

# Market Report 2008



NATIONAL REPORT TO THE EUROPEAN COMMISSION



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### → Editorial

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# Major developments in the year 2007



## Major developments in the year 2007

### → Relative size of the electricity and gas sectors

Between 2005 and 2006 Austrian gross domestic energy consumption rose by a mere 0.6% to 1,442,249 terajoules (TJ). Natural gas consumption dropped by 6.1%, mainly for weather related reasons. In 2006 natural gas accounted for 21.9% of total energy consumption in Austria – slightly lower than renewables (22.4%) but a higher share than coal (11.8%). Oil remained the largest energy source,<sup>1</sup> with a 42.2% share, while electricity made up 16.67% of final energy consumption.

#### Electricity industry – key indicators

Table 1 shows the electricity balance in 2007 and changes from 2006. Foreign trade in electricity

#### → Electricity balance in 2007

Table 1

	2007 (GWh)	Change vs. 2006
Gross electricity generation	63,741	–0.28%
Physical imports	22,130	+4.10%
Physical exports	15,511	+7.66%
Consumption by PSP*	2,985	
Domestic electricity consumption	67,375	+0.70%

\* Pumped storage power plants

increased slightly, while domestic electricity consumption declined marginally.

#### Gas industry – key indicators

Table 2 gives an overview of the gas industry in 2007 and changes compared to 2006. Movements in and out of storage increased markedly as compared to 2006.

#### → Gas balance in 2007

Table 2

	2007 (m cu m)	2007 (GW)	Change vs. 2006
Imports	37.13	412,499	+0.9%
Production	1.85	20,528	+1.6%
Withdrawals from storage	2.38	26,425	+34.1%
Exports	30.24	335,939	+4.2%
Injection into storage	2.68	29,792	+9.5%
Own use, losses, network losses; statistical difference	0.50	5,514	
Supply to end-users	7.94	88,205	–6.1%

<sup>1</sup> Statistics Austria, [www.statistik.at](http://www.statistik.at).

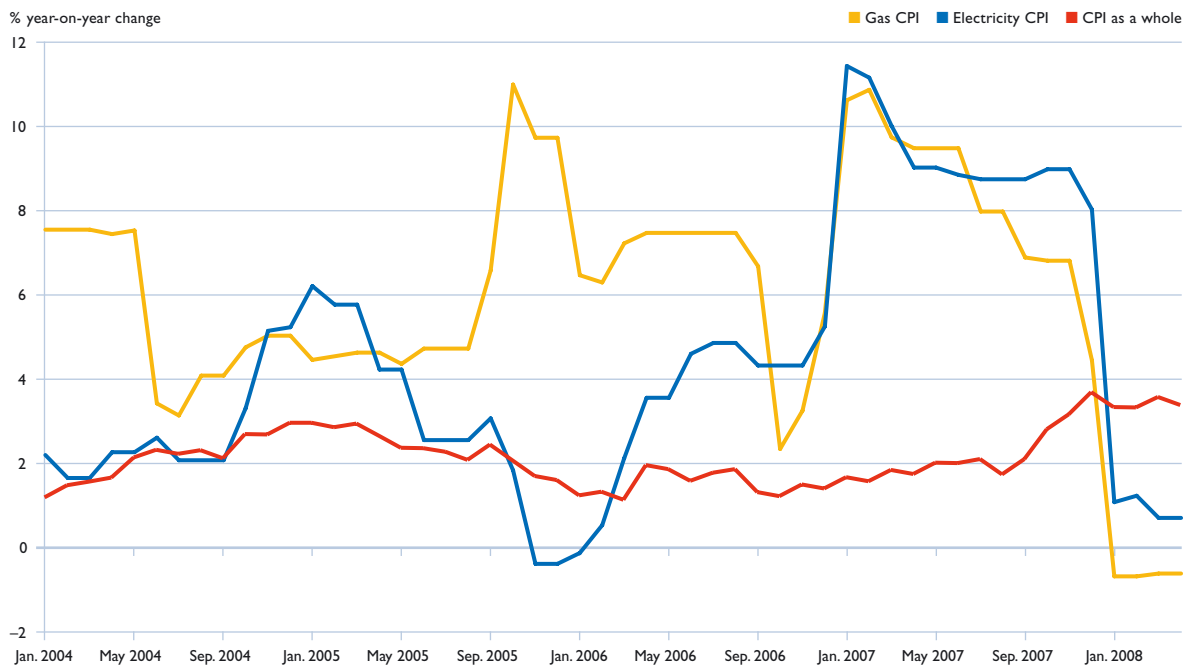
### Price trends in 2007

While the overall inflation rate was 3.6% in December 2007, electricity prices were up by 8% and gas prices by 4.4%. Electricity and gas prices thus continued to contribute significantly

to headline inflation. The trends in Chart I show that in 2007 the year-on-year rises in electricity and gas prices were well ahead of the rate of increase of the overall consumer price index (CPI), but fell below it in December 2007.

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

Chart I



Source: Statistics Austria



Regulation of the Austrian electricity and gas markets is chiefly the responsibility of two separate authorities which cooperate closely. However, some key regulatory activities, such as monitoring of unbundling in the electricity sector, have been transferred to other bodies, which makes coherent market regulation harder to achieve.

#### → The Energy Control Commission

The Energie-Control Kommission (E-Control Commission) is an independent authority which is not bound by directions. It consists of three members, one of whom must be a judge. The other members must have a relevant technical, legal or economics background.

The principal duties of the Commission are:

- Approving the general terms and conditions of system operators for access to transmission and distribution systems;
- Determining the system charges;
- Adjudicating in cases of system access denial;
- Prohibiting the imposition on final consumers of unethical terms and conditions;
- Ruling on certain disputes between market participants;
- Arbitrating in disputes concerning the settlement of balancing charges;
- Hearing appeals against decisions by E-Control.

#### → Energie-Control GmbH

Energie-Control GmbH (E-Control) is an executive non-departmental public body which uses the resources of the state to perform its statutory duties. E-Control's responsibilities extend to all the duties assigned to it by law as a regulator, unless the E-Control Commission is expressly charged with them.

E-Control's monitoring and oversight function includes, in particular, acting as a competition watchdog, preparing and publishing energy price comparisons, and – in the gas sector – monitoring unbundling. If E-Control detects market abuse in the course of its oversight duties, it must take corrective action without delay.

E-Control is also responsible for drawing up proposals for market rules, and for technical and organisational rules (TOR). Other duties include processing the equalisation payments necessitated by the consolidation of networks with different owners, statistical work, and balancing-group oversight. Finally, E-Control is also the secretariat of the E-Control Commission.

The reform of Austrian competition law which came into effect on 1 July 2002, significantly strengthened the regulators' legal position. E-Control acquired the right to make applications to the Cartel Court under a number of sections of the Kartellgesetz (Cartel Act), but not relating to merger control. E-Control is also entitled



to give evidence in legal proceedings relating to the energy sector. Apart from exercising these rights, which derive directly from the Cartel Act, E-Control also advises and assists the competition authorities at their request. To this end, there are legislative arrangements for close co-operation between the competition authorities and the regulator.

#### → Enforceability of decisions and available sanctions

In accordance with section 10(2) E-RBG (Energy Regulatory Authorities Act) and as part of its competition oversight and monitoring function, E-Control is empowered to initiate proceedings with a view to restoring compliance with the law. If a company fails to comply when called upon to do so, an enforcement notice must be issued.

Neither the E-Control Commission nor E-Control can enforce their decisions themselves. In principle, all decisions by the regulatory authorities are contestable. Appeals to the E-Control Commission against E-Control rulings automatically have a suspensive effect unless this is excluded by the first-instance decision. Decisions by the E-Control Commission can be challenged in the Constitutional Court and/or Administrative Court of Appeal. In such cases an appeal only has a suspensive effect after a preliminary decision of the court.

