 % of total gas supply since 2003; they rose by 5.7 % in volume terms in 2008.

Supplier market structure

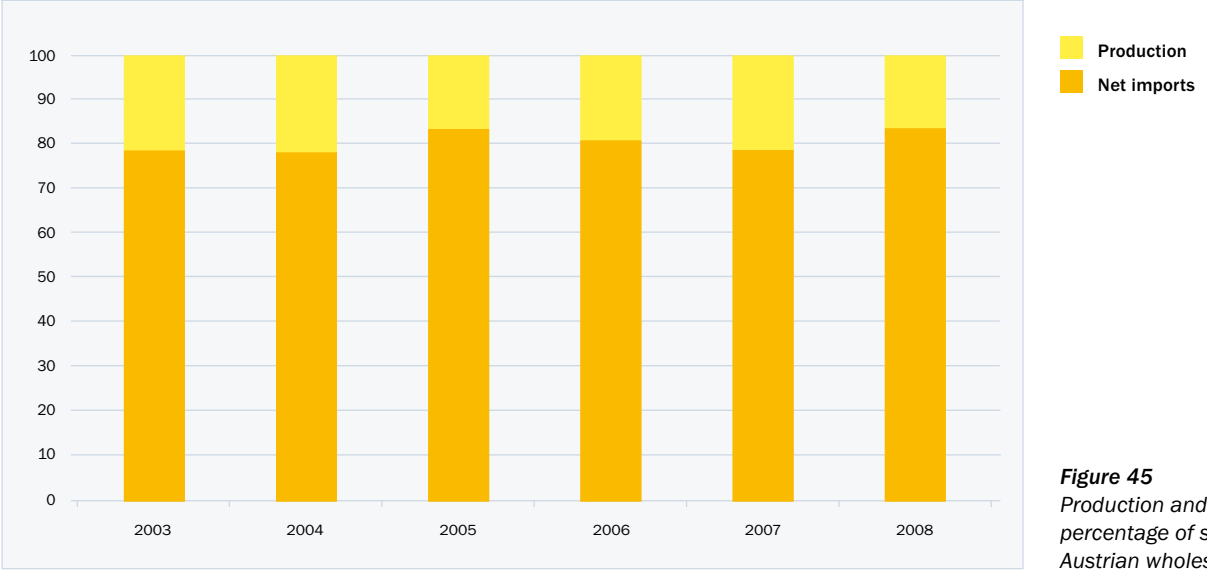
There were no changes in the structure of the supplier market in 2008. Russian gas procured from Gazexport/GWH accounted for 71 % of all imports, while Norwegian and German suppliers took 31 % of the market (contractual amounts). Russian gas accounts for over 90 % of the physical flows.

In addition to these imports, 1.5 bcm of gas was produced in Austria by OMV AG and RAG AG, and sold in the Eastern control area, partly under long-term contracts. The domestic producers' sales declined sharply in 2008.

The supply side market is thus highly concentrated, and this is reflected in a high HHI score, well beyond the 1,800 threshold.

The supply cutbacks in January 2009 provided further evidence that there are no short-term substitutes for Russian gas. The capacity for additional imports via Oberkappel (the border interconnection point between Germany and Austria) is limited and is only available on an interruptible basis. The gas withdrawn from storage, which met most of the supply shortfall, was also Russian gas, injected during the summer months.

PRODUCTION AND IMPORTS AS A PERCENTAGE OF SUPPLY ON THE AUSTRIAN WHOLESALE GAS MARKET (%)



Source: BP, Statistical Review of World Energy, E-Control

Figure 45
Production and imports as a percentage of supply on the Austrian wholesale gas market

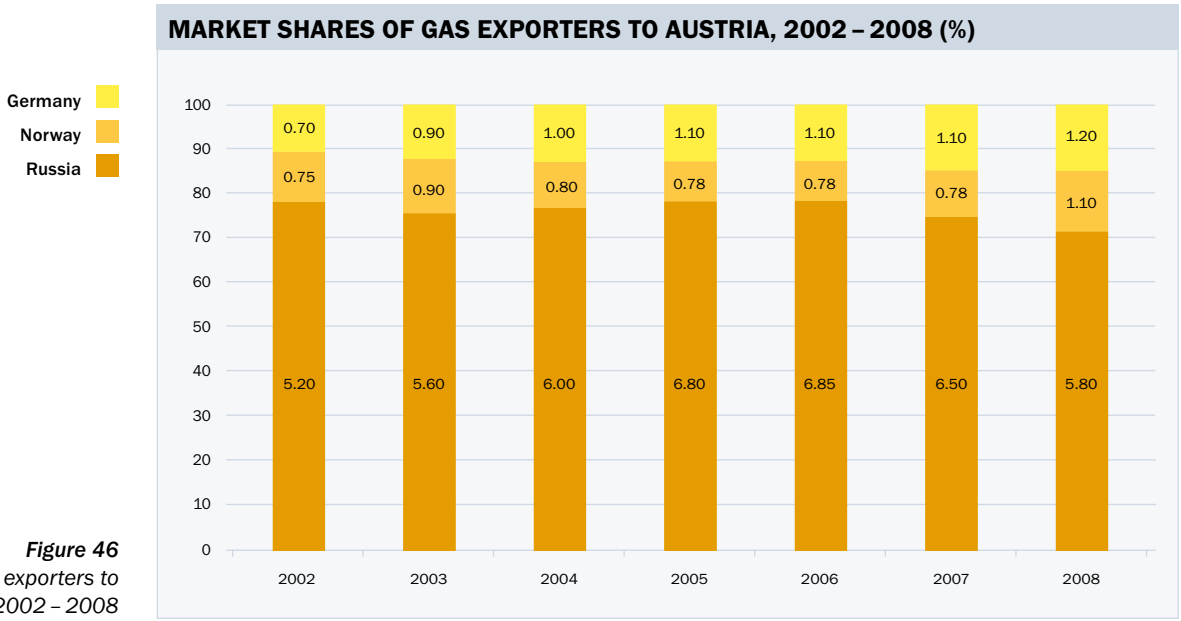


Figure 46
Market shares of gas exporters to Austria, 2002 – 2008

Source: BP Statistical Review 2009; natural gas trade measured according to the contractual amounts does not always correspond to the physical flows.

Demand structure

In 2006 EconGas and GWH Gas- und Warenhandels GmbH signed long-term supply contracts with durations until 2027 with Gazexport.[26] GWH Gas- und Warenhandels GmbH is a wholesaler; it is a 50:50 joint venture between Centrex Europe Energy & Gas AG und Gazprom Export Ltd.[27] GWH sells the gas imported under long-term contracts on to STGW, Salzburg AG (EIS) and Kelag.

[26] cf OMV press release of 29 September 2009 at www.omv.com
[27] cf http://www.centrex.at/de/organismedetail.asp?d=6

The Norwegian gas supply contracts are to be transferred from OMV Gas to the second-level wholesalers EconGas, STGW and EIS, meaning that these companies have direct contractual relationships with the Norwegian suppliers, rather than OMV Gas.

In line with the reordering of the import situation, in 2006 OMV's long-term supply agreements for domestically produced gas were also revised, and EconGas, STGW, Salzburg AG and Kelag concluded direct long-term contracts with OMV Exploration and Production.

Gas procurement on short-term markets

Trading at CEGH

A trading hub is a trading point on a transport network or at the interconnection point between a number of networks (the only such facility in Austria is the Central European Gas Hub in Baumgarten). The CEGH market is located at the intersection of several transmission pipelines (the HAG, MAB, TAG and WAG, and the OMV network). The operating company, CEGH AG, is wholly owned by OMV Gas and Power GmbH.

Trading (title transfer) is possible at Baumgarten, Oberkappel, Überackern, Weitendorf and Murfeld, and on the Hungarian border. Baumgarten is the meeting point of a number of transport systems: the Eustream, TAG, WAG, HAB and MAB, and the links with OMV's storage facilities and the Eastern control area. Setting up and managing the data flows between system operators is a complex task, handled by CEGH. This is unlike most other hubs which are run by one system operator.

CEGH provides services typically performed by system operators such as matching and allocation, as well as typical hub services like title transfers. The hub's services are not subject to any special regulatory oversight.

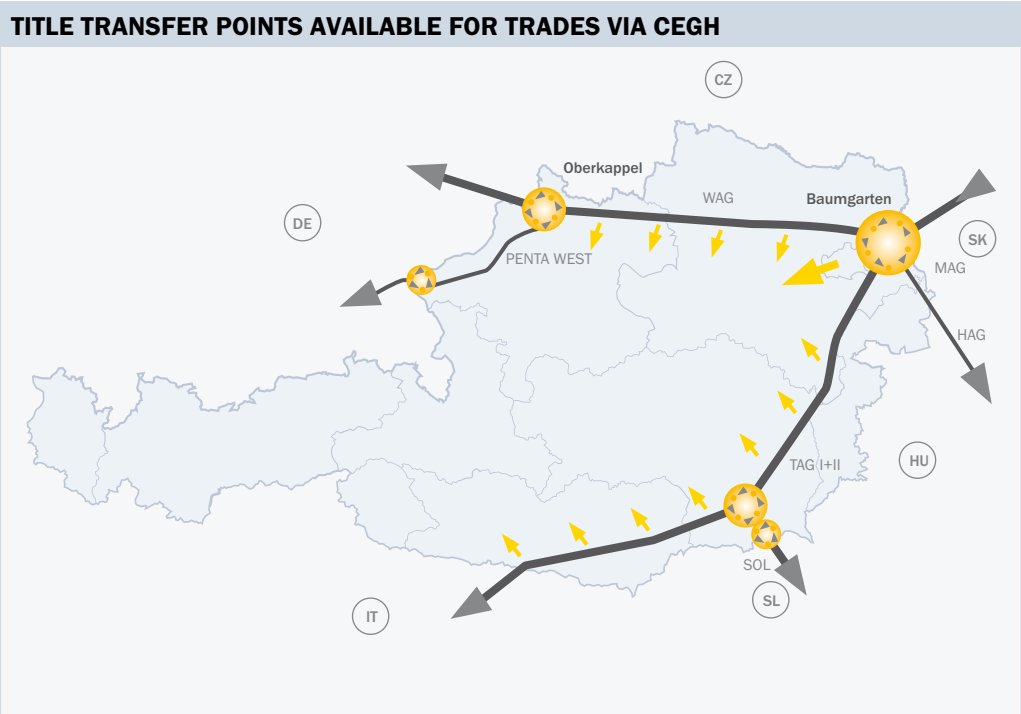


Figure 47
Title transfer points available for trades via CEGH

Source: CEGH

Quantities traded at CEGH

In all, 14.94 bcm of gas were traded on the CEGH market in 2008, while physical delivery was 5.2 bcm.[28] This was roughly the same as at other continental European hubs such as the TTF or the Zeebrugge Hub.

[28] cf CEGH, CEGH Monthly Title Tracking Volume, www.gashub.at

Traded volume was down year on year in 2008 (*Figure 48*). It rebounded strongly in 2009 despite a collapse in January when trading was impossible on some days. Other continental European hubs registered increased turnover up to the start of 2009 and a downturn thereafter (*Figure 49*).

The churn rate was 2.89 in 2008 – an increase on the previous year's average. The churn rate is on a par with the other continental hubs. The number of registered and active members grew again in 2008.

THE GROWTH OF TRADING AT THE BAUMGARTEN HUB, 2005 – 2009 (GWh)

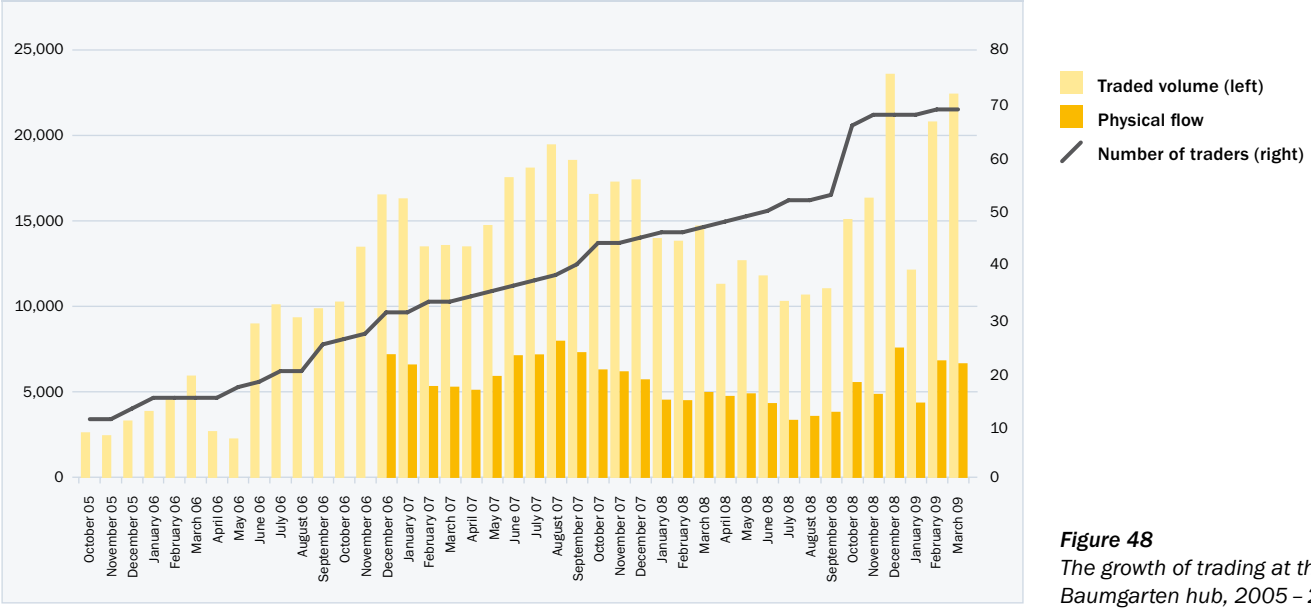


Figure 48
The growth of trading at the Baumgarten hub, 2005 – 2009

Source: CEGH

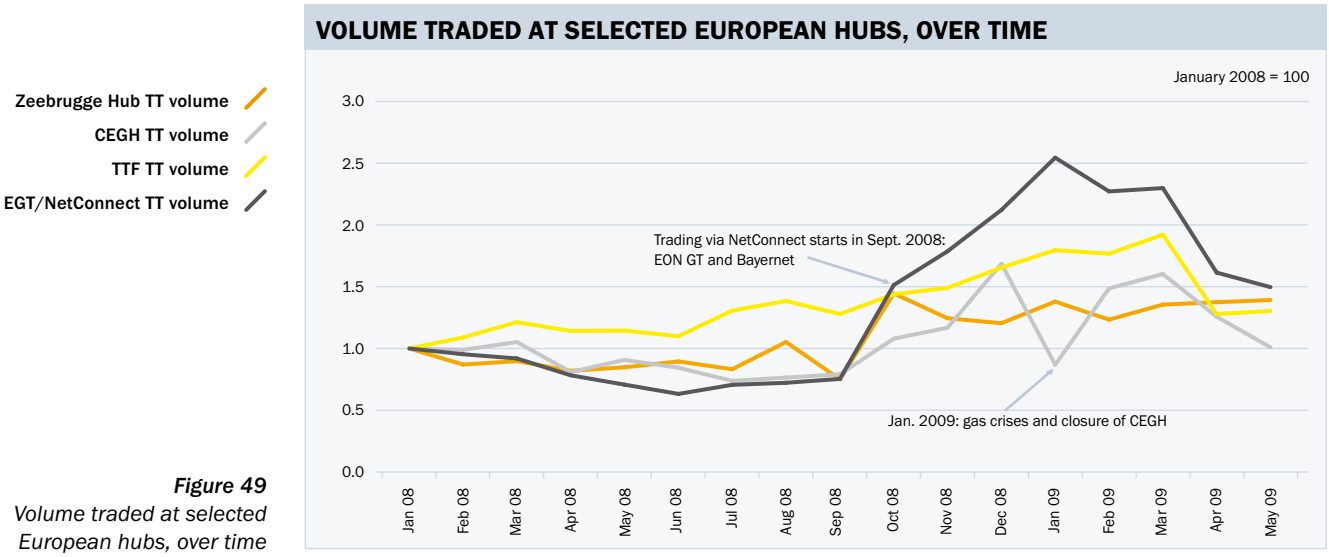


Figure 49
Volume traded at selected European hubs, over time

Sources: www.cegh.at, www.gasunie.nl, www.netconnect.de, www.huberator.com

Market structure

The market shares point to low concentration of market power in the hands of one or more traders. E-Control began collecting this data in 2008 (*Figure 50*). The data is not broken down by sellers and buyers or products. More detailed statistics would be necessary for more precise analyses of market concentration.

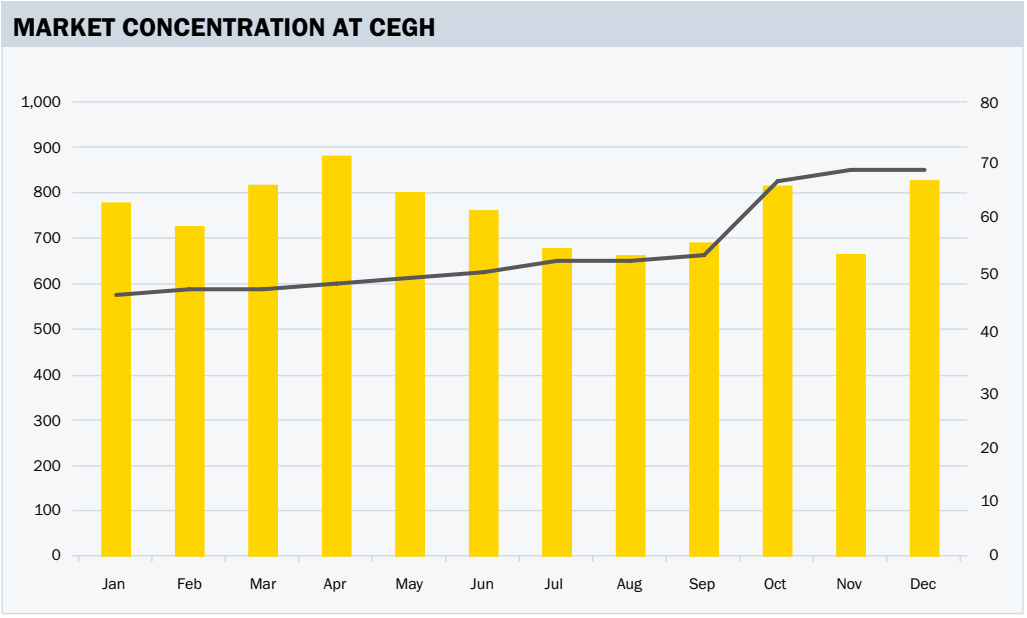


Figure 50
Market concentration at CEGH

Sources: E-Control market statistics

Liquidity at CEGH

Despite similar volume, liquidity on the CEGH market remains lower than at other European hubs, in that the products are not regularly traded.

Another major difference from trading at other hubs is the lack of price transparency. Price assessments show a significantly higher price level which is not explained by differences in import prices.

Significant progress

Development of CEGH

A significant advance towards developing CEGH as a service provider has been the conclusion of an interconnection point agreement between the Baumgarten hub and neighbouring system operators. This is aimed at standardising many technical details of operations at the Baumgarten interconnection point, and achieving closer cooperation between the transmission system operators, thus making it considerably easier for shippers to arrange cross-border gas shipments. The IPA has opened the way for the establishment of a formalised gas exchange at Baumgarten.

The launch of an organised spot market (exchange) during the autumn of 2009 should bring a big improvement in transparency at the CEGH. OMV argues that Gazprom's investment in the hub and exchange operating company will boost liquidity.[29]

If liquidity is actually to be improved it will be vital to ensure that information on the use of physical hub services by gas traders remains confidential.

CEGH's services have been steadily developed in consultation with the traders despite the complexity of an environment made up of a number of system operators.

The next step will be the introduction of a back-up/back-down service. This is necessary because of the need for firm deliveries to the hub if a spot market is to be launched by the end of 2009. It is important that the services offered by CEGH should continue to be based on a neutral and objective approach to traders' wishes and the requisites for an efficient market.

[29] "The partnership with Gazprom will futher increase security of supply via the Baumgarten Hub and at the same time safeguard the liquidity for short-term trading activities." (OMV press release of 25 January 2008)

Wholesale market integration – Gas Regional Initiative (GRI) SSE region

The Gas Regional Initiative (GRI) was established in 2006 in order to drive progress towards the single European energy market via the interim step of regional markets.[30] To this end it was decided to create three regions – North-West, South-South East and South. The SSE region consists of: Austria, Bulgaria, the Czech Republic, Greece, Hungary, Italy, Poland, Romania, Slovakia and Slovenia.

In October 2008 the transmission system operators in the region signed memorandum of understanding (MoU) aimed at deepening and establishing a structure for their cooperation. The TSOs agreed to work together more closely on transparency, cross-border capacity, harmonisation of standards and operational arrangements. This advance is likely to have a major influence on the activities of the SSE region.

2008 trader survey

Entry barriers in the SSE region

As part of a study by consultants PricewaterhouseCoopers (2008 Trader Survey) gas traders in the South-South East region were asked about entry barriers and other barriers to trade.

Contractual rather than physical congestion was identified as the greatest obstacle to free trade in natural gas on the main transit pipelines. The traders said that they would welcome closer cooperation between TSOs as urgent – and the MoU signed in the autumn of 2008 marked a major step towards this goal. Another impediment to a functioning market in the region named by them was the lack of a transparent balancing market. The survey also highlighted the following as barriers to entry in the SSE region:

- Access to storage;
- Lack of price transparency at hubs;
- Transaction costs, access conditions and licensing.

The results of the survey provided useful inputs for the GRI 2009 work programme.

[30] This builds on the Security of Supply Directive 2004/67/EC by safeguarding security of supply and on Directive 2003/55/EC by creating cross-border competition.

STORAGE MARKET

Storage access – crucial to competition

As a result of liberalisation in 2002, third parties now have access to underground storage facilities in Austria. The storage market is regulated in accordance with EU directives which were transposed into Austrian law under the Natural Gas Act. Storage operators which are members of Gas Storage Europe (GSE) have voluntarily agreed to implement the Guidelines for Good Practice for Storage System Operators (GGPSO) on access to storage capacity in the EU.

Under Section 39 Natural Gas (Amendment) Act, access to storage must be non-discriminatory and transparent. Use of storage capacity by third parties – including foreign companies – has increased since the Act was passed. However, it is more accurate to refer to an Austrian storage market – due to a lack of transportation and storage capacity, the use of foreign storage facilities is problematic.

Storage volumes and charges

Storage volumes

Monthly movement statistics (injections and withdrawals) are available.[31] These figures reveal a typical seasonal pattern, with injection in the summer and withdrawal in the winter (*Figure 51*). Around half of all gas consumption in the winter months is covered by withdrawals from storage. Daily storage capacity utilisation depends on changes in temperature.

[31] www.e-control.at

Storage charges

OMV Gas, RAG and Wingas post the charges for use of their storage facilities on their websites. *Figure 52* compares the charges for the standard bundled services for a one-year contract. The charges posted are the effective, non-negotiable prices. However, as most contracts pre-date the concept of mandatory third-party access to storage, these charges only apply for a small proportion of storage capacity. As a result, the posted charges are of particular interest to new market participants.

There has been a slight increase in OMV Gas and Wingas storage charges in comparison with the previous year. In contrast RAG raised its charges by 6.33 % in 2009. Gazprom Export is by far the most expensive provider. Current contracts are inflation indexed.

INJECTION AND WITHDRAWAL, 2008

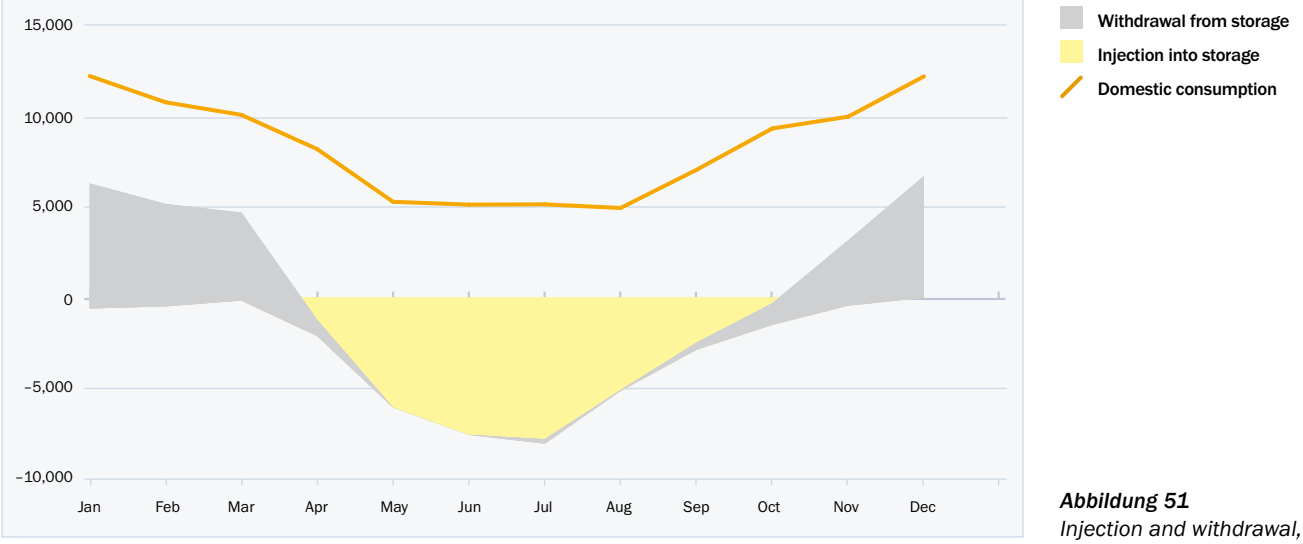


Abbildung 51
Injection and withdrawal, 2008

Source: E-Control

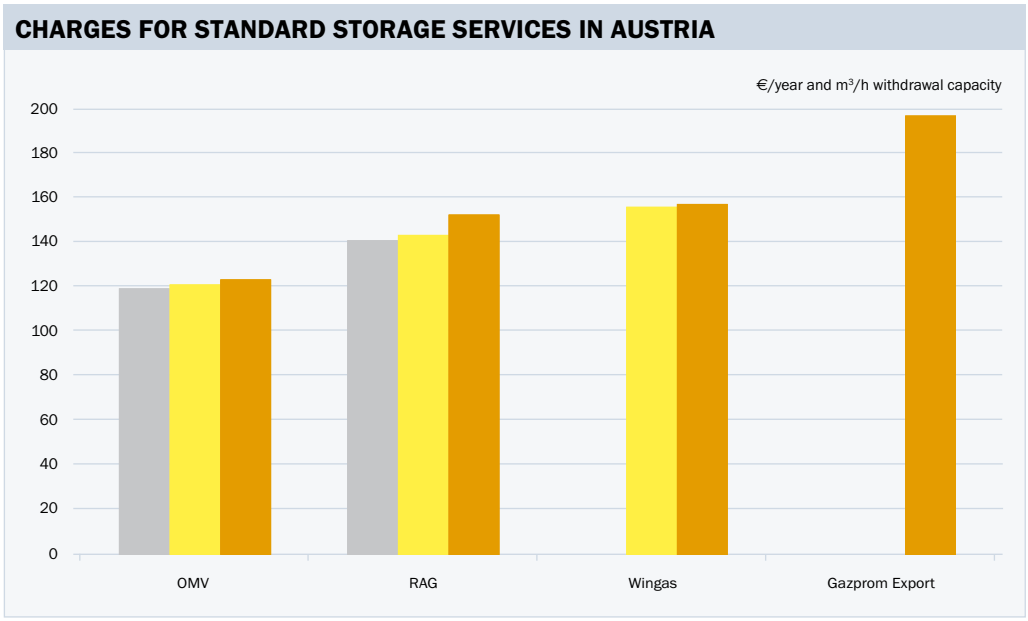


Figure 52
Charges for standard storage services in Austria in 2007, 2008 and 2009, as of June 2009 [32]

Sources: www.omv.com, www.rohoel.at, www.wingas.de, www.gazexport.ru; RAG only offers three-year contracts.