The regulator's decisions are enforced by way of the courts of execution. Companies normally accept rulings that have been upheld by the appeal courts, and abide by them.

E-Control's powers in respect of the monitoring of unbundling in the electricity sector are a cause of considerable problems. Although E-Control is responsible for competition oversight, and in particular enforcing non-discriminatory treatment of all market participants, the EIWOG (Electricity Act) charges the provincial authorities – which are normally also the owners of electricity system operators – with monitoring unbundling and the companies' compliance programmes. It would be more productive to concentrate all of these powers in the hands of E-Control, which specialises in such activities.

Non-compliance with the provisions of energy legislation is normally an administrative offence. However, the enforceability of these provisions is currently weak. Normally, any administrative penalties must be imposed by the district administrations, which are not equipped to deal with – often highly complex – energy legislation. Moreover, in many cases the fines are low (up to a maximum of €50,000), and bear no relation to the financial benefits to be gained from breaking the law. Consequently such penalties have no deterrent effect.

### → Independence of the regulatory authorities

Both the E-Control Commission and E-Control enjoy a wide measure of independence. The members of the E-Control Commission are appointed for five years, and are not bound by directions in the exercise of their duties. This means that neither the responsible minister nor other state bodies may intervene in the activities of the regulatory authority, which is only bound by its statutory duties. It goes without saying that the regulator is also independent of the regulated companies. Persons with close legal or de facto relationships with parties affected by any of the regulator's activities are barred from membership of the E-Control Commission.

The far-reaching independence enjoyed by E-Control derives from the fact that the responsible minister can only issue written and argued directions to the chief executive. No such direction has been given since E-Control was established. Moreover, directions are subject to a duty

of publication. Finally, E-Control is a non-departmental public body, and has a separate budget, giving it a high degree of flexibility. E-Control has a statutory duty to report on its activities on an annual basis. There are special arrangements for renewable electricity, requiring E-Control to report on the attainment of statutory targets for renewables.

### → Overlapping jurisdictions with other governmental agencies/authorities

In the past, regulated companies have criticised the alleged overlapping responsibilities of the regulatory authorities and other authorities, e.g. in the field of competition law. However, appeal court verdicts have since upheld the constitutionality of the current arrangements. Nevertheless, in E-Control's view it would be helpful to give the regulatory authorities a formal role in merger proceedings (e.g. a right to move for in-depth investigations).



#### → The electricity market

Partial integration of the wholesale electricity market, but slow progress in regional integration with neighbouring Central and East European countries

Market integration is one of the regulatory authority's key strategic objectives. The high level of integration with the German pricing area is important in this respect but also restricts liquidity on the Energy Exchange Austria (EXAA). This is currently having a negative impact, as there is little difference between EXAA and European Energy Exchange (EEX) prices. If network congestion arose, increased trading volumes on the EXAA would be likely. However, Austria would then be confronted with a far higher degree of market concentration during congestion periods. Ideas are therefore needed for effective oversight of trading on the EXAA and, if necessary, Austrian price formation on the EEX.

Due to its 15,500 MW of transmission capacity into neighbouring countries, Austria is predestined for strong integration of the wholesale market. In fact, Austrian wholesale prices are in line with those in Germany and, as a result of market integration, Austria "imports" a close linkage between electricity prices and coal and gas quotations (and consequently also CO<sub>2</sub> emission allowance electricity prices); it also enjoys very low off-peak prices.

Consequently, the fall in CO<sub>2</sub> allowance price also drove down spot prices on the Austrian EXAA exchange to €39.10/MWh in 2007. However, forward prices for 2007 on the German EEX were €8.30 higher on average. Differences between the EEX and the EXAA can be traced back to variations in trading times (the Austrian exchange closes two hours earlier than its German counterpart). This ensures that Austrian

consumers can purchase energy at comparable prices to their neighbours and medium-sized enterprises can buy at the same prices as their competitors.

Given Hirschmann-Herfindhal Index (HHI)<sup>2</sup> levels that have consistently held above 2000, some producers would probably exercise strong market power on the purely Austrian wholesale market that would exist in the absence of market integration. An additional knock-on effect of market integration is that more exchanges are currently offering electricity trading for deliveries to eastern Austria. Spot and futures contracts are now being traded on the German EEX, while the Austrian EXAA only auctions spot contracts. Due to the lack of congestion on the German-Austrian border, trading for delivery in Austria is increasingly concentrated on the German exchange, which operates a separate Austrian trading zone. Nevertheless, EXAA trading volumes have risen by some 38%, which indicates the importance of the difference in trading hours.

While the situation on the German border is good, there is significant network congestion at all of Austria's other borders. The use of explicit auctions to manage this congestion causes considerable inefficiencies in the channelling of electricity flows. Thanks to the Electricity Regional Initiative Central-East Region, efficient use of transportation capacity is likely to be achieved in the medium term. Efficient and truly market-based capacity allocation continues to be hampered by non-existent or illiquid wholesale markets and the resultant lack of price information in most of Austria's neighbours in Central and Eastern Europe. Further integration with these countries could take place either directly or indirectly via Germany, but this would require the expansion or more efficient use of capacity between the Czech Republic, Poland and Germany.

<sup>2</sup> The HH index is the sum of the squares of the market shares.

Despite the high capacity of the interconnectors, the level of integration remains inadequate.

This is connected with the following factors:

- Wide price differentials between Europe's northern and southern wholesale markets, which permit large arbitrage trades requiring correspondingly large amounts of transport capacity.
- Calculation of capacity in the Central-East region is yet to be standardised, so many lines are still not being used optimally.
- Many neighbouring countries do not have liquid wholesale markets, which hinders efficient price formation (and thus price signals for investment) and capacity allocation.

The current Regional Energy Markets are only making slow progress (if any) in rectifying these shortcomings.

#### Lack of effective limits to suppliers' market power

Local players continue to exercise strong market power in the mass market. This power would only be diminished if customers became considerably more willing to switch, and action is therefore needed to give competitors a chance of acquiring customers. This should include steps to increase market transparency, e.g. in connection with billing. The progressive dismantling of barriers to market entry is also required, and E-Control plans to focus still more closely on this issue in future.

Austria opened its electricity market for all end-users in 2001. The fact that the necessary modicum of harmonisation of the key business processes had been achieved meant that there were no major administrative problems in handling supplier transfers.

Nevertheless, competition for final consumers remains very weak, as shown by a switching rate of just 1.5% among domestic consumers.

A total of just under 6% of all households have changed suppliers to date. In contrast 9.5% of industrial customers switched in 2007, bringing the total to 53% since 2001.

Increased consumer price sensitivity resulted in the highest ever churn rate in 2007. However, in the view of the regulatory authority, switching rates are still too low to permit sustainable competition. The Austrian electricity sector inquiry conducted by the Federal Competition Authority and E-Control in 2005/2006 revealed that all of the local incumbents have dominant positions in the small-consumer segment, meaning that it is profitable for them to increase their prices.

The emergence of active competition for Austrian domestic customers depends on turning sufficiently large numbers of end-users into active consumers who are genuinely willing to making savings by switching. With little effort being made by the incumbents' competitors to reach consumers with information, potential annual savings of €70–100 have failed to motivate consumers to switch.

Inadequate unbundling is a major cause of the slow growth of competition. The unbundling of system operators and local retailers is scarcely noticeable for consumers. This means that the system operators' goodwill is transferred to the suppliers free of charge. System operators' communications (advertising, bills etc.) therefore have an important part to play in stimulating competition.

In 2007 increases in domestic prices were modest compared to movements in exchange quoted prices. Higher wholesale prices for 2006 and 2007 were factored in at the beginning of the year, and since then domestic prices have remained relatively stable. In the second half of 2007 Austria ranked ninth among the EU-15 in terms of household electricity prices.