Supply structure

The Austrian gas storage facilities are all located in the Eastern control area, in the concession areas of the two oil and gas producers, OMV and RAG (*Table 10*). Total working gas capacity at Austrian storage facilities is over 4 bcm – equal to almost one-half of domestic gas demand in 2008.

While the oil and gas producers operate storage facilities (OMV via OMV Gas GmbH) Wingas GmbH and ZMB are also storage companies as defined by the Natural Gas Act. The Haidach storage facility entered into service in July 2007. [33] It is connected not to the Austrian but to the south German transmission grid (the upstream system operator is Wingas GmbH).

OMV Gas has expanded withdrawal capacity at the Schönkirchen Tief facility by 25 % and working gas volumes by 7 % (see *Table 10*).

[32] Bundled Service OMV Gas: 2 bn Nm3/h withdrawal capacity, 800 Nm3/h injection capacity, fuel gas for OMV GAs and RAG included
[33] https://www.haidach.zmb.at

Market concentration in terms of storage capacity that is actually available in the Eastern control area is exceptionally high, with an index score of over 6,000 (for working gas volumes). OMV Gas is the only supplier offering short-term, intrayear contracts for unbundled products (such as withdrawal capacity).

STORAGE CAPACITY IN AUSTRIA, 2008

Storage facility	Injection capacity in m^3/h	% of total capacity	Withdrawal capacity in m^3/h	% of total capacity	Working gas volume in mcm	% of total capacity
OMV – Schönkirchen	650,000	36 %	960,000	45 %	1,680	38 %
OMV – Tallesbrunn	125,000	7 %	160,000	7 %	400	9 %
OMV – Thann	115,000	6 %	130,000	6 %	250	6 %
Total OMV capacity	***890,000***	***50 %***	***1,250,000***	***58 %***	***2,330***	***53 %***
RAG – Puchkirchen	400,000	22 %	400,000	19 %	850	19 %
Wingas – Haidach	167,000	9 %	167,000	8 %	400	9 %
Gazprom – Haidach	333,000	19 %	333,000	15 %	800	18 %
Total capacity at Haidach	***500,000***	***28 %***	***500,000***	***23 %***	***1,200***	***27 %***
Total	**1,790,000**	**100 %**	**2,150,000**	**100 %**	**4,380**	**100 %**

Table 10
Storage capacity in Austria, 2008

Sources: www.omv.com, www.rohoel.at, www.gazexport.ru

Storage products

The Natural Gas Act does not impose any requirements for the provision of storage products. According to the Gas Storage Europe guidelines published in 2005 and recommended for implementation by ERGEG, storage operators must provide the following services:

- Bundled and unbundled services;
- Long and short-term products;
- Fixed and interruptible storage capacity utilisation;

However, Austrian storage operators do not fully comply with these requirements (*Table 11*).

AUSTRIAN STORAGE OPERATORS' PRODUCTS

Storage operator	Bundled services	Unbundled services	Long-term contracts	Short-term contracts	Firm services	Interruptible services
OMV Gas	WGV: 2m; 1,000 m³/h withdrawal capacity; 800 m³/h injection capacity	WGV; withdrawal or injective services; daily, monthly basis; days	Terms for over 10 years possible	Daily and monthly basis		Interruptible tariff same as firm tariff: compensation credited to customer in event of service constraints
RAG	WGV: 1.68m; 1,000 m³/h withdrawal capacity; min. contract term 3 years		Terms for over 10 years possible			
Wingas	Winstore Pack: WGV 22,000 kWh; 10 kWh/h withdrawal and injection capacity; min. reservation 2,000 units	Winstore Add: Additional WGV, withdrawal and injection capacity; only available in combination with Winstore Pack		Only interruptible		Winstore Part: short-term contract on interruptible basis with minimum term of 1 month and underlying usage times concept
Gazexport	WGV: 1,000 m³; injection capacity: 0.43 m³/h; withdrawal capacity: 0.43 m³/h		Long Gazprompack: 20 years; Mid Gazprompack: 5 years	Short Gazprompack: 1 year		

available service non-available service

Table 11 *Austrian storage operators' products, as of July 2009*

Sources: Storage operators' websites

Allocation procedures and congestion management

Austrian storage operators allocate capacity according to the first come, first served principle. OMV employs an online capacity booking system which is also used to allocate transport capacity; access is free of charge. Binding enquiries to the other operators can be made via their websites.

The storage terms and conditions of RAG AG and OMV Gas GmbH contain no arrangements to prevent the hoarding of capacity. OMV Gas GmbH offers interruptible storage products through which unused capacity can be provided. RAG's general terms and conditions do not include any congestion management procedures. Wingas and Gazexport's general terms and conditions contain "use it or lose it" clauses which apply to capacity utilisation for a period of one year.

Demand structure

The demand for storage capacity comes from Austrian gas wholesalers and distributors that supply the gas to large consumers, generating stations and local retailers. Foreign companies also use the facilities[34] for interim storage related to transit business, and to offer flexible delivery to the CEGH trading points. Since liberalisation in 2002 the number of storage customers and the interest of foreign companies in Austrian storage services have increased significantly. Nevertheless, most of the storage capacity is still reserved by incumbents, as is the case in many other European countries.

More diversified demand structure

According to EconGas it is the largest storage customer, with reservations of about 1.7 bcm of working gas volume.[35]

Storage capacity utilisation

OMV Gas posts information on the utilisation of its storage capacity on a monthly basis on its online capacity booking system. *Figure 53* reveals that some reserved capacity remained unused in the winter months, e. g. the winter of 2007/2008. Despite increased withdrawal capacity, reserved capacity was fully used in the winter of 2008/2009 as a result of the halt to Russian gas supplies.

[34] cf also AGGM (2007), (Long-term planning 2007 for the Eastern control area for the gas years 2008-2012, including an outlook to 2030), 27 July 2007, p 9

[35] cf energate article of 6 January 2009 (Considerable supply cuts accompany Russia-Ukraine gas dispute)

RAG, Wingas GmbH and Gazexport do not disclose storage capacity utilisation data.

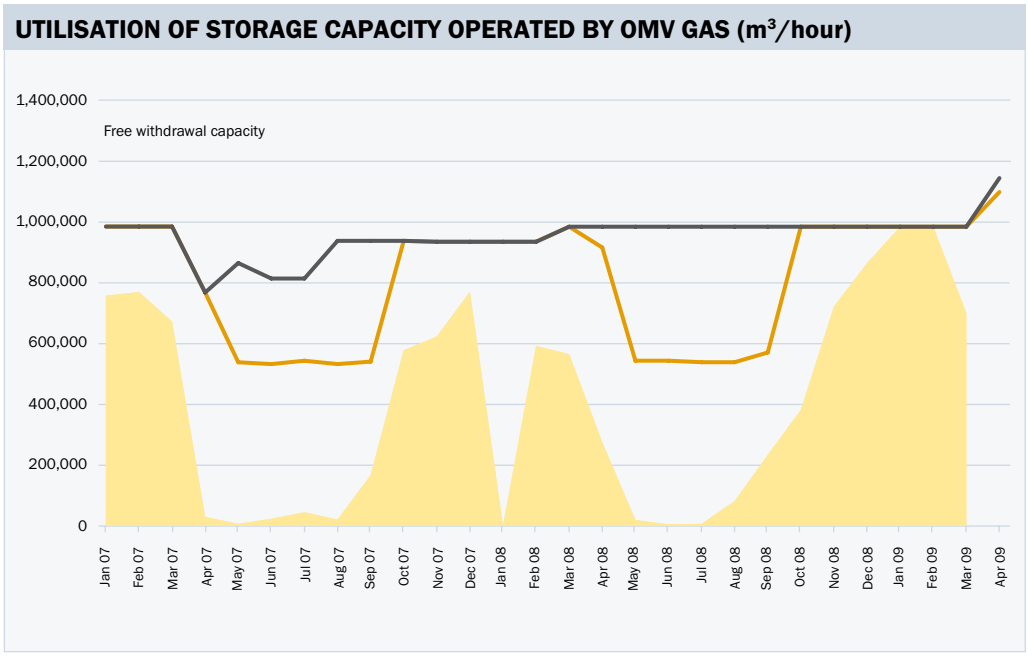


Figure 53
Utilisation of storage capacity operated by OMV Gas (withdrawal capacity), 1 January 2008 to 1 April 2009

Source: www.omv.com, online capacity booking system

Availability of storage capacity

Access to most of the storage capacity is governed by long-term contracts.

According to RAG there is still capacity available for the 2009/2010 period.[36] Some 20,000 m³/hour of withdrawal capacity at the Puchkirchen storage facility are still unreserved in 2009, and 50,000 m³/hour in 2010. The OMV Gas online capacity booking system[37] shows no more withdrawal capacity available for the winter months and no more free injection capacity for the summer.

[36] cf www.rohoel.at
[37] www.omv.com

On the basis of the information available to us we are unable to say to what extent there is a secondary storage capacity market. There are no contractual limitations on the resale of storage rights, and the storage operators offer title transfer services for their capacity. OMV Gas has set up an online bulletin board to facilitate secondary trading of storage capacity. Wingas is a member of the store-X trading platform, and RAG has an inquiry form on its website.

Capacity expansion plans

According to AGGM's 2008 – 2012 long-term planning[38] both RAG and OMV Gas need to expand their storage capacity massively. The capacity model reflects this capacity gap as demand for "other shipments". Storage capacity is being further increased by the second expansion phase at the Haidach facility, an expansion project at the Puchkirchen facility, the new Seven Fields project and development of the Schönkirchen Tief site. As of June 2009 no storage company had announced an open season tender for additional capacity.

Cooperation with RAG or OMV Gas will be required to expand storage capacity since the two hold all of the storage licences for the depleted gas fields. RAG explicitly offers storage developments (long-term plans for the technical and commercial development of gas storage facilities).[39] In May 2007 OMV Gas announced its intention to cooperate with Gazprom on developing the Schönkirchen Tief storage facility.[40] According to information in the GSE Storage Investment Database, the expansion of the Schönkirchen Tief facility scheduled for completion by 2015 will create an additional 2 bcm of working gas capacity.[41]

[38] cf AGGM (2007), (Long-term planning 2007 for the Eastern control area for the gas years 2008-2012, including an outlook to 2030), 27 July 2007, p 9
[39] www.rohoel.at
[40] cf OMV AG press release of 23 May 2007, "OMV and Gazprom step up cooperation in gas business", www.omv.com
[41] cf http://www.gie.eu.com/maps_data/database/database.php

BALANCING MARKET

The balancing mechanism [42]

Gas market liberalisation in October 2002 led to the introduction of an hourly balancing system (balancing market). The balancing market in the Eastern control area is organised and managed by the clearing and settlement agent, AGCS. The arrangements for the balancing market are laid down in the General Terms and Conditions of the Clearing and Settlement Agent, which are subject to approval by E-Control. [43] To be eligible bidders on the balancing market, prospective participants must be balance group members, be registered with AGCS as balancing energy suppliers, be metered online, and have a data line to the control area manager. Other conditions are appropriate flexibility tools (storage contracts, swing contracts with customers and flexible supply contracts) that enable compliance with the 30 minutes' notice period for the call-off of balancing energy bids by the control area manager. Bidders also require the consent of their balance group representatives. [44]

AGCS ranks the bids by price and sends them to the control area manager AGGM every day, in the form of a merit order list.

The control area manager is normally obliged to observe the merit order list when calling off balancing energy.

The balancing energy suppliers receive the price offered by them for withdrawing gas from or injecting it into the control area network.

[42] The balancing market for the control areas Tyrol and Vorarlberg, which are not interconnected with each other or the Eastern control area but are supplied from Germany, is organised in a different way. The folliwng sections therefore refer to the Eastern control area only.
[43] Balancing market annex to the general terms and conditions of the clearing and settlement agent, www.e-control.at bzw. www.agcs.at
[44] General terms and conditions of the balancing group representative, www.e-control.at

Clearing price calls the shots

The prices paid on the balancing market yield an hourly clearing price which is billed to the commercial balance groups by the clearing and settlement agent for each hour of accrued balancing energy. The hourly clearing price is the average price, weighted for volume, of the physical balancing energy bought or sold during the hour in question. The clearing price for hours during which the control area manager calls off no physical balancing energy is the average of the last seven hours when physical balancing energy was bought or sold in the control area. Whether the last seven purchasing or selling prices are applied to a given hour depends on the aggregate delta of the system losses balancing groups, which capture linepack changes. If the control area is OVERSUPPLIED during the hour in question, i. e. on aggregate the system losses balancing groups inject gas into their networks, or "buy" it in a similar fashion to a balancing energy supplier, the (lower) purchasing price on the balancing energy market forms part of the calculation, and vice versa. There is only one clearing price for each hour for which the balancing group representative must pay for procured accrued balancing energy if the balance group is short, or be paid for supplied accrued energy if it is long.

Balancing energy prices and volumes

Balancing energy prices were generally weak in 2007 but there was a strong run-up in the final quarter. The following year initially saw a moderate upturn, but after peaking in October balancing energy prices slid in November and December – in line with gas import prices – and returned to levels similar to those at the start of 2008 (*Figure 54*). The average buying price for balancing energy imported into the Eastern control area rose from 2.41 cent/kWh in 2007 to 3.22 cent/kWh in 2008, while the average selling price for balancing gas exported out of the control area advanced from 1.51 cent/kWh to 2.30 cent/kWh. Volatility in balancing energy prices often reflects external factors such as supply curtailments, expectations of tight supplies in light of Gazprom announcements of cutbacks in deliveries to countries upstream from Austria, or rumoured technical problems on upstream transit systems. Technical problems at the storage facilities used by balancing energy suppliers can also impact price formation.

Volatile balancing prices reflect external factors

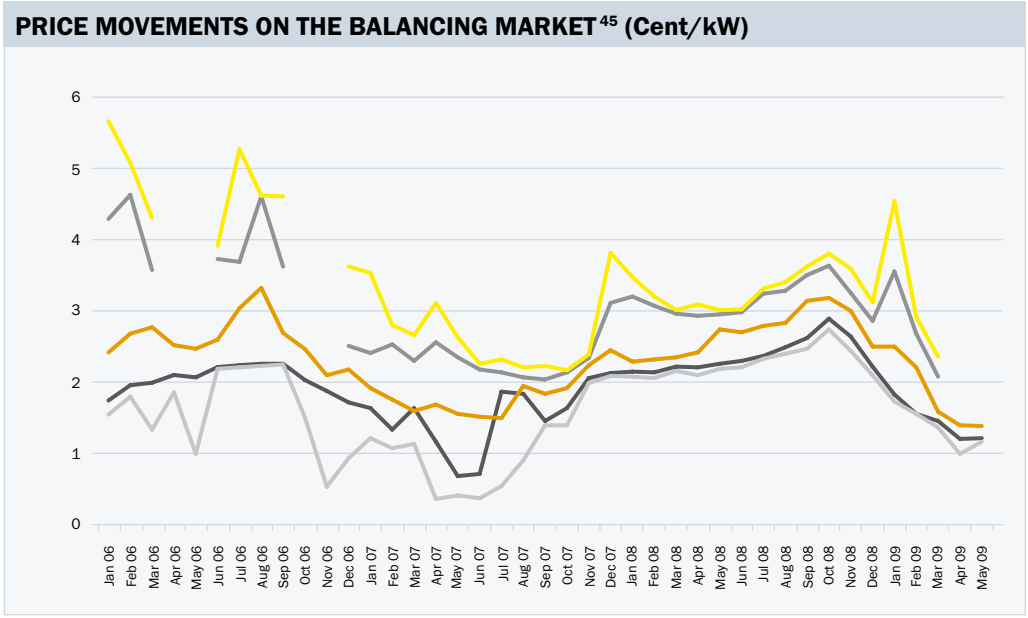


Figure 54
Price movements on the balancing market [45]

Source: AGCS

In 2008 a total of 263,450 MWh of physical balancing energy was purchased for the control area, i. e. injected into the system by balancing energy suppliers, and 685,360 MWh was sold, i. e. withdrawn by them. This corresponded to 1.08 % of total gas demand in the Eastern control area. Balancing energy was purchased in 7.1 % of all hours during the year and was sold in 18.6 % of them. During most of the hours (74.2 %) the control area manager relied entirely on linepack in the transmission grid for gas flow management, and was not obliged to call off physical balancing energy.

Figure 55 shows monthly call-off of physical balancing energy in 2007 and 2008. The fact that sales of physical balancing energy from the network to balancing energy suppliers still outweigh purchases from them in most months indicates that the Eastern control area tends to be oversupplied. In 2008 purchases of balancing energy fell by 18 % year on year, and sales rose by 15 %.

[45] In April, May, October and November 2006 as well as in April 2009 no physical balancing energy was purchased and no buying price is available.

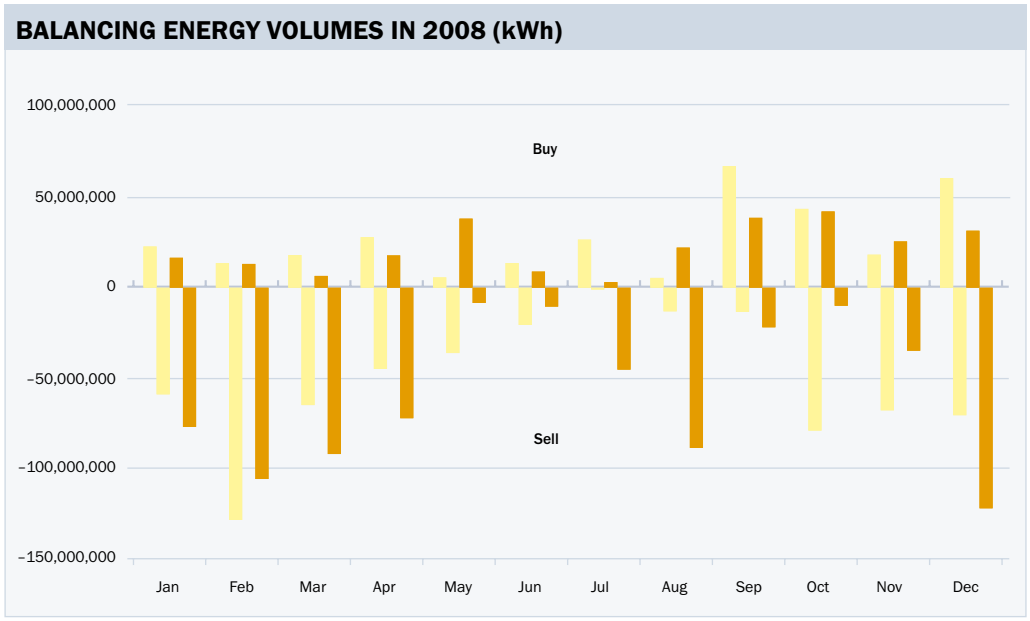


Figure 55
Balancing energy volumes in 2008

Source: AGCS

Market structure

Supply structure

The requirements for balancing energy suppliers outlined above significantly narrow the field of potential bidders among the registered balance group members (Austrian market participants). While 36 gas suppliers (balance group members) are registered with the balance group system in the Eastern control area[46], at year end 2008 there were only 11 registered balancing energy suppliers, of which ten actively offered balancing energy. This represents an increase of two balancing energy suppliers as compared to the position at year end 2007.

The active suppliers in the Eastern control area at the end of 2008 were CE Gas Marketing & Trading AG, EconGas, ENOI S.p.A., ENLOGS, Kelag, RAG, Salzburg AG, Steirische Gas Wärme, Terragas and Vitol. Apart from EconGas, Kelag, RAG Steirische Gas Wärme and Terragas have also become major suppliers. Most of the new entrants to the Austrian gas market are also successful balancing energy suppliers (e. g. RWE Supply and Trading since March 2009) and hold significant market shares.

[46] List of suppliers registered by AGCS as of 1 March 2009, www.agcs.at

Demand structure

Although the control area manager is responsible for calling off physical balancing energy, the demand for it comes from the balance groups. Despite the fact that the control area manager uses linepack to manage gas flows on the transmission network for many hours of the year and thus does not need to dispatch **physical balancing energy**, in the course of any hour there are deviations between the schedules submitted by the balance group representatives, and the balance groups' actual demand and actual gas flows; these are referred to as **accrued balancing energy**. The accrued balancing energy arising in each hour is calculated by the clearing and settlement agent, AGCS, and invoiced to the commercial balance groups.

In 2008 total accrued balancing energy (the aggregate absolute quantities by which commercial balance groups are long or short) was equal to 3.8% of total gas consumption in the Eastern control area – down from 4.1% in 2007. The largest commercial balance group in terms of both demand and absolute accrued balancing energy volume is that of EconGas. The other commercial balance group representatives operating in 2008 were CE Gas Marketing & Trading AG, Centrex Europe Energy & Gas AG, EnergieAllianz Austria GmbH, Energie AG Oberösterreich Trading GmbH, Energy Logistics and Services GmbH, Energie Ried, Kelag, Linz Strom, Merrill Lynch Commodities Europa Ltd., RAG, Salzburg AG, Shell Austria GmbH, Stadtwerke Steyr, Steirische Gas Wärme and Terragas. The number of balance groups grew again in the course of the year. The intermediate balance groups – groups not directly serving end users – registered in the Eastern control area in July 2009 were: Central European Gashub GmbH, ENOI S.p.A., Lumius Gas, and RWE Supply and Trading.

Market concentration

Due to the circumstances discussed above, the balancing market is confined to the Eastern control area. The market shares of the balancing energy suppliers vary between the buying and selling sides of the market. In 2008 the HHI for purchases of balancing energy by balancing energy suppliers was 2,609 (2007: 2,952), while that for the sales of balancing energy by them was 1,599 (2007: 2,127). The combined market share of the three largest suppliers was 74.5 % (2007: 81.4 %) as measured by purchases of balancing energy and 57.0 % (2007: 72.0 %) in terms of sales. In contrast to 2007, during the year under review the three largest suppliers for sales and purchases of balancing energy were identical.

Supply substitutability is severely limited by the existing storage contracts and the capacity available under them. It is safe to assume that the balancing energy provided by the leading supplier cannot largely or entirely be substituted by the other suppliers. The exit of the largest supplier from the market would therefore have a significant impact on prices.

SUPPLY OF LOCAL DISTRIBUTORS

Wholesalers generally supply local distributors such as municipal utilities under "total requirements" (full supply) agreements also encompassing storage and balance group management services. The suppliers include EconGas, Steirische Gas Wärme, Kelag and Salzburg AG; EconGas is the market leader by a wide margin. The EnergieAllianz partners, Erdgas Oberösterreich, Linz Gas and other municipal utilities account for most of the demand.

Long-term contracts represent a significant obstacle to competition on this market.[47] The sectory survey carried out in 2005/2006 found that in 2004 approx. 80 % of the gas supplied to local retailers was being sold under indefinite term contracts. This shuts new suppliers out of a market amounting to some 2 bcm in sales.

Long-term contracts an obstacle to competition

[47] For details on this issue cf Federal Competition Authority 2006 (Final report on the Austrian gas sector enquiry)

DESCRIPTION OF THE RETAIL MARKET

In 2008 the Austrian retail market comprised 1.35m metering points, and total sales were 93,228 GWh. Of these around 1.28m metering points served household consumers, 68,000 other small consumers and 4,000 demand metered consumers. Sales to consumers rose by 5.7 % year on year. Demand metered customers accounted for 72.3 % of total consumption in 2008, with household customers making up 21.3 % and other small consumers 6.4 %.

Gas import prices climbed by 17 % in the course of 2008. Suppliers passed on the increase to final consumers at the start of the 2008/2009 heating season, but only part of the price falls which followed. In general 2008 was a year of massive price rises for consumers in both the industrial and household segments.

Consumer prices

Natural gas prices are composed of the energy price, the system charges, taxes and surcharges. Under section 23 Natural Gas Act the system charges comprise the grid utilisation charge, the metering charge, the grid provision charge (a lump sum charge for prefinanced network expansion works) and the charge for admission to the grid (for the initial network connection).

Prices for household and small commercial consumers

Figure 56 depicts the evolution of overall gas prices charged to household consumers. Prices have been on the increase since 2002. Import prices rose sharply after April 2004 and trended downwards between October 2006 and May 2007. Since then importers have again seen rising prices, which peaked in October 2008.

Most suppliers only responded to the hike in procurement costs from May 2007 onwards after prices had started to decline again, imposing dramatic increases of up to 47 % in energy prices from October 2008 to January 2009 – in other words, at the beginning of the heating season. Import prices returned to May 2007 levels in May 2009. Lower procurement costs were reflected in only moderate cuts in gas prices, sometimes only made after the end of the heating season.

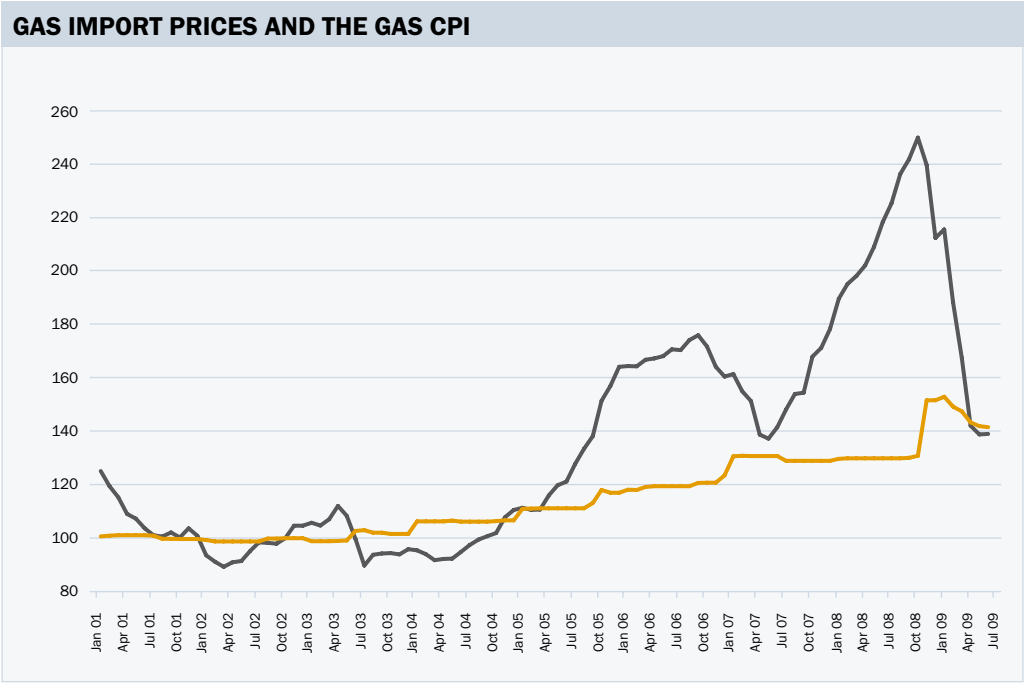


Figure 56
Gas import prices and the gas CPI (overall price, Oct. 2002 = 100)

Sources: Statistics Austria, E-Control

E-Control's market statistics have included data on average revenue from demand metered small consumers since 2008 (*Table 12*). Non-demand metered customers are categorised according to standardised load profiles.[48] The changes in heating gas prices for household and commercial consumers are shown in *Table 12*. It shows a year-on-year rise in average prices of 10 – 11 % in January 2009.

[48] Six standardised load profiles reflect the consumption behaviour of different consumer groups. They distinguish between load profiles for gas heating and load profiles for other gas uses: heating gas LPs depend on actual daily average temperatures. There are load profiles for single family dwellings, for multiple family dwellings and for small commercial consumers. The load profiles are applied in accordance with 21 temperature zones. LPs for other gas uses depend on the day of the week and fall into one of three categories: gas for cooking, gas for heating water, and non-heating gas used by small commercial consumers.