In the case of industrial consumers, prices track futures quotations, so competition is on additional services such as portfolio management. Price savings are more likely to be achieved by purchasing at an opportune time than by changing suppliers. Nevertheless, a comparatively large number of industrial consumers switched in 2007 – probably because they were watching prices more closely than before.

All electricity and gas suppliers amended their general delivery terms in 2007 to meet the new minimum legal requirements, and the duty to report such terms to the E-Control Commission has led to considerable improvements for end-users.

As a result of the investigation of the Austrian electricity industry by the Federal Competition Authority and E-Control in 2005, a raft of measures designed to strengthen competition and independent monitoring of compliance were agreed in June 2006. The package includes a number of voluntary commitments by the electricity companies, intended both to bring direct improvements for consumers and to lead to closer and less expensive cooperation between suppliers and system operators.

Agreement was reached on stimulating competition by: requiring system operators to accord non-discriminatory treatment to all suppliers with regard to the electronic transmission of system charges billing data; shortening the supplier transfer process from eight to six weeks from start to finish; putting an end to questionable practices with regard to adjustments to all-inclusive prices; drawing up a code of conduct for suppliers; and distributing a factsheet to energy consumers throughout the country. All these actions were to be implemented in the course of 2007. Contrary to the proposals of the Federal Competition Authority and E-Control, the VEÖ (Association of Austrian Electricity Companies) was charged with monitoring the status of im-

plementation and compliance with the competition stimulation package, and submitting a report thereon, compiled with the aid of an auditor. This report and information gained from E-Control's general market oversight activities indicate that some of the measures contained in the package have been effective. However, while there has been progress on transparent billing, further efforts will certainly be required in this area<sup>3</sup>, and E-Control plans to focus still more closely on these issues in future.

The inadequate regulatory framework should also be mentioned in this regard. The regulatory authority is unable to enforce most of the measures required by EU competition policy because the Austrian transposing legislation does not provide for effective sanctions.

## → The gas market

### Description of the gas wholesale market

The Austrian gas wholesale market continues to be dependent on a single supplier. Diversification of the supply structure would require access to new procurement channels (Nabucco), TGL or LNG imports.

In its role as an embryonic trading platform, the CEGH has so far failed to create greater price transparency. It remains to be seen whether the involvement of the largest supplier in long-term gas wholesaling at the Central European Gas Hub (CEGH) will accelerate or hold back the evolution of this market. The development of effective market and exchange oversight, capable of giving participants confidence in the CEGH irrespective of its ownership, is thus a key regulatory challenge.

In 2007 Austrian net gas imports were 6.9 billion cubic metres (bn cu m), and 1.8 bn cu m of domestically produced gas were also offered on

<sup>3</sup> Since it was predictable that some of the regulator's proposals would be rejected during the discussions on the competition stimulation package some important points were included in the Act (e.g. statement of the energy price in cent/kWh, notification of price increases in writing, and right to object).

the wholesale market. Imports and domestic gas supplies are procured under long-term contracts. New contracts signed with Gazexport and GWH in 2006 have durations until 2027.

The largest supplier on the wholesale market is still Gazexport (partly through its subsidiary GWH), meaning that the import prices under these contracts give a strong indication of overall wholesale price trends. These prices are included in the calculation of the average import price, which is published by Statistics Austria on a monthly basis.

2007 was a year of rising wholesale prices, driven by climbing oil prices due to the linkage under the long-term import contracts. Wholesale prices fell by about 15% between January and May 2007, but then firmed by 33% over the rest of the year, to post a 15% increase for the year as a whole. This upward trend has so far strengthened in 2008.

There is still no price information on short-term gas trading on the CEGH. The introduction of a price index is planned for 2008, in order to enable the CEGH to fulfil an important function of a market – that of providing a price benchmark. To date only the EconGas auctions under the gas release programme have permitted a degree of price transparency. When the auction was held in 2007 the starting price is believed to have been €21.75/MWh and the final price well above €23/MWh.<sup>4</sup>

In all, 17.75 bn cu m of gas were traded on the CEGH market in 2007, while physical delivery was 5.8 bn cu m<sup>5</sup> – equal to about 15% of the total volume imported via Baumgarten in 2007. The churn rate was 2.57, which was on the low side compared with other European gas hubs. Traded volume and physical throughput are higher during the summer months. Turnover declined

in 2008, but the numbers of registered and active members continued to grow in 2007 and 2008.

In 2007 and 2008 the operator of the Baumgarten gas hub, Central European Gas Hub, took action to promote the development of Baumgarten into a trading hub. The launch of a gas exchange is planned for the beginning of 2009.

Central European Gas Hub is a subsidiary of OMV Gas & Power GmbH. Gazprom plans to acquire an interest in the company (CEGH) in 2008, but has not yet received competition clearance. Since Gazprom is the main supplier of gas to Baumgarten, market participants are unhappy about the investment. In the regulator's opinion it raises questions as to whether Gazprom will gain an information lead by buying into the hub, and what steps need to be taken to maintain transparency and confidence in the market. Because of this the establishment of effective market and exchange oversight will be a key regulatory challenge for us. In Austria the oversight function with regard to physical trading has not been defined in sufficient detail.

### Market integration: progress and problems

Particularly with regard to infrastructure (transportation and storage), there continue to be obstacles to the evolution of a regional market in the South-South East (SSE) Region to which Austria belongs. The situation could be improved by introducing a regional coordination point for transportation and storage capacity. Further progress towards the development of short-term trading markets capable of creating price transparency is another important issue. Market integration is still the main focus of the regulatory authority's regional activities, with high hopes of the rapid implementation of the third energy package, which is currently under negotiation.

<sup>4</sup> See Energate, 4 July 2007: Econgas auktioniert Gas in Baumgarten (EconGas auctions gas at Baumgarten), [www.energate.de](http://www.energate.de); EconGas auctioned fixed price annual contracts for lots of 10 m cu m.

<sup>5</sup> See CEGH, CEGH Monthly Title Tracking Volume, [www.gashub.at](http://www.gashub.at).

The South-South East regional initiative is aimed at identifying the main barriers to competition at regional level, and removing them by intensifying cooperation between the regulators of neighbouring countries. Regional cooperation is focused on improving access to the main transit routes in the region, so as to facilitate short-term gas trading at hubs. The national regulatory authorities have signed a cooperation agreement designed to ensure that their approaches to all cross-border regulatory issues will in future be compatible. The decisions on the regulatory treatment of the Nabucco gas pipeline have already been coordinated. Agreement has also been reached on harmonising network access conditions for cross-border shipments between member countries. An initial achievement that E-Control can point to is the fact that 80% of all transmission system operators have already launched standardised trading platforms for unused transportation capacity.

The continued intransparency of access to transportation networks (lack of information on rates and access rules), inadequate access to storage (shortage of information on available capacity and capacity utilisation), the absence of market-based balancing systems, lack of liquidity at the two hubs (CEGH in Austria and PSV in Italy), and the non-standardisation of IT systems are regarded as obstacles to the emergence of a regional market in the SSE Region. Traders operating across the entire region are obliged to install the systems of over 15 different transmission system operators, resulting in high costs.

Improvements are to be made by introducing a regional coordination point for transportation and storage capacity, standardised information and communication systems, a regional price index, and a regional balancing market to be organised by the EEX or CEGH. Other important measures will be action to eliminate congestion

at border interconnection points, and the conclusion of Interconnection Point Agreements (IPA) and Operational Balancing Agreements (OBA).

#### Lack of competition on the gas retail market

Both efforts by suppliers to attract customers away from competitors and switching by end-users were barely noticeable in 2007. There was also little sign of price movements. However, there is growing interest on the part of foreign gas wholesalers and retailers in joining balancing groups, opening the way for entry to the Austrian market.