GAS PRICES

	Households, single-family dwellings, heating gas	Households, multiple-family dwellings, heating gas	Small commercial customers, heating gas
1st Half of 2008	100.00	100.00	100.00
2nd Half of 2008	106.56	111.08	110.53

Table 12
Gas prices, July 2008 to January 2009

Source: E-Control

LOCAL PLAYER AND CHEAPEAS SUPPLIER PRICES (€/year)

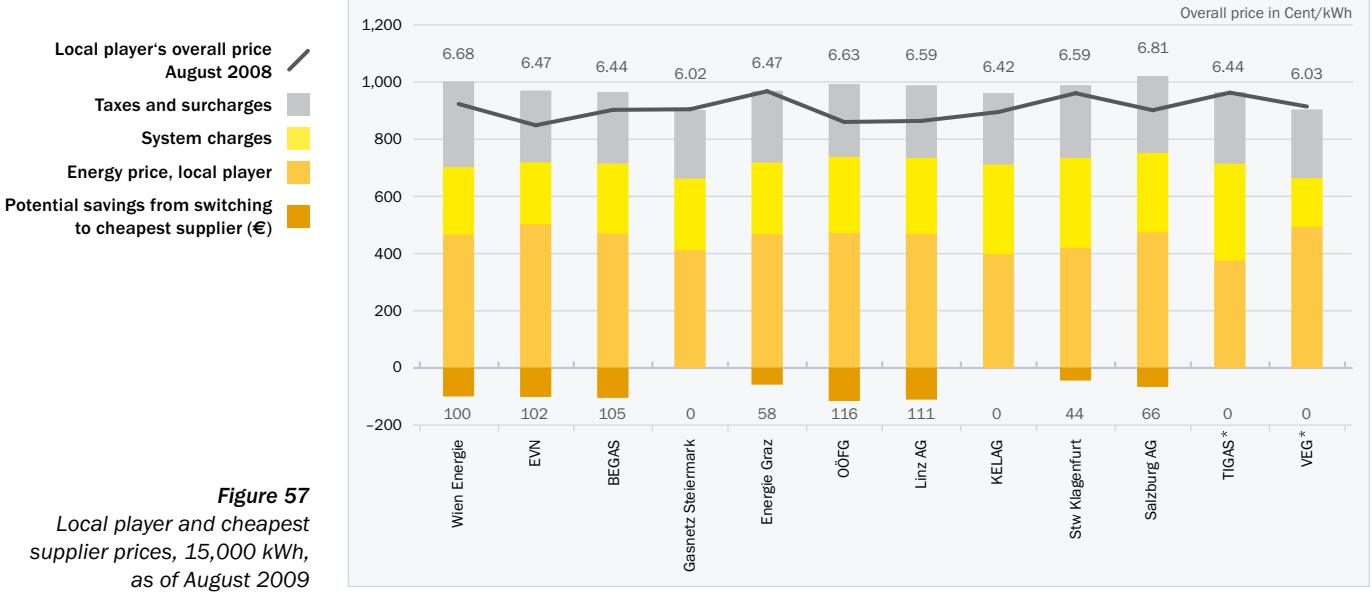


Figure 57
Local player and cheapest supplier prices, 15,000 kWh, as of August 2009

The figure uses the most popular offers by local players minus standing discounts and the cheapest supplier's energy price minus all discounts.

* Consumers in the Tyrol and Vorarlberg control areas cannot switch supplier as there is no interconnection with the Eastern control area.

Source: E-Control

Figure 57 shows the local players' energy prices, the related system charges, and taxes and surcharges. System charges differ between grid areas as a result of the structural and geographical characteristics of each grid area.

Since the energy prices vary widely between local players, so too do the potential savings from switching to the cheapest supplier, which can be as high as € 100 per year.

International comparison of household prices

A European comparison reveals that overall prices including taxes and surcharges in Austria are close to the EU average (*Figure 58*). Overall prices charged to Austrian household customers are slightly higher than the EU-27 average.

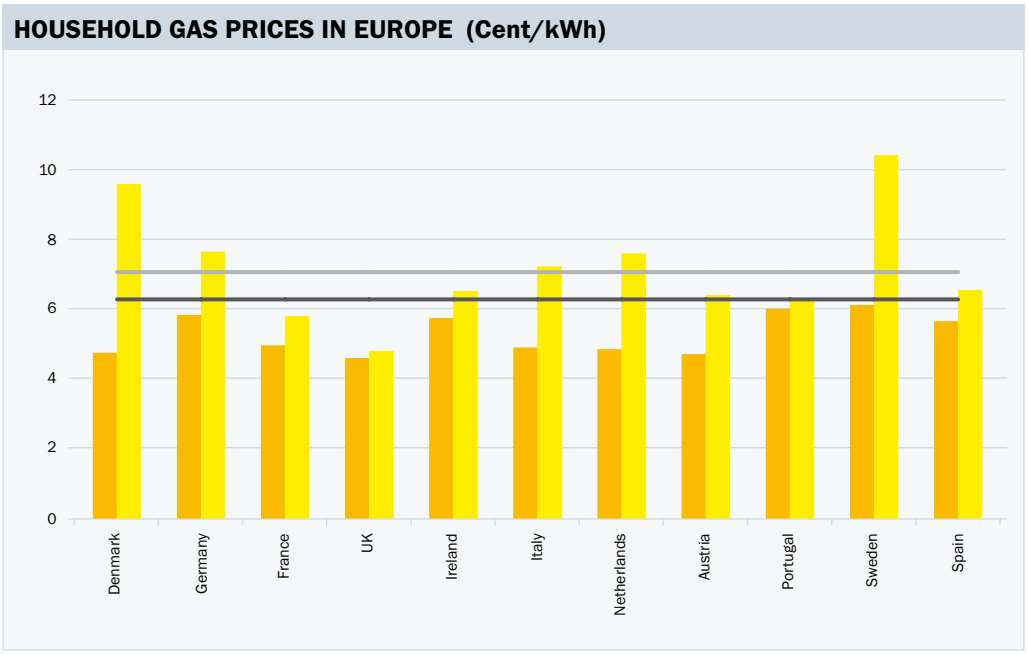


Figure 58
Household gas prices (energy and system charges) in Europe (cent/kWh), inc. taxes and surcharges, second half of 2008

Source: Eurostat

Figure 59 shows that household gas prices are on the increase across the EU. The UK has seen the largest rises, although its prices are well below the EU mean level.

HOUSEHOLD GAS PRICES IN SELECTED EU MEMBER STATES AND EU AVERAGE PRICES (Cent/kWh)

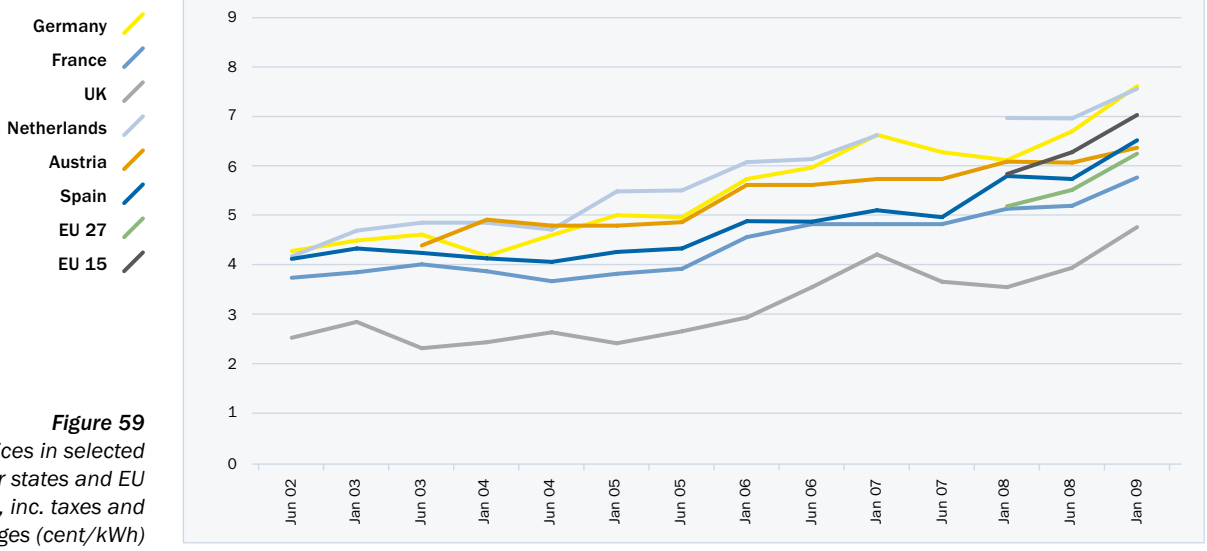


Figure 59
Household gas prices in selected EU member states and EU average prices, inc. taxes and surcharges (cent/kWh)

Source: Eurostat

The EU-15 HEPI for the first half of 2009 compiled by E-Control (*Figure 60*) shows that in general household gas prices have been falling rapidly.[49] However, the Austrian household prices included in the index have remained unchanged since February 2009.

[49] The European Household Energy Price Index (HEPI) is compiled by E-Control together with the VaasaETT Global Energy Think-Tank. It is a weighted household price index that compares the most popular electricity and gas tariffs of local incumbents in the EU-15 capital cities with those of their strongest competitors.

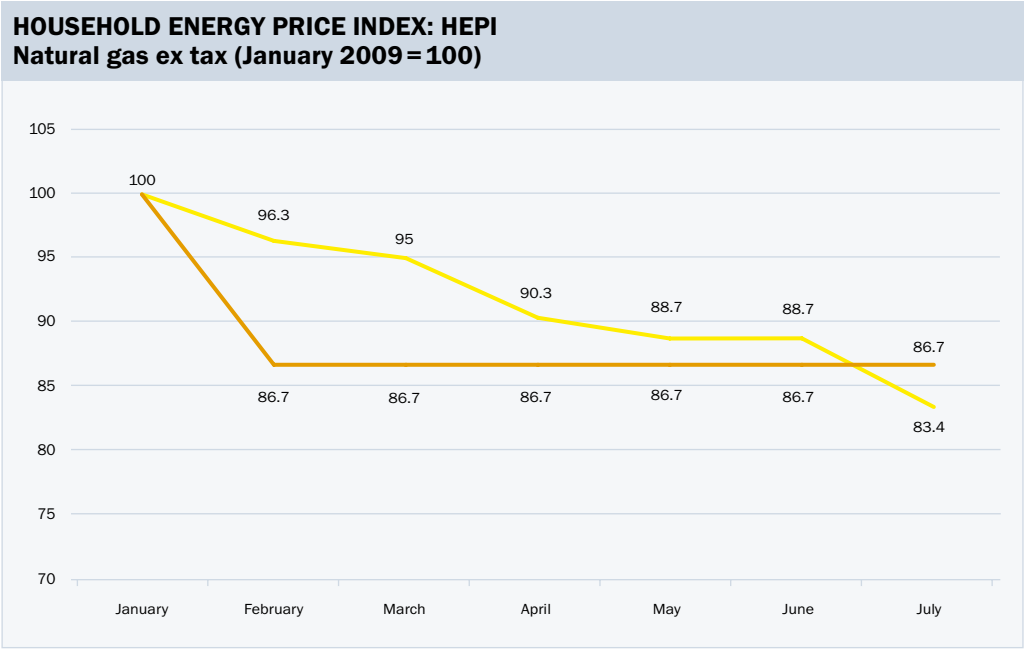


Figure 60
Household Energy Price Index (HEPI) – volume-weighted household price index for the EU-15 capital cities

Source: E-Control

Rates for demand metered consumers – industrial customers

E-Control surveys the energy prices paid by Austrian industrial consumers directly, on a biannual basis (January and July). The results are posted on our website (www.e-control.at). Industrial consumers are split into three categories for the purposes of the gas price survey: companies with very high annual consumption of 100m kWh or more (category A), those with demand of between 10m and 100m kWh per year, and the smallest group, companies whose consumption does not exceed 10m kWh per annum.

The results of the survey (*Table 13*) show that industrial gas prices are still climbing.

PRICES FOR INDUSTRIAL CONSUMERS, 2008/2009 (Cent/kWh)			
Consumption	**Jan. 2008**	**Jan. 2009**	**Change**
> 100 GWh	2.56	2.64	3.13 %
10 – 100 GWh	2.64	2.91	10.23 %
< 10 GWh	2.89	3.1	7.27 %
Total	**2.75**	**2.94**	**6.91 %**

Table 13
Prices for industrial consumers, 2008/2009

Source: E-Control

Table 14 provides a detailed overview of the survey findings on industrial gas prices. In **category A** average prices peaked at 3.08 cent/kWh in July 2008, and the 21 % increase compared with January 2008 correlates with gas import prices, which jumped by 19 %. This highlights the oil price sensitivity of pricing for category A consumers (gas import prices are coupled to changes in oil prices) and points to the predominant use of price escalation clauses (NB: pricing was not included in the July 2008 survey). Average prices in category B rose by 0.34 cent/kWh (or 13 %) and those in category C by 0.18 cent/kWh (a 5 % increase). In the last survey of industrial consumers one-third of all companies reported the use of fixed price agreements and one-third of price escalation clauses; the remaining third had formulas based on a mix of the two. This means that changes in gas import prices have a more pronounced impact on category B than on category C consumers, around half of which have fixed price clauses in their supply contracts.

Gas prices for the largest industrial consumers (categories A and B) dropped slightly at the start of 2009. *Figure 61* sets out the energy prices (excluding system charges, taxes and surcharges) identified by the industrial price surveys carried out in January and July 2008, and January 2009.

ENERGY PRICES AND AVERAGE CONTRACT DURATIONS

	Interpretation	Jan. 2009 cent/kWh	July 2008 cent/kWh	Jan. 2008 cent/kWh
Category A Annual consumption > 100,000,000 kWh	Arithmetic mean	2.64	3.08	2.56
	Standard deviation	0.32	0.36	0.27
	No. of companies	31	29	32
	Ave. contract term	27 months*		23 months*
Category B Annual consumption > 10,000,000 kWh < 100,000,000 kWh	Arithmetic mean	2.91	2.98	2.64
	Standard deviation	0.52	0.50	0.32
	No. of companies	76	68	75
	Ave. contract term	22 months*		22 months*
Category C Annual consumption < 10,000,000 kWh	Arithmetic mean	3.10	3.07	2.89
	Standard deviation	0.57	0.47	0.47
	No. of companies	77	74	91
	Ave. contract term	19 months*		21 months*
Total	Arithmetic mean	2.94	3.04	2.75
	Standard deviation	0.54	0.46	0.41
	Median	2.79	3.13	2.69
	First quartile	2.52	2.67	2.52
	Third quartile	3.34	3.38	2.90
	No. of companies	184	171	198
	Ave. contract term	22 months*		22 months*

* Only for fixed-term contracts

Source: E-Control

Table 14
Energy prices and average contract durations

Table 14 shows more clearly that the arithmetic mean in category A stood at 3.08 cent/kWh in July 2008, compared with 2.64 cent/kWh in January 2009. The scatter (standard deviation from the mean) was 0.36 cent/kWh in July 2008 and 0.32 cent/kWh in January 2009. The median, and the first and third quartiles were calculated for the entire study. The median – the middle value in a data set arranged from highest to lowest – was 3.13 cent/kWh for the July 2008 survey. The first and third quartiles reveal that in July 2008, 75 % of all consumers were paying over 2.67 cent/kWh, and 25 % more than 3.38 cent/kWh. The median for the January 2009 data was 2.79 cent/kWh. The first and third quartiles show that 75 % of all consumers were then paying over 2.52 cent/kWh, and 25 % more than 3.34 cent/kWh.

An international comparison of industrial gas prices was not possible in the year under review as Austria had not provided Eurostat with the required price data.[50]

IMPORT AND INDUSTRIAL PRICES ON SELECTED REPORTING DATES (Cent/kWh)

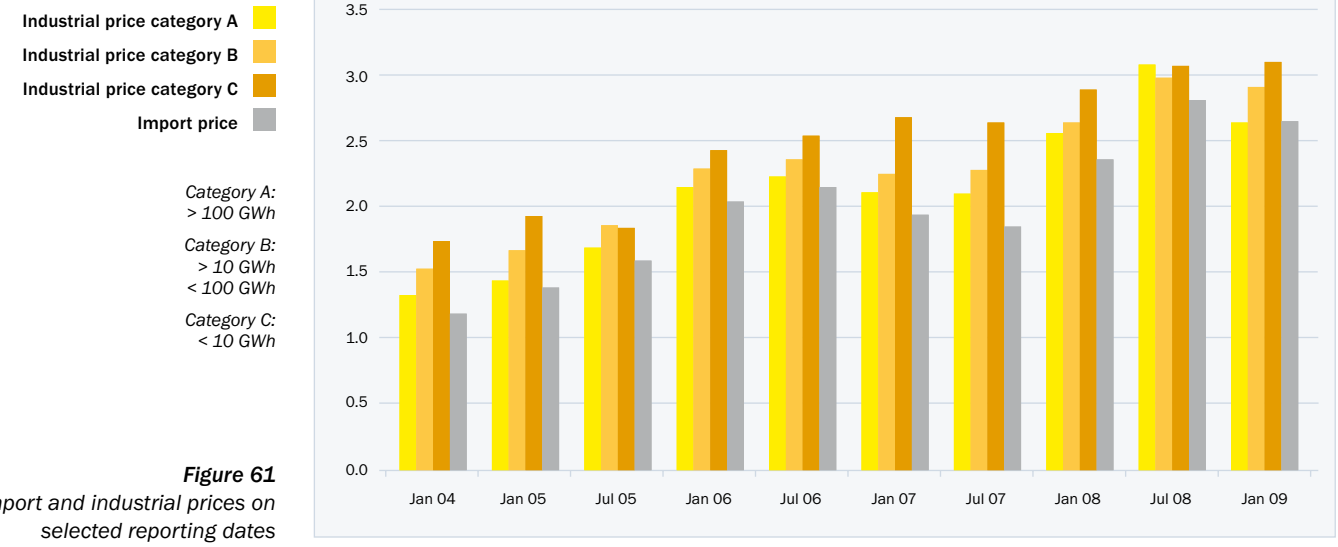


Figure 61
Import and industrial prices on selected reporting dates

Sources: E-Control, Statistics Austria

[50] The corresponding Directive has not yet been fully implemented in Austria.

Market structure

The supplier-side structure of the Austrian gas market is characterised by a high level of provincial and local government ownership (*Figure 62*).

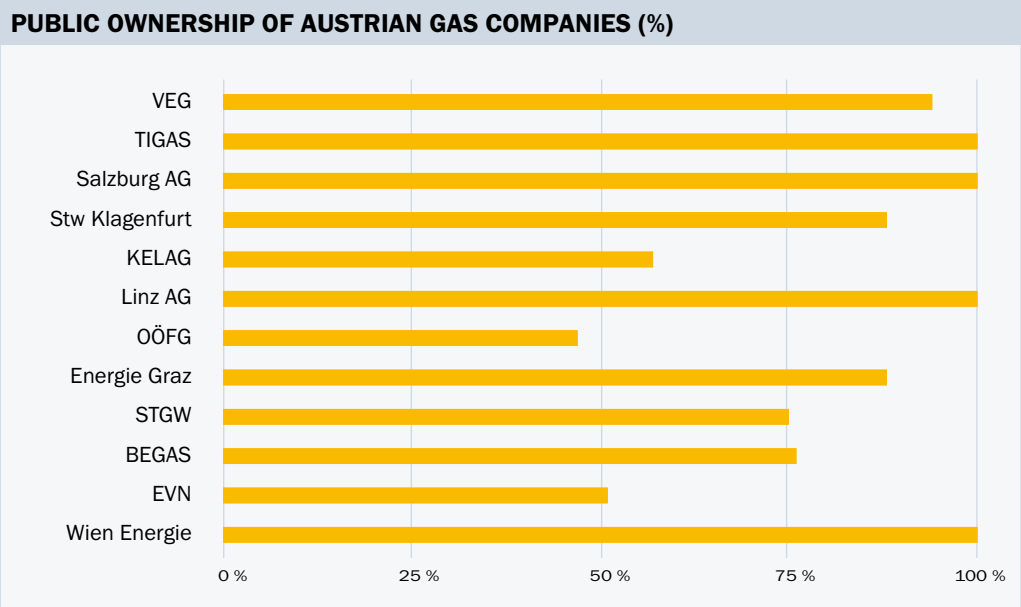


Figure 62
Public ownership of Austrian gas companies

Source: Company annual reports (calculations by E-Control)

Small consumer market

Household and small consumers normally have short-term contracts without minimum offtake obligations, and without explicit escalation clauses tied to oil product prices. Instead, there is step-fixed pricing, such that the gas price is adjusted at irregular intervals determined by the supplier. This means that the impact of a fall or rise in heating oil prices – and hence in the gas companies' purchasing prices – on the prices paid by end users is generally lagged.

These customers enjoy mandatory price transparency as the suppliers are obliged by law to publish their tariffs. The rates can be compared using the E-Control tariff calculator, and price information is also available on the suppliers' websites.

This market segment is served by local players, namely: the EnergieAllianz partners (via Wien Energie, EVN, BEGAS and Switch), Erdgas Oberösterreich, Steirische Gas Wärme, Kelag, Linz Gas, Salzburg AG, TIWAG and VEG, as well as municipal utilities (e. g. Stadtwerke Steyr and Stadtwerke Kapfenberg), some of which do not market throughout Austria. Some of these suppliers also operate on the electricity retail market through subsidiaries. In some cases the local players have launched new brands for nationwide energy distribution, such as Switch (EnergieAllianz), MyElectric (Salzburg AG and Tiwag) and Unsere Wasserkraft (Steirische Gas Wärme).

The terms offered to **small and medium-sized enterprises and small industrial (demand metered) customers** with an annual consumption of 100,000 – 500,000 m^3 are individually negotiable. The suppliers are the same as in the household consumer market. No information is available on their pricing and product strategies.

Market concentration in the Austrian small consumer segment
The Austrian **small consumer market** (non-demand metered consumers) is highly concentrated with an HHI of 3,907, well above the threshold of 1,800.[51] The cumulative market share of the three largest suppliers in 2008 was around 74 %, and 84 % for the five largest suppliers. The top ten suppliers serve 96 % of consumers. This is further proof of how concentrated the Austrian gas market is, and how much market power the former monopolists still exert due to the size of their market shares. EnergieAllianz has the highest market share in this segment, at 60 %, through its sales companies Wien Energie, EVN and BEGAS.[52] There are no foreign suppliers operating on the Austrian small consumer market.

Neither market structures nor the activities of foreign companies in Austria testify to the existence of regional markets.

[51] Source: market statistics data collection forms, calculations by E-Control
[52] cf the information on the EnergieAllianz homepage; www.energieallianz.at

Large industrial consumers (annual consumption of over 500,000 m³)
Upwards of an annual consumption of 500,000 m³ the retail market has a different structure. The key suppliers in this segment are EconGas, Steirische Gas Wärme, Terragas, Wingas and Kelag. They were joined by Shell Austria, GDF Suez and Enlogs in 2008. These companies market across the entire Eastern control area.

Market concentration in the Austrian large consumer segment
The suppliers currently operating on the Austrian market focus almost exclusively on industrial customers, i. e. large consumers.

No information is available on market shares for suppliers of demand metered customers (some of which are large consumers).

Market behaviour
Supplier behaviour – product design
> Small consumer market
Product design is largely a matter of offering discounts – mainly to customers paying by direct debit and new customers. Suppliers generally offer similar tariffs, but the rebates on offer can lead to substantial price differences. Increasingly suppliers are offering loyalty rebates if the consumer voluntarily undertakes to stay with them beyond the specified minimum term of the supply contract. Suppliers also offer rebates to customers who refer other customers to them. Returning customer rebates are also increasingly being used to win back lost customers.

> Large consumer market
Large consumers are offered a wider range of products than others. Market leader EconGas uses agreements containing fixed price and price escalation clauses linked to movements in market prices (e. g. oil prices). Its portfolio also includes floating price models combined with the option of fixing prices for a specified period of time.[53] No further details are available on these products.

[53] cf http://www.econgas.co.at/countries/austria/deu/business/01/index.htm

Consumer behaviour — switching rates

Around 7,350 gas consumers, or 0.5% of all end users, switched suppliers in 2008. A cumulative total of 4.2% of all consumers have switched since market opening. The switching rate for industrial consumers (demand metered consumers) is much higher than that for household consumers, which has declined since liberalisation. During the 2008 gas year 3.8% of all demand metered consumers changed suppliers, compared with just 0.5% of the household consumers and 1.5% of the other small consumers. These figures do not include customers who switched supplier following the substantial price increases in October – November 2008.

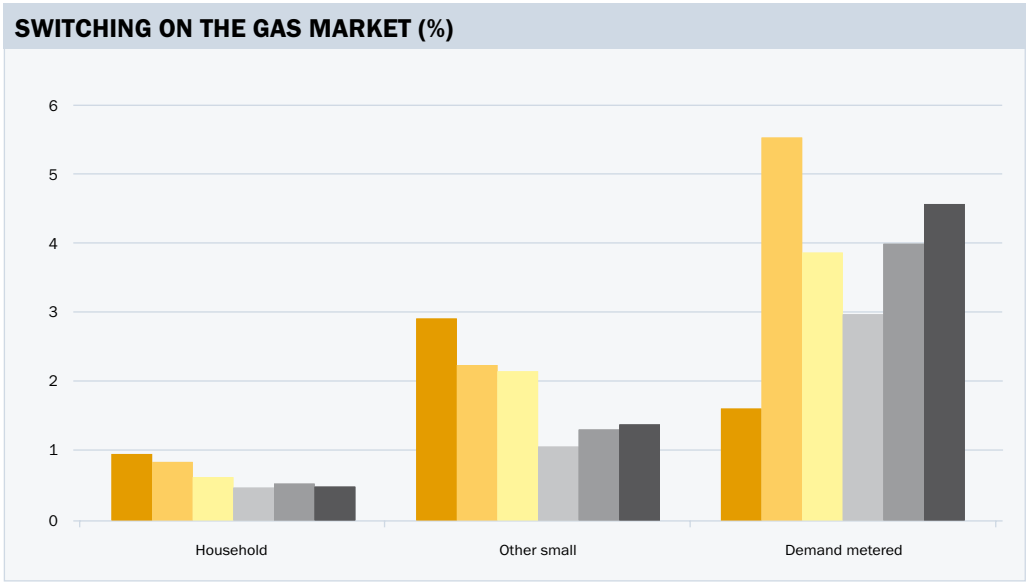


Figure 63
Switching on the gas market – metering point switches, 2003 – 2008

Source: E-Control

The hikes in household gas prices at the start of the 2008/2009 heating season sparked a wave of interest in switching among consumers, and the number of calls to the E-Control hotline about potential savings rose sharply. The number of switchers also grew markedly in the first quarter of 2009, albeit from a very low base (*Figure 64*).

Despite sharp increases in the leading suppliers' prices, competitors have not taken this opportunity to acquire large numbers of new customers by offering attractive substitute products. For instance, Kelag – at times Austria's cheapest national supplier – suspended its nationwide marketing effort from July to December 2008. Potential switchers had to ask themselves whether alternative suppliers would also raise their prices – and if so, when and by how much. Especially in the gas market, the lack of competitive pressure enables incumbents to push through massive price rises (up to 47 % for the energy component of the gas price) without shedding large numbers of customers. The current procurement situation on the gas market could be a reason for alternative suppliers' caution.

SWITCHING ON THE GAS MARKET – SMALL CONSUMERS

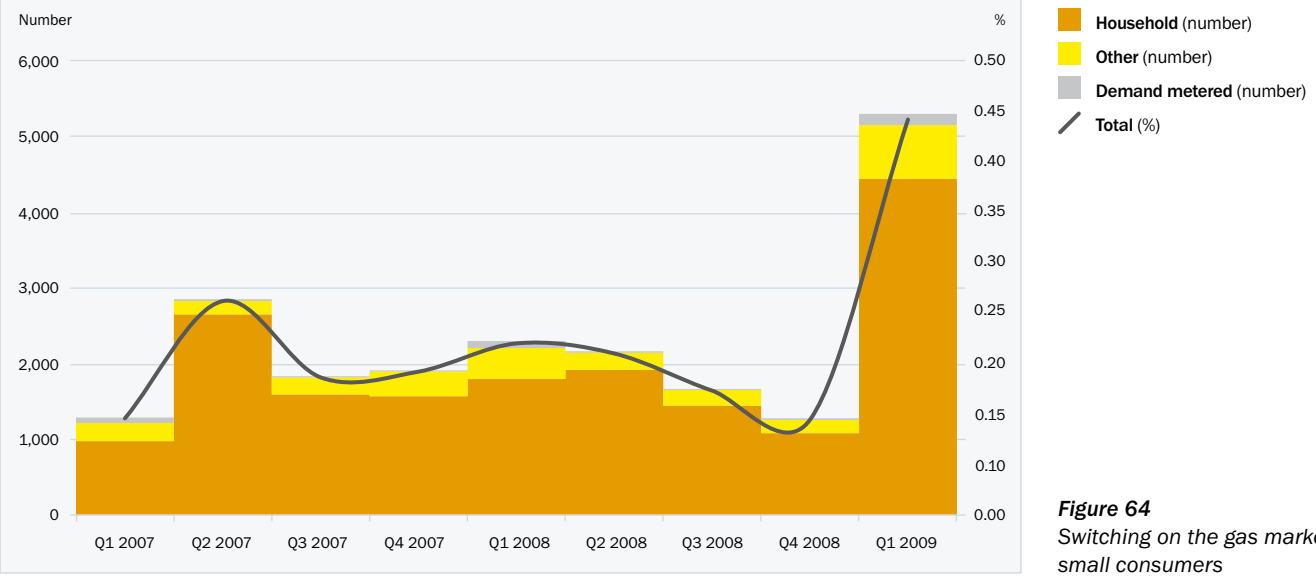


Figure 64
Switching on the gas market – small consumers

Source: E-Control

SUMMARY OF MAJOR DEVELOPMENTS IN THE GAS MARKET

Wholesale gas prices rose steeply until September 2008 but then fell heavily.