The switching rate for gas consumers was 0.6% in 2007, and remains at a very low level. In 2007 switching by domestic consumers was the lowest, at 0.5%, while 4.9% of all industrial consumers (metered consumers) changed suppliers.

No new suppliers entered the market in 2007. Neither were any product innovations witnessed on the domestic consumer market. Market concentration remains high, and there are also many cross-holdings between gas companies.

There was a widening gap between the trends in the rates paid by end-users whose contracts are not indexed to oil prices – domestic and small consumers – and those charged to industrial consumers. While industrial consumers faced sharp price rises in the second half of 2007, there was little increase in rates for domestic and small users, and in some cases there were actually reductions. Overall, there were only very small movements in the prices of the products supplied to this consumer group.

To operate on the Austrian market, gas wholesalers and retailers must either join a balancing group or set one up themselves. The number of new formations of balancing groups rose in 2007 and 2008. Some of these concern wholesale



balancing groups, but some new commercial balancing groups (i.e. those that supply end-users) have also been set up. This shows that some new suppliers have taken the first step towards entering the market.

#### → High security of supply in Austria

Planned infrastructure developments will improve security of supply in Austria. The approval procedures for infrastructure projects need to be streamlined if security of supply is to be maintained.

In the electricity sector investments amounting to about €4 bn in 6,441 MW of conventional generating capacity were announced for the period up to 2016. Of these, two-thirds concern thermal and one-third hydro power generating stations; no major power station closures are anticipated. A further 1,300 MW of wind and biomass capacity is likely to be built. If all of these projects are implemented Austria will have a total of 26,810 MW of generating capacity in place by 2016, compared to a peak demand of about 12,200 MW. The regulatory authority therefore does not expect Austria to encounter any supply shortages over the next decade.

However, as with the transmission networks, the approval procedures for power stations will need to be streamlined and speeded up if security of supply is to be maintained over the longer term. The promoters of many of the projects that have been announced have not yet submitted applications for the necessary approvals. Particularly in the case of large projects like hydro power stations, implementation and timing are thus uncertain.

In the gas sector, after a planning phase lasting several years, during which various options were investigated, expansion of the national grid is now assured following the conclusion of multi-lateral contracts.

#### → Progress in infrastructure projects

Planned infrastructure developments will improve security of supply in Austria.

2007 was a particularly important year for upgrading of the Austrian electricity transmission network, as a final decision on the Styrian line opened the way for the long overdue strengthening of the inland north-south link. The long-drawn-out public hearings showed that it is essential to simplify the administrative procedures leading up to the approval of priority infrastructure. Among other things, a link between the approval procedures and the ten-year investment plans envisaged by the third energy package could bring a significant improvement. However, streamlining the internal Austrian approval procedures is also of great importance.

In the gas sector, refinement of the network access model and new rules for capacity expansion projects have given system operators greater planning and investment certainty.

The transposition of Directive 2003/55/EC and Regulation (EC) No 1775/2005 into national law by the Natural Gas (Amendment) Act 2006<sup>6</sup> has improved access to gas transit pipelines by introducing tariff regulation and transparency requirements. The transit companies' general terms and conditions must now be submitted to E-Control.

6 Energy Security of Supply Act 2006, BGBl (Federal Law Gazette) I 106/2006.



The exemption notice for the planned Nabucco pipeline has created the regulatory conditions for the investment certainty that this project needs. E-Control regards network development based on the Nabucco pipeline as the key to the diversification of the supply sources of the Austrian and European gas markets.

#### Electricity market: long overdue infrastructure development approved

The incentive regulation system for distribution system operators in place since 2006 has stabilised the system charges. Reductions in system operation costs have largely been offset by increases in network losses. The quality of the distribution grid is excellent by comparison with most other European countries (unscheduled supply interruptions [ASIDI] in 2007: 44.5 minutes/year).

The total length of the transmission network (110–380 kV) is 17,335 km. At present 116 development projects are planned, of which the most important is the north-south link. The first additional north-south power line in Styria is likely to be commissioned in 2009. This should eliminate the need for congestion management measures, which cost €17 m in 2007.

Congestion on the interconnectors with the Czech Republic, Hungary, Italy, Slovenia and Switzerland continued to be managed by means of explicit auctions. In Austria the proceeds were used partly for appropriated reserves and partly for tariff reductions. From 2009 onwards the common load-flow-based calculation of capacity at Austria's borders with the Czech Republic, Hungary and Slovenia should optimise the utilisation of existing infrastructure. Capacity is to be allocated by an auction office in Freising, Germany.

#### Improvements in the regulatory regime for inland gas transmission and gas transit

##### *Refinement of the system-access model and new incentives to expand capacity*

During the period under review-refinements were made to the system-access model for inland gas transmission in order to promote network development by giving system operators and users greater planning certainty.

The changes in the management of capacity at entry points introduced by the Natural Gas (Amendment) Act entered into effect on 1 April 2007. Since then suppliers have been able to apply for capacity for cross-border “other shipments” of natural gas and shipments from an entry point in the Eastern control area to an exit point from it (subsumed under “other shipments”). The related order came into force in October 2007, and at the same time the Grenz-überschreitende Transport-Verordnung (Cross-border Transportation Order) was repealed. Previously, case-by-case tariff calculation (governed by the Natural Gas Act) was necessary, resulting in uncertainty about costs.

Section 19a(2a) Natural Gas (Amendment) Act creates incentives for investment in transportation infrastructure. The capacity expansion applications introduced by the Act enable system users and operators to enter into reciprocal obligations. This is aimed at greater planning certainty for transmission pipelines and other investments. The possibility of concluding network development agreements between system operators and the control area manager AGGM, and capacity expansion agreements between end-users and system operators, and suppliers and AGGM will ensure that long-term plans can be implemented within predictable time frames.

Approval of the projects concerned by the E-Control Commission as part of the long-term plan assures system operators of regulated tariffs adequate to finance their investments, while system operators and end-users can rely on the implementation of planned projects. System users that have reported a need for additional capacity must conclude capacity expansion agreements with the system operators in order to back network development projects with contractual commitments.

The decision to develop the “Südschiene” (“southern trunk line”) marked a major advance. OMV Gas GmbH and EVN Netz GmbH are extending their pipeline systems southwards and westwards, and Gasnetz Steiermark GmbH is doing so southwards from the Semmering mountain.

#### *Conditions for third-party access to transit pipelines*

The Natural Gas (Amendment) Act 2006<sup>7</sup> introduced arrangements for 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 regulatory authority, the E-Control Commission. In October 2007 the Commission for the first time approved the calculation methods of OMV Gas GmbH, Baumgarten-Oberkappl GmbH (BOG GmbH) and Trans-Austria Gasleitungs-GmbH (TAG GmbH). The methods should accommodate steady reductions in the rates over coming tariff periods, and capacity expansion.

Approval of the system operators’ tariff calculation methods by the regulatory authority resulted in a reduction of 9.2% in the charges of OMV Gas GmbH for cross-border transportation, one of 8.3% in those of BOG GmbH, and one of 4.5% in those of TAG GmbH. Tariff setting methods were also approved for the planned Tauerngasleitung (TGL) pipeline. The system operators undertook to invite system users to disclose their capacity requirements, and to expand their transmission networks sufficiently to meet the latter. The methods also include adequate investment incentives for system operators. For instance, part of the revenue may be retained for network development measures; in the absence of these, the reserve must be reversed after four years and the amount used to reduce rates. An order of the E-Control Commission determining a postalised tariff for cross-border shipments of domestically produced gas and gas from storage, as well as cross-border shipments via the inland transmission system, came into force on 1 October 2007.

Proceedings against OMV Gas GmbH, TAG GmbH and BOG GmbH resulted in increased transparency and full disclosure of all information in accordance with Regulation (EC) No 1775/2005.<sup>8</sup> Since the conclusion of the proceedings the companies have been posting comprehensive information on their websites as required by the regulation.