The picture with regard to retail prices is mixed. The marked wholesale price increases fed through into the prices paid by large consumers in 2007 and 2008, but the same applies to the subsequent price falls.

In the case of small consumers, and especially household consumers, the leader on the retail market – the EnergieAllianz sales companies – raised its prices particularly sharply; EVN upped its energy price by 47 %. Although there was a marked increase in switching the low absolute number of switches is surprising in view of the massive price increases. This shows that some companies still wield considerable market power.

The supply side of the gas market remains a major problem, as it is characterised by heavy dependence on a single wholesaler and supply route, and low liquidity at the trading hub. This limits the procurement options, and hence competition among suppliers. New transport corridors like Nabucco, and increased interconnection of the European transport grid will open up new procurement markets and stimulate competition.

ACTION TO STIMULATE COMPETITION ON THE AUSTRIAN GAS MARKET IN 2008

In response to the energy price rises in the period up to September 2008, the Competition Commission proposed a gas “competition stimulation package” along the same lines as the electricity package. We therefore launched a “gas competition initiative” in cooperation with the Federal Competition Authority.

One of the main thrusts of the initiative is gaining greater access to the international transit flows through Austria for the local retail market. International wholesalers with large quantities of gas at their disposal in Baumgarten are to be given improved access to the Austrian market by dismantling barriers to entry. The proposed measures are aimed at giving gas consumers a wider choice of suppliers by creating a more liquid wholesale market.

Further progress towards developing secondary transmission and storage capacity markets, and a liquid market – including a gas exchange – is crucial to intensifying competition. With the unbundling of incumbents' operations only fulfilling the letter but not the spirit of the law, a level playing field for suppliers remains illusory. The incumbents can still find ways of giving preferential treatment to fellow group companies.

Public service issues

Licence conditions, and general terms and conditions

The operation of a distribution network is a licensed activity. Where a distribution system operator (DSOs) is part of a vertically integrated undertaking, and over 100,000 consumers are connected to its network, it must be independent at least in terms of its legal form, organisation and decision making from other activities not relating to distribution.

All amendments to DSOs' general terms and conditions (GTC) are subject to the approval of the E-Control Commission. DSOs must amend their GTC at the Commission's request where this is necessary to achieve a competitive market. The Commission may attach conditions to the approval of GTC.

Suppliers of end users are obliged to join a balance group and to conclude data exchange agreements with the representative of the balance group whose members they supply, system operators whose networks their customers are connected to, and the clearing and settlement agent responsible.

The general terms and conditions for electricity or gas supply must be submitted to the regulator before they come into effect and before any amendment. The use of unethical or illegal terms and conditions may be prohibited.

Electricity disclosure

Details of the mix of fuels used to produce the electricity supplied to consumers must be given in percentages on electricity bills. This disclosure information must be presented in a clearly legible manner.

The guarantees of origin supporting these disclosures must be independently audited. They must include information as to the primary energy sources used to generate the electricity, the time and place of generation, and the name and address of the generator.

Annex A

If information is given on the electricity or gas energy price together with the system charges, these are advertised together, contracts are offered for both, or both are to be jointly invoiced, then the system charges, taxes and surcharges, and energy price must be itemised in a transparent manner.

The energy price payable for a kilowatt-hour of electricity or gas must be stated on bills, in suppliers' general terms and conditions, and in contracts.

Price changes, and amendments to general terms and conditions must always be notified to customers in writing, in a timely manner. If a customer objects to a notified contractual amendment the contract may not terminate until after a notice period of three months from the last day of the operative month. This ensures that the customer has sufficient time to look for a new supplier. The customer must be served at the existing prices until the switch takes place.

The general terms and conditions for the supply of gas or electricity must, as a minimum, state the following:

- The name and address of the supplier;
- The services rendered and the quality of service offered;
- The expected time of the commencement of supply;
- The energy price in cent per kWh, including any surcharges and levies;
- The duration of the contract, the conditions for extending or terminating the services and the contract;
- The existence of a right to withdraw from the contract;
- Any arrangements for compensation or reimbursement in the event of non-conformity with the contractually agreed service quality;
- Information on complaint procedures;
- The terms on which last resort supply (basic supply) is provided.

In the interests of transparency the following information must be given on invoices:

- The meter readings applied to settlement of the account;
- The means of determining consumption (reading by the system operator, self-reading or statistical calculation);
- Energy consumption during the settlement period, itemised by tariff periods;
- The metering point reference number;
- The grid level to which the customer installations are assigned;
- The agreed or acquired extent of system use, stated in kilowatts (electricity) or kilowatt-hours (gas).

Electricity suppliers and system operators must inform customers of important contractual terms before concluding contracts. To this end information leaflets must be issued to customers.

Supplier of last resort

The Energy Security of Supply Act 2006 is the first Austrian legislation to provide for a supplier of last resort which assumes responsibility for ensuring that household consumers receive a basic electricity supply.

A noteworthy aspect of the Act is the fact that every electricity retailer is deemed to be a supplier of last resort, and must supply prospective customers at its valid general terms and conditions, and published rates.

The detailed arrangements with regard to the reasonableness of the basic supply obligation for suppliers and the rates must be established by implementing legislation at provincial level.

All the provinces have now implemented this provision of the Electricity Act.

Some of the implementing legislation allows surcharges on the energy price to compensate suppliers for the “additional administrative expense” involved in serving such customers.

To the best of our knowledge no suppliers have yet made use of this possibility. In addition, customers wishing to take advantage of supplier of last resort service can be required to make deposits or prepayments. It is also possible to disconnect customers who are in default of payment despite reminders.

We have no information as to the number of consumers who are making use of supplier of last resort services, but it is safe to assume that very few are doing so.

Vulnerable customers

There are no regulated energy prices in Austria. However there are some non-price-related forms of assistance for various consumer groups for which the federal and provincial governments are responsible.

Disconnections

Suppliers’ general terms and conditions of network access, which must be approved by the E-Control Commission, must at least require a written reminder and notice of disconnection before a consumer can be disconnected for any reason whatsoever.

Another measure taken to protect customers against disconnection is the option of agreeing instalment payments. To the best of our knowledge all the energy suppliers offer such payment methods to customers who are already, or are in danger of being in arrears. In addition, a number of companies offer the installation of a prepayment meter.

We have no information on the number of disconnections or the reasons for them.

Security of supply: electricity

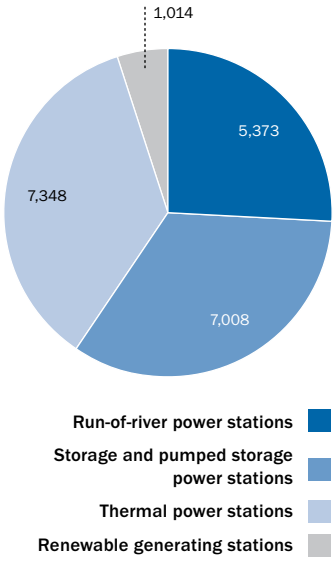


Figure 65a
Generating capacity in Austria as of 31 December 2007 (Total capacity: 19,460 MW)

Source: E-Control

Section 20i para 1 *Energielenkungsgesetz* 1982 (Energy Management Act 1982) as amended by Federal Law Gazette I no 106/2006 charges E-Control with monitoring the security of electricity supply with a view to preparing intervention measures. The information yielded by these monitoring activities may be used for long-term planning and the preparation of a report pursuant to section 14a Energy Regulatory Authorities Act.

The legal basis of the monitoring of security of supply is Article 4 Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003, which reads as follows:

„Member States shall ensure the monitoring of security of supply issues. Where Member States consider it appropriate they may delegate this task to the regulatory authorities referred to in Article 23(1). This monitoring shall, in particular, cover the supply/demand balance on the national market, the level of expected future demand and envisaged additional capacity being planned or under construction, and the quality and level of maintenance of the networks, as well as measures to cover peak demand and to deal with shortfalls of one or more suppliers. […]"

In fulfilment of its duties under section 14a Energy Regulatory Authorities Act, Federal Law Gazette I no 106/2006, E-Control is obliged to prepare a report on the results of its monitoring activities under art. 4 Directive 2003/54/EC, and to publish it in an appropriate manner. The results of activities pursuant to section 20i Energy Management Act can also feed into this report. It should noted that the surveys conducted by E-Control are also to be coordinated at European level and conducted by the various regulatory authorities, so as to enable monitoring and forecasts of current and longer-term security of supply to be made. These national and European reports could thus lay the groundwork for further concerted action to safeguard supply security.

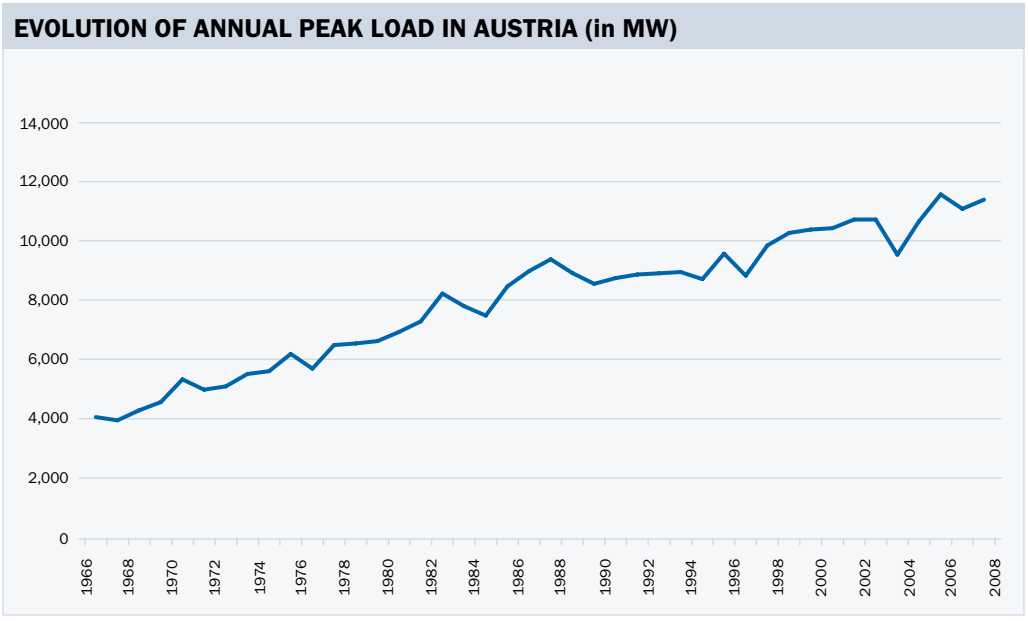
Electricity consumption and generation

Electricity consumption in Austria has increased steadily in recent years, in line with the long-term trend. However, the rate of growth has slowed significantly. While final energy consumption (adjusted for the generating sector, non-energetic consumption and energy sector own consumption) increased by an annual average of 2.8% in the 1980s it has dropped to around 2% on average in the past two decades. Final energy consumption in 2007 amounted to 57.6 TWh (207,382 TJ) and total domestic electricity consumption (excluding pumped storage) to 67.8 TWh. This trend is due to the close link between electricity demand and gross domestic product.

As of the end of 2008 Austria's total installed generating capacity stood at 20.7 GW, 60 % of which was accounted for by hydro power stations, 35 % by thermal power stations and 5 % by "other" renewable generating stations such as wind farms and photovoltaic arrays (see *Figure 65a*). As shown in *Table 15*, around 5,276 MW of the 7,348 MW of thermal generating capacity in place is at combined heat and power plants. Gross electricity generation totalled 67,046 GWh (see *Figure 65b*), a rise of about 3 % on 2007.

This compared with total domestic electricity consumption (excluding pumped storage) of 68,635 GWh. The difference between generation and consumption was covered by imports. Total physical imports amounted to 19,796 GWh – a year-on-year increase of 3 % – while exports fell by 5 % to 14,993 GWh.[54]

In 2008 the annual peak load, measured by peak capacity on the third Wednesday of each month, was 9,955 MW. *Figure 66* shows the evolution of annual peak load over time.



Source: E-Control

Annual output (GWh)

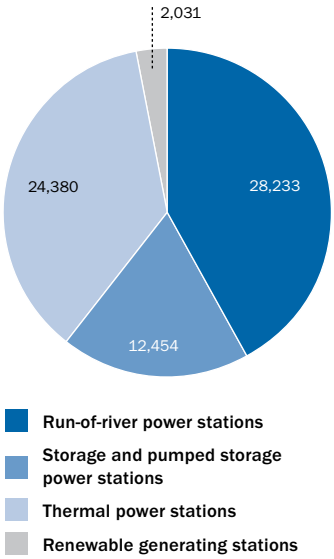


Figure 65b
Generating capacity in Austria as of 31 December 2007 (Annual output: 67,046 GWh)

Source: E-Control

Figure 66
Evolution of annual peak load in Austria (in MW)

[54] Generation and imports do not accurately balance consumption and exports as some generation technologies are more or less efficient than others (e.g. pumped storage) and as system losses have to be accounted for.

CAPACITY OF THERMAL POWER STATIONS 2008

Thermal capacity and electric capacity	Thermal power stations **with** CHP		**without** CHP
	Thermal capacity MW	**Maximum capacity MW**	**Maximum capacity MW**
Total	**8,442**	**5,276**	**2,072**

Table 15
Capacity of thermal power stations with/without combined heat and power (CHP), calendar year 2008

Source: E-Control

Electricity consumption in Austria is forecast to grow by an annual average of 1.8% up to 2017, resulting in an increase of around **206 MW** in the annual average peak load.