As most of the capacity on the transit systems is allocated under long-term transportation contracts, transparent and non-discriminatory capacity trading is extremely important. Following the 2006 amendments to the Natural Gas Act, provisions requiring the trading of unused transportation capacity entered into effect on 1 January 2007.<sup>9</sup> Under these all transportation

<sup>7</sup> Energy Security of Supply Act 2006, BGBl I 106/2006.

<sup>8</sup> See [www.omv.com](http://www.omv.com), [www.taggmbh.at](http://www.taggmbh.at), [www.bog-gmbh.at](http://www.bog-gmbh.at).

<sup>9</sup> See section 31e(7) Natural Gas (Amendment) Act.

customers must offer unused capacity committed to them to third parties on a central trading platform operated by OMV Gas GmbH on its website. E-Control has initiated proceedings against some shippers due to non-compliance with these provisions and has found that the obligation to declare unused capacity on the trading platform has not always been met.

#### *Exemptions for new infrastructure*

Since the entry into force of the Natural Gas (Amendment) Act in 2006 the E-Control Commission has been responsible for ruling on applications for section 20a exemptions from certain areas of the regulatory regime (e.g. regulation of third-party access to infrastructure and of use of system charges) for major new infrastructure projects. New infrastructure in the meaning of section 6(39) Natural Gas Act comprises cross-border transmission systems and storage facilities. In 2007 applications were submitted to the E-Control Commission for exemption of the Nabucco pipeline and the Haidach gas storage facility.

The E-Control Commission granted [Nabucco Gas Pipeline International GmbH](#) an exemption for the Austrian section of the pipeline, subject to certain safeguards, under a notice issued on 24 October 2007. This decision, which locks in the regulatory framework for the pipeline for a 25-year period, sets the following conditions:

- A “one-stop shop” for system access from eastern Turkey through to Baumgarten, enabling shippers to carry gas across the five Nabucco countries under single contracts;
- An open-season tender for the capacity in order to ascertain actual capacity needs, and an undertaking to develop sufficient capacity to meet the notified requirements;
- An undertaking to offer at least 10% of the capacity of the pipeline under short-term transportation contracts;
- Arrangements for the reallocation of unused capacity, and the creation of a trading platform for the secondary market;
- Approval of the general terms and conditions of transportation by the regulator;
- Revision of the tariff setting methods approved under the E-Control Commission notice 20 years after commissioning if rates are 10% higher than those of comparable systems; and
- An undertaking from the management of Nabucco Gas Pipeline International GmbH not to be influenced by its owners’ interests in its decision making.

Diversification of the gas supply sources open to the European market is crucial to long-term security of supply, as gas production and the remaining reserves will increasingly be concentrated in regions outside the EU over the next few decades. Opening up new gas supply sources in the Caspian, the Middle East and North Africa by developing transportation infrastructure based on the Nabucco pipeline would thus make a major contribution to Europe’s long-term security of supply.

In order to harmonise exemptions for the entire Nabucco pipeline, the E-Control decision was made in close consultation with the regulatory authorities concerned in Bulgaria, Hungary, Romania and Turkey. The E-Control Commission forwarded the notice to the European Commission near the end of October 2007. The latter requested changes, which were made in April 2008. An application for extension of the exemption has since been received.

The **Haidach gas storage** project involves the use of the depleted Haidach gas field, close to the border between the provinces of Upper Austria and Salzburg, as a pore storage facility. The project is being executed in two stages, each with a working-gas volume of 1.2 bn cu m, and maximum injection and withdrawal capacities of 500,000 cu m/hour. The first phase entered service in July 2007, and the second phase is due for completion in mid-2011. RAG is the builder-operator of the storage facility. OOO Gazprom Export holds two-thirds of the rights to use the capacity, and Wingas GmbH one-third; both are active as storage companies.

Since 2007 Wingas is marketing its storage capacity in accordance with the current legal requirements for storage undertakings (sections 39–39d Natural Gas Act). OOO Gazprom export has announced that the allocation procedure for long, medium and short-term capacity on the second phase will start in October 2008.

#### → Inadequate unbundling

Most Austrian companies have merely gone through the motions of unbundling, to the extent demanded by the vague and undemanding legal requirements. Independent system operators, which alone offer an assurance of impartiality towards all suppliers, thus remained the exception rather than the rule in 2007.

Monitoring unbundling compliance in the electricity market is the responsibility of the provincial authorities, while in the gas market it is that of the regulator. According to the provincial governments – which are also the owners of the main regulated companies – there is no evidence of infringements of the law by the electricity system operators. However, this optimistic assessment by the owners of the provincial companies

is a rather general one, and no detailed investigations of individual companies' practices have been carried out. However, in the opinion of the regulatory authority neither the legal requirements nor the monitoring arrangements are sufficient to achieve proactive unbundling. This is also shown by the inadequate physical and financial resources of virtually all system operators. For instance, only one of the 13 major electricity distribution system operators has assets of its own and largely relies on internal personnel. This indicates that the integrated companies have not really established fully functioning independent system operators capable of carrying on their business autonomously.

The synopsis report by E-Control on gas system operators' 2006 compliance reports points to some progress as compared to its predecessor. Nevertheless, compliance still falls far short of the goals of the Gas Directive.

The inadequate unbundling of integrated companies in personnel and organisational terms, and the general lack of differentiation between system operators and suppliers in their marketing contribute to consumers' continued inability to distinguish between the two functions (because of identical branding and company names, and joint corporate communications, among other factors) and the artificial barriers to switching that this creates.

The protection of commercially sensitive data is another major unresolved issue. Including definitions of such data in the compliance programmes would be a first step towards developing data access concepts. Not all of the companies have arrived at such definitions, and only one has submitted a written data access concept, which documents measures for the protection of sensitive data in a transparent way.

During the next reporting period (2007 gas year) compliance by holders of transportation rights will be monitored for the first time. The report will probably again focus on the definition of “commercially sensitive data” and the restriction of access to network data by retail and wholesale operations.

#### → Further action required to achieve sustainable competition

While the measures taken to date have resulted in some improvements, further action will be needed to achieve sustainable competition. In particular, changes in the regulatory framework will be needed.

#### Competition monitoring powers

At present, E-Control only receives statistical data on a systematic basis, and for data protection reasons this cannot be used for market analyses or the initiation of abuse proceedings. The regulator should therefore be empowered to establish a market monitoring system in a transparent manner (e.g. by means of an order), and report periodically to the umbrella competition authority (Federal Competition Authority).

#### More effective sanctions against abusive behaviour

The regulatory authority does not have effective sanctions against abusive behaviour at its disposal. In the event of infringements of the law the only possibility open to it is normally a report to the district administration, which can impose a maximum administrative penalty of €50,000.

In future the penalties should be related to the size of the companies concerned, i.e. their revenue.

#### Power to simplify and accelerate supplier transfers

Despite arduous negotiations with market participants, which resulted in some improvements, switching is still too slow and time consuming. Because of this some marketing channels (e.g. online contracts and decentralised customer acquisition) are largely or entirely closed off.

An approach with a good international track record is the mandatory construction of a metering point database containing records of all electricity and gas consumers, and their suppliers. This makes supplier transfers quick and simple, and keeps all market participants up to date with current circumstances. As with mobile phones, a database like this would permit switching in matter of days, at low cost.

#### Additional measures at European level

As the regional initiatives show, market integration is still far from perfect. This reflects reluctance to invest in infrastructure, partly because of inadequate unbundling, which gives system operators a continued incentive to foreclose their own sales markets by holding back with network development. In Austria, for instance, this has meant that additional gas deliveries can no longer be made to the south of the country. The major gas suppliers in the EU all hold interests in the transmission and transit systems in upstream countries. When these companies prevent or delay network expansion this is not only to the detriment of their own customers, but also affects consumers in the transit countries.

In the case of electricity the consequences are not as directly apparent, as power often makes detours on its way to destination countries. However, here, too, failure to upgrade networks, and the long-standing inadequacies

of coordination between transmission system operators (e. g. in the calculation of network capacity, which suffers from incomplete information exchanges due to mutual mistrust) have actually led to cases of falling cross-border transmission capacity. These have in turn had direct repercussions on electricity prices, as well as causing large unplanned power flows that pose a growing threat to security of supply.

In its third legislative package the European Commission proposes road maps to market integration and non-discrimination which would strengthen competition and security of supply. In practice, current European legislation still fails to guarantee new entrants non-discriminatory

treatment. The central elements of the third legislative package are: effective unbundling of transmission systems, preferably through ownership separation or otherwise through the appointment of independent system operators (ISOs); obligatory cooperation between transmission system operators; improved regional cooperation; protection for European interests; and stronger consumer rights. The third package is silent on the question as to how the oversight of regional markets is to be organised in future.

Due to its location in the heart of Europe, Austria is particularly exposed to the shortcomings of existing arrangements. E-Control therefore welcomes the Commission's proposals in principle.





# Regulation and performance of the electricity market in 2007



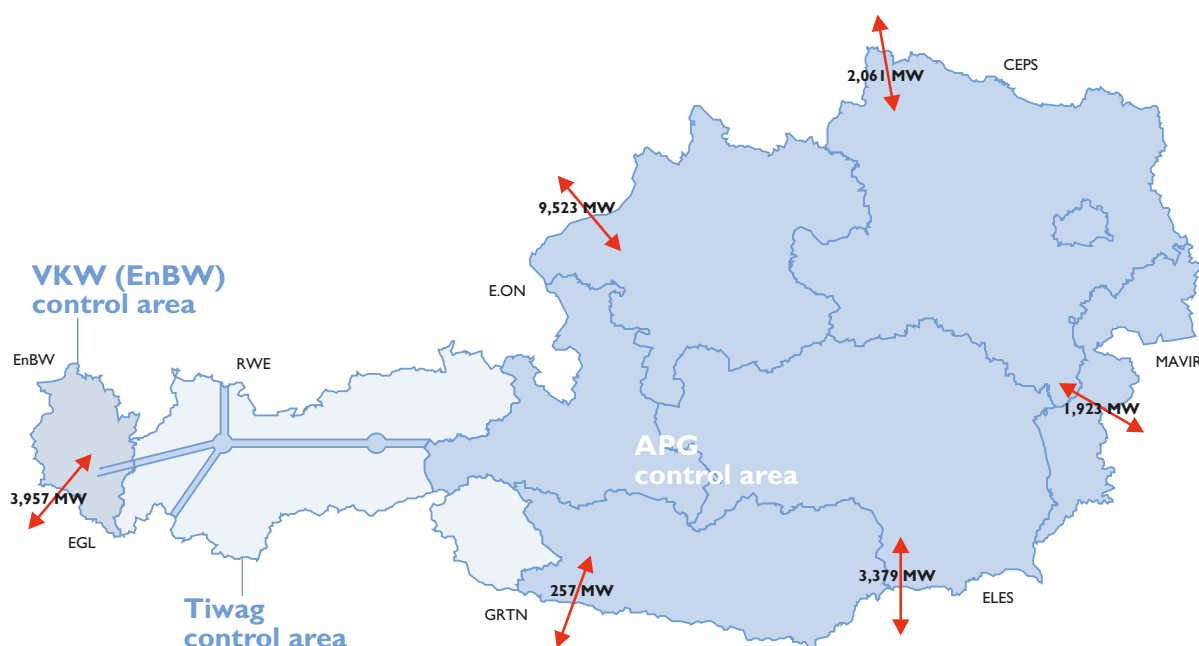
#### → Electricity transmission: cross-border capacity and congestion management mechanisms

Chart 2 shows the transmission capacity in place at the interconnection points between the Austrian and neighbouring transmission networks. There were no significant changes in the congestion on interconnectors with neighbouring markets in 2007. The declared congestion at the borders with the Czech Republic, Hungary, Italy, Slovenia and Switzerland is still managed by means of explicit auctions. Capacity at all the borders is allocated bilaterally. The interconnection capacity in the main directions of trade flows on the Czech and Hungarian borders has been increased; on the other borders it is largely unchanged. Available capacity is determined on the Swiss side of the Austro-Swiss border, as there is no congestion in the other direction.

Still more radical action appears to be necessary to improve the congestion management mechanisms in the Central Eastern Europe (CEE) and Central Southern Europe (CSE) regions if compliance with Regulation (EC) No 1228/2003 and the Congestion Management Guidelines is to be achieved. This relates to the level of coordination required for a common network model, a standard region-wide allocation regime, one-stop shops and uniform contractual terms for market participants. Definite steps in this direction are being developed as part of the ERGEG Electricity Regional Initiatives. The transmission system operators (TSOs) concerned are in the process of setting up a common auction office in Germany which will allocate capacity on Austria's borders with the Czech Republic, Hungary and Slovenia. The office is also aimed at achieving compliance with legal requirements for load-flow-based capacity calculation and allocation in 2009.

#### → Installed cross-border transmission capacity

Chart 2



Source: UCTE 2006



### → Network capacity allocated on an annual basis under market-based mechanisms in 2008

Table 3

	Annual capacity 2008 (MW)
Austria – Switzerland	130
Switzerland – Austria	450
Austria – Slovenia baseload	200
Austria – Slovenia peakload	50
Slovenia – Austria baseload	350
Slovenia – Austria peakload	300
Austria – Hungary	300
Hungary – Austria baseload	200
Hungary – Austria peakload	150
Austria – Czech Republic	300
Czech Republic – Austria	200
Austria – Italy	182
Italy – Austria	70

Sources: Websites of network operators (calculations by E-Control)

Similar developments are being driven ahead in the CSE region.

Besides efforts to step up organisational co-ordination with neighbouring system operators, in Austria network investments are being made in order to improve operational security and increase market integration. Following the issue of the necessary official permits, work started on extending the 380 kV loop (Styrian line) in 2007. This means that a long-term solution to an internal congestion situation is being found, in line with Art. 1.7 of the Congestion Management Guidelines. The line should be commissioned in 2009. The capacity of the interconnectors with the Czech Republic will be boosted by the addition of a second 380 kV system in autumn 2008. The investment in the Styrian line is partly being financed by the proceeds of the auctions of cross-border capacity, thereby complying with the requirements of Art. 6 Regulation (EC) No 1228/2003 regarding the use of revenues from the allocation of interconnection capacity. This article provides for such revenues to be devoted

to: guaranteeing the actual availability of allocated capacity (e.g. through power station redispatching); creating new capacity (e.g. by developing interconnection infrastructure); or reducing network tariffs. In 2007 the proceeds of interconnection capacity allocation on Austria's borders totalled some €44 m. Almost half of this amount has been budgeted for measures designed to ensure that existing capacity is available, though the actual expenditure has been lower. The other funds have gone to investments in new capacity or reducing system charges (Table 3).

It is likely that the investments in new capacity will increase availabilities on Austria's eastern borders.