To judge security of supply in Austria up to 2017, it is necessary to compare future available generating capacity and peak loads.

COVERAGE OF AUSTRIAN ELECTRICITY DEMAND (forecast, in MW)

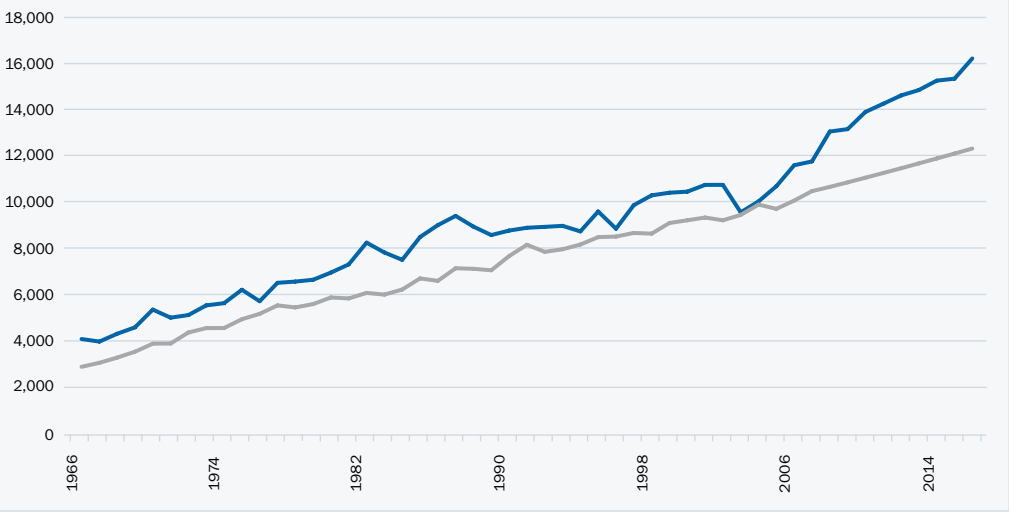


Figure 67
Coverage of Austrian electricity demand (forecast, in MW)

Source: E-Control

Electricity generation is influenced by a variety of exogenous factors (e.g. temperatures, precipitation and water supply) and the market. This is reflected in inventories of fuel for thermal power stations and stored water at pumped storage generating stations. It is also necessary to take account of available generating capacity, which is lower than installed capacity due to factors such as maintenance turnarounds, shutdowns, failures and pumped storage levels. In 2006 available (i.e. maximum) generating capacity in Austria totalled 11,759.9 MW, as shown in *Figure 67*. This compared with total installed power station capacity of 19,460 MW.

Figure 68 lists the power station projects with a maximum installed capacity of at least 25 MW identified by the surveys. Unlike the 2006 monitoring report these for the first time complied in full with section 20i section 1 Energy Management Act. New capacity due for commissioning by 2017 amounts to some 5,633 MW, of which hydro generating stations account for 2,693 MW and thermal power stations for 2,940 MW. The forecasts do not include power plants and generating stations with capacities of less than 25 MW (apart from renewable generating stations).

Installed capacity is thus likely to expand by some 7,508 MW (including planned and forecast expansions, in particular at renewable generating stations) by 2017. The related investment in power stations is estimated at more than **€ 4bn**.

In addition to the projects identified by the surveys, renewable generating stations (e.g. wind farms and biomass fired plants) are being built. For the 2007 – 2017 period relevant to the forecast, E-Control anticipates an increase in capacity of some 1,875 MW. This capacity is counted as "renewable generating stations" irrespective of the generating technology involved.

Power station decommissioning and closures

Any survey of capacity must also consider power station decommissioning. In general, the decision to decommission is based on whether a power station will cover marginal costs in the long run.[55] Changes in wholesale prices are the key factor here.

Forecast generating capacity in Austria in 2017

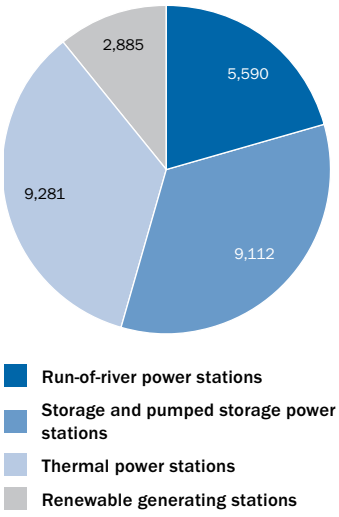


Figure 68
Forecast maximum generating capacity in Austria in 2017 (Maximum capacity 26,968 MW)

Source: E-Control

[55] Power stations that do not cover marginal costs anymore are often kept in reserve in the short term and can be activated again if the need arises. Currently, 850 MW are kept in reserve in Austria.

In the light of the forecast price trend in continental Europe we do not expect any major closures or mothballing of power stations up to 2017 due to market or other developments. This corresponds with the findings of a survey conducted in connection with the Energy Management Data Order (excluding renewable generating stations) for the period up to 2017. Hydropower remains subject to uncertainties due to the Water Framework Directive (2000/60/EC).

To sum up, it can currently be assumed that 5,633 MW of additional capacity (excluding 1,875 MW from renewable sources), including planned and forecast expansions, will be available in 2017, bringing total installed capacity in Austria to 26,968 MW (see *Figure 68*).[56]

As Austria is part of the UCTE system domestic capacity is only part of the picture as regards security of supply. Generating capacity in the other UTCE countries also has to be taken into account. The UCTE System Adequacy Forecast 2008 – 2020 indicates that electricity supply in the UTCE area is secure until 2013 as available capacity exceeds the safety margin assumed to be adequate by 38.3 GW under scenario A and by 48.4 GW under scenario B.

Electricity networks

The interconnected high (110 kV) and ultra-high voltage (220/380 kV) networks, to which the large generating stations are linked, are the basis of the national power supply system. The functions of the 220/380 kV networks include supraregional electricity transmission, balancing, contributing to overall grid reliability and maintaining an uninterrupted supply of electricity to connected consumers and the downstream 110 kV networks. The 220/380 kV networks are thus the backbone of the 110 kV systems.

The Austrian ultra-high voltage network is well integrated with the European interconnected grid. Within Austria, it forms the link between the various 110 kV grids, which are mostly galvanically and electrically isolated from each other (by transformer substations) for technical and operational reasons. This is particularly important in situations where mutual assistance is required.

[56] The probability for all the power plant construction projects included in the forecast was considered to be 100 %.

The international links between the ultra-high voltage networks underpin security of supply and the functioning of a supraregional market. The long-term availability of sufficient cross-border transmission lines is thus of great importance, and attention must constantly be paid to their maintenance and expansion.

Network development projects

The key parameter when determining network capacity needs – assuming N-1 security – is rated transmission capacity, measured in MVA. Another fundamental principle of network planning is that of taking all the known exogenous variables into account – not least, because of the large amount of capital expenditure involved. The future development of the transmission networks will be driven by the steady increases in loads, injection from power stations, changes in standby capacity (due to the construction of new generating stations and decommissioning of capacity), the growth of cross-border electricity trading and the need to maintain security of supply in Austria, especially in the light of the disproportionately rapid rise in power requirements in urban areas. Accordingly, grid planning should be a dynamic process which adjusts to the constant changes in planning variables.

The surveys pursuant to section 20i para 1 Energy Management Act resulted in only minor changes to the detailed descriptions of the 116 network development projects published in the 2006 monitoring report, reporting on which was coordinated by the VEÖ in 2007. By steadily upgrading their networks, Austrian system operators are aiming to create infrastructure that meets the country's needs and is equal to the demands of a liberalised electricity market. The summary of projects and their status largely corresponds to the tables in the 2006 monitoring report.

The surveys also confirm the previous findings, according to which the national high and ultra-high voltage grids will require constant maintenance and expansion over the next few years. However, attention needs to be paid to the fact that rapid completion of the necessary approval processes – especially those relating to expansion of the ultra-high voltage grid – is critical to timely project execution.

Given implementation of all of the planned infrastructure projects (generating stations and transmission networks), security of supply will be assured during the period under review (up to 2017).

Security of supply: gas

Section 20j para 1 Energy Management Act 1982 charges E-Control with monitoring the security of natural gas supply with a view to preparing intervention measures. In order to assess congestion in transmission systems, the control area managers identified in section 12a Natural Gas Act are required to make every endeavour to participate in this process. This monitoring covers, in particular:

- The supply/demand balance on the domestic market;
- The level of expected future demand and available supplies;
- Additional capacity at the planning or construction stages;
- The quality and extent of network maintenance;
- Measures to cover peak demand and to deal with outages of one or more suppliers; and
- The availability of natural gas sources and networks.

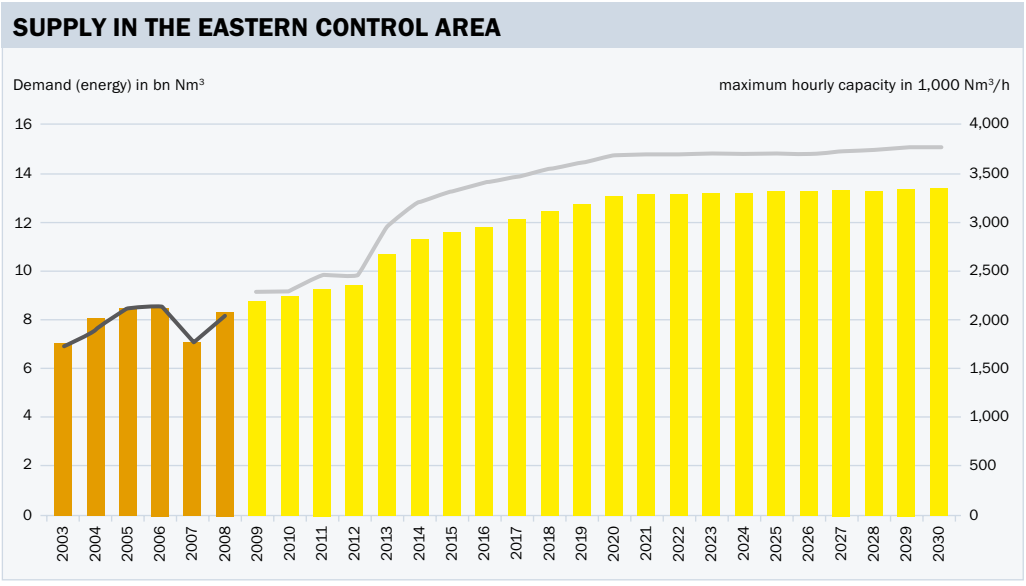


Figure 69
Forecast maximum hourly capacity and demand in the Eastern control area

Source: AGGM

The findings of the monitoring activities may be used as a basis for the long-term planning and the compilation of a report pursuant to section 14a Energy Regulatory Authorities Act. The medium and long-term demand forecasts are available to the competent authorities and the companies active on the market.

Long-term planning

The long-term planning is based on data that is constantly generated by control of the transmission grid, as well as information provided by transmission and distribution system operators and suppliers. The storage operators and the domestic natural gas producers are also asked about their development plans.

The sales forecast in the long-term planning points to low growth in the household and small commercial consumers segments. The power station projects are the main source of demand for additional transport capacity.

In the analysis of the outlook for the capacity situation, both the winter peak load scenario and the summer scenario with storage operations show that existing transport capacity is sufficient neither for planned customer projects nor the “other” shipments that will be required.

In the Carinthian grid zone it is still impossible to approve any system access applications that would call for capacity expansions. Prior to the completion of the new southern line it would only be possible to reserve the necessary transport capacity by purchasing capacity on the TAG, but the congestion on the latter means that this cannot be done at reasonable cost.

AGGM’s long-term plan therefore provides for a number of infrastructure projects aimed at keeping pace with forecast sales growth. The long-term plan is posted on the AGGM website (http://www.aggm.at).

Energy management

The amended Energy Management Act transferred responsibility for precautionary planning, and the preparation and coordination of action to maintain natural gas supplies in emergencies.

"Triggers" have been defined to facilitate assessment of the likelihood of a gas shortage. E-Control and the control area managers continuously monitor the supply situation using the data available to them. When a predefined danger level is reached this triggers measures described by a crisis prevention manual; these are coordinated with the relevant market participants.

If forecast demand exceeds total supply capacity in a control area and the pressure situation on the transmission system is regarded as critical, the Minister of Economy, Family and Youth is empowered to order emergency intervention measures. These can involve directions to storage companies, suppliers, wholesalers and producers designed to make additional quantities of gas and/or capacity available, instructions to large consumers to curtail consumption and general appeals to consumers to save energy.

Consequences of the gas supply interruption in January 2009

The two-week halt to Russian gas imports into Baumgarten demonstrated that Austria can cope with a situation like this without resorting to emergency intervention measures and curtailing supplies to consumers in the Eastern control area, provided that full use is made of all the available market mechanisms. This was possible because all the potential sources of supply (imports, domestic production and storage) were fully mobilised. Demand-side measures by the suppliers to spread peak load and moderate consumption made a useful contribution.

The experience gained in January 2009 revealed a need for increased forecasting and monitoring, and E-Control therefore amended the *Erdgas-Energielenkungsdaten-Verordnung 2006* (Natural Gas Management Data Order 2006) with effect from 1 July 2009. The main purpose of the amendments was to permit the imposition of extended reporting duties as soon as a significant gas import cutback is identified; previously, the prior enactment of an emergency intervention measures order had been required. In the event of an import reduction of over 40 % E-Control can now impose extended reporting duties on transmission companies and transportation rights holders, large consumers, operators of gas-fired power stations and balance group representatives.

Index of charts and tables

Index of charts

Index of tables

Editorial

Published by: Energie-Control GmbH, Rudolfsplatz 13a, A-1010 Vienna
Phone +43 1 24 7 24-0, fax: +43 1 24 7 24-900, e-mail: office@e-control.at

Editorial responsibility: DI Walter Boltz, Managing Director, Energie-Control GmbH
Concept & Design: FABIAN Design und Werbe GmbH
Contents: E-Control GmbH
Image editing: Blaupapier GmbH
Print: Stiepan Druck GmbH