### → 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 3). 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 loop in eastern Austria will be filled when about 100 km of additional

### → Overview of system lengths in the Austrian grid

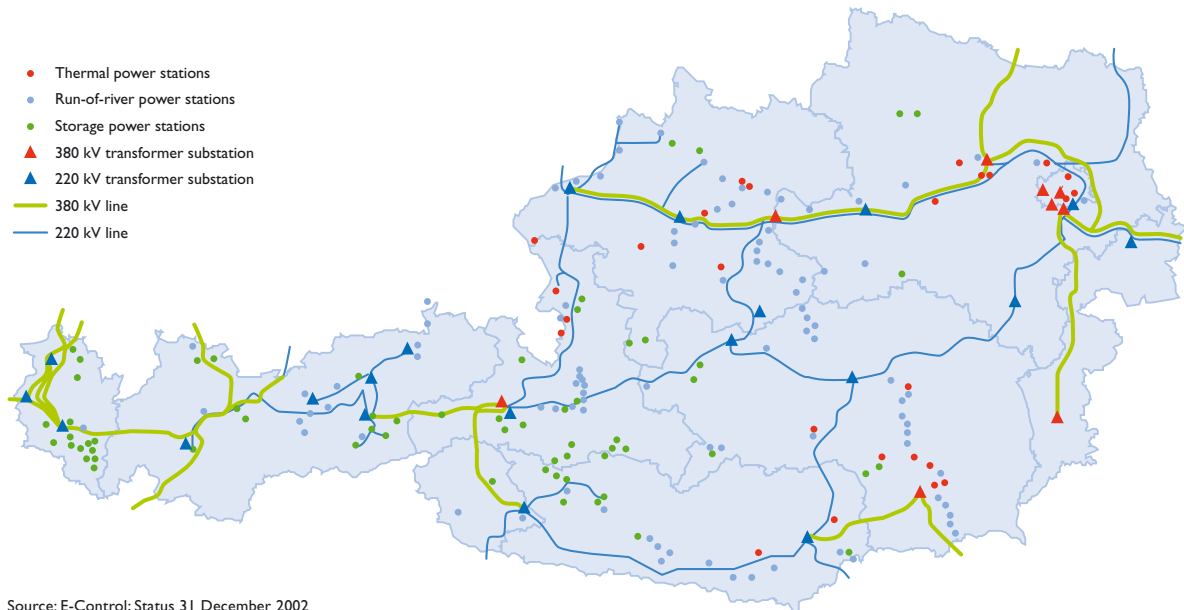
Table 4

Grid levels	Lengths (km)
110 kV	11,035
220 kV	3,764
380 kV	2,535
<b>Total transmission system length</b>	<b>17,335</b>
Medium voltage	56,879
Low voltage	149,072
<b>Total distribution system length</b>	<b>205,950</b>

Source: E-Control; Status 31 December 2008

→ **The Austrian electricity grid including all operational power stations owned by electricity utilities with capacities of 5 MW or more**

Chart 3



Source: E-Control; Status 31 December 2002

UHV power lines come into service. In 2007 there were three transmission system operators (APG, TIWAG Netz AG and VKW Netz AG) and some 130 distribution system operators (see Chart 3).

#### Regulation of the electricity grid

Electricity distribution system operators have been subject to an incentive-based regulation system since 1 January 2006. The duration of the first regulation period is four years. The regulation system takes account of overall industry trends, and firms' efficiency performance, out-

put and non-influenceable costs by applying a frontier shift of 1.95%, productivity offsets up to a maximum of 3.5%, revenue weighting of volume growth and the change in the system operator price index.

The preparatory work included a benchmarking analysis, employing both the DEA and MOLS methods. The efficiency scores used to calculate the productivity offsets were arrived at by weighting the DEA and MOLS efficiency scores. Adjustments to the system charges under the incentive regulation system came into effect on 1 January 2008. They were influenced by a

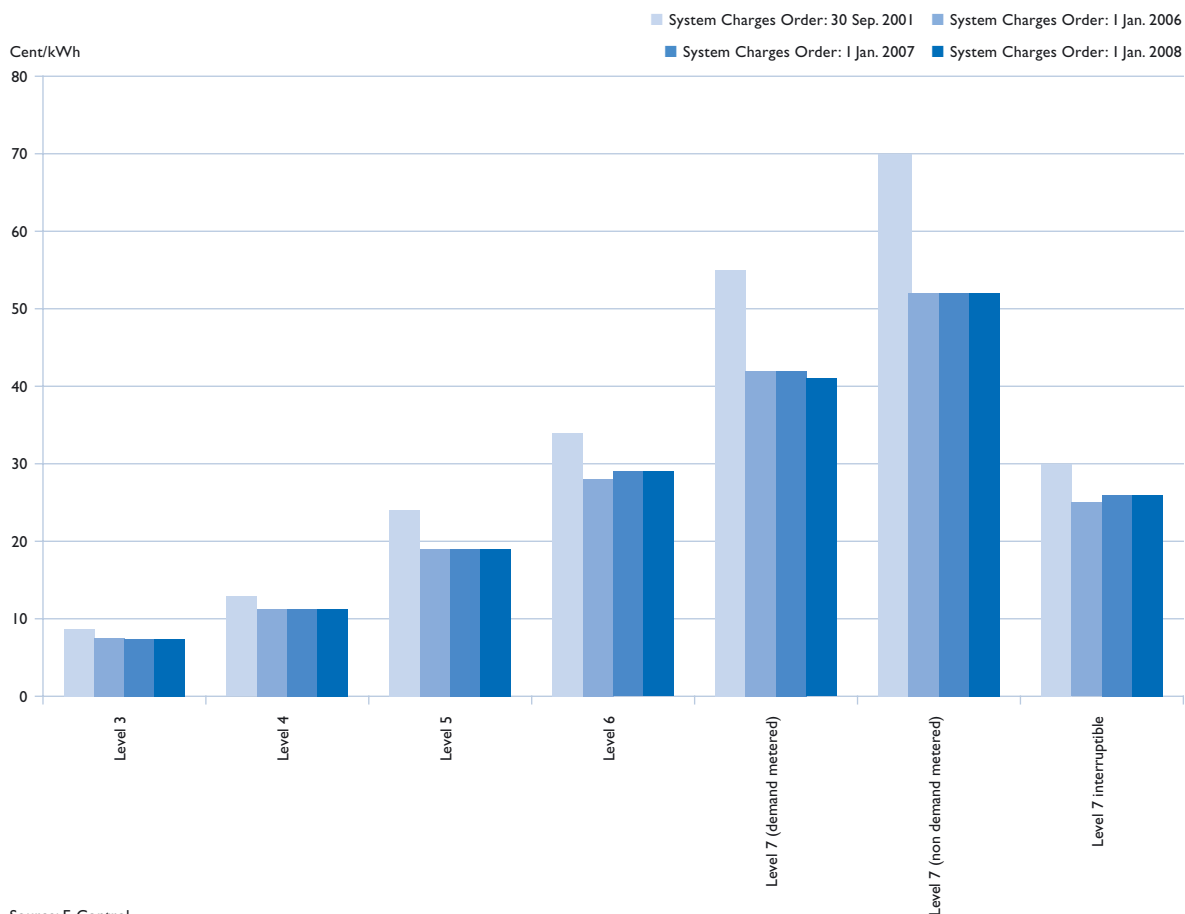
number of exceptional factors (e.g. compensation for flood damage). The changes in the system charges (use-of-system and system-loss charges) resulted in an overall increase of €1.6 m in costs for end-users, most of which was due to a sharp rise in the system-loss charges. Electricity transmission system operators are still governed by a cost-plus regulatory regime with annual cost audits and tariff reviews. The system charges will be adjusted again with effect from 1 January 2009. Heavy investment in the transmission grid will be a major factor in future cost audits and tariff reviews.

### Outlook

The electricity system operators will send the actual data for the 2007 financial year to the regulatory authority in the course of this year. This data will reflect the situation at mid-term during the first regulatory period, and will thus play a key role in the discussions in the industry on the transition to the second regulatory period on 1 January 2010 and any modifications to the system that may be needed. Chart 4 shows the evolution of the system charges in Austria since 2001.

### → Average system charges in Austria

Chart 4



Source: E-Control

### → Electricity balancing market

The Austrian transmission grid consists of three control areas within the UCTE European interconnected system. The three Austrian transmission system operators are Verbund Austrian Power Grid (APG), TIWAG Netz AG and VKW Netz AG.

Each control area represents a separate entity in terms of accounting for balancing energy. Austria differs from most other EU member states in that the responsibility for the netting arrangements lies not with the control area managers but with independent settlement agents (balancing-group coordinators). There are two independent settlement agents in Austria. Austrian Power Clearing and Settlement AG (APCS) serves the Verbund APG control area, and Ausgleichsenergie- und Bilanzgruppenmanagement AG (A&B) the other two control areas.

All of the regulations and methodology governing data transmission, the balancing market and the settlement of balancing energy are contained either in the market rules drawn up by the regulator in cooperation with market participants and published by it, or in the general terms and conditions of the settlement agents, which are subject to approval by the regulator. All the balancing-group representatives and system operators must make contracts with the settlement agent responsible for their control area on the basis of the latter's general terms and conditions.

The preparation of schedules, the determination of generation and consumption, and the calculation of imbalance positions takes place at 15-minute intervals. The day-ahead schedules for energy exchanges between balancing groups within a control area must be communicated to the settlement agent responsible by 2.30 pm every day from Monday to Friday. The schedules for exchanges with neighbouring control areas must likewise be sent to the control area man-

ager by 2.30 pm every day from Monday to Friday. The control area manager matches the schedules with the neighbouring control area managers and informs the balancing-group representatives whether the transactions notified by them can be physically settled. Intraday changes in cross control-area deliveries can be made at the end of each hour, at 45 minutes' notice.

Weekend schedules must normally be transmitted by 2.30 pm on Friday. This is the deadline for schedules for Saturday, Sunday and Monday. There are similar arrangements for public holidays.

A changeover to true daily schedule submission – including weekends – is due to take place in the course of 2008.

The settlement agents clear the balancing market on a monthly basis, for the preceding calendar month; pricing is according to 15-minute time units. This calculation requires the system operators in a control area to send aggregated generation and consumption data for all of the balancing groups to the settlement agent in a standardised data format. Likewise, all of the balancing groups' schedules, both for energy exchanges within control areas, and exports and imports across control area boundaries, must be available. All of the necessary data exchange processes are determined by the market rules established by the regulator.

The balancing markets are organised by the settlement agents. Providers of tertiary control capacity can make their offers up to 4.30 pm each day, via an internet platform operated by the settlement agent. The settlement agent draws up a merit order list on the basis of these bids. The list – with the price information deleted – is forwarded to the control area manager responsible, who calls off the bids in order of merit and thereafter notifies the settlement agent of the bids dispatched for settlement purposes and of the balancing groups' clearing prices.

In order to maintain sufficient liquidity on the tertiary control reserve market, in addition to the daily tenders there are weekly tenders of a certain amount of standby capacity by market makers.

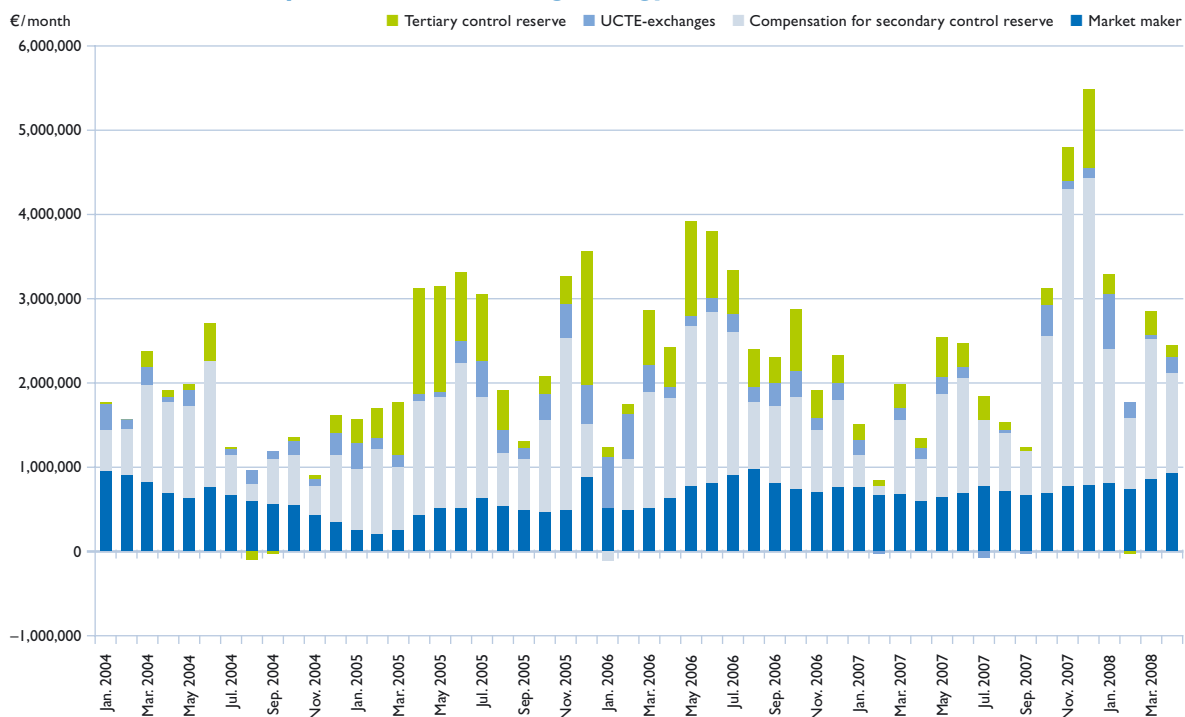
The clearing price calculated by the settlement agent is composed of a number of components. These are:

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

The costs of these components are allocated to the quarter-hourly balancing-energy volumes, using a predetermined price formula, and invoiced to the balancing-group representatives. Suppliers have to take account of the balancing-energy costs (Chart 5) and risk when setting their prices for end-users. However, none of the balancing-energy cost components are directly charged on to final consumers.

At present there are no means for suppliers with generating capacity in other control areas and/or member states to offer it on the Austrian balancing market, but plans to extend the market for tertiary control reserve so as to enable generators in Germany to participate are already at an advanced stage.

#### → Amount and composition of balancing-energy costs in the APG control area Chart 5



It is also planned to create a domestic market for the procurement of secondary control reserve. Secondary control by control area managers is currently performed under bilateral contracts with generators.

### → Effective unbundling

The EU Electricity Directive (96/92/EC) – since replaced by the Acceleration Directive (2003/54/EC) – required electricity companies to give third parties, including competitors, access to their networks (regulated system access). Experience of the implementation of the directive has shown that in practice regulated system access is not sufficient to open national electricity markets and thus strengthen competition. The high degree of integration in the electricity industry promotes cross-subsidisation of the parts of the business that are exposed to competition by the companies' monopoly system operation activities, and this results in competitive distortions. This cross-subsidisation can also consist of non-cash benefits transferred to the related competitive areas of activities (e.g. the system operator's goodwill).

According to the European Commission's interpreting notes,<sup>10</sup> network operators should have enough human and physical resources at their disposal to carry out their work independently of other parts of integrated companies. They should also have sufficient financial means to maintain and develop the network.

In Austria, only one legally unbundled system operator 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 network companies that run both the transmission and the distribution systems are wholly owned by the former integrated electricity companies.

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 of the network company and other strategic activities.

Due to the modest human resources of the network companies there is a profusion of service contracts under which they buy in the services required to perform the core operations of a system operator, namely, the operation and maintenance of the electricity network. These contracts often result in staff wearing more than one hat, especially in the distribution function (same person responsible for sales of network services and energy). The services are purchased exclusively from fellow group companies, meaning that even in the event of a comparison of prices and services only they can win the contracts. Given the sometimes very rudimentary descriptions of the services provided under lump-sum price agreements it is highly improbable that any quotations are actually obtained from third parties, so it is also unlikely that the prices paid correspond to normal market terms. Moreover, the lack of internal staff means that it is not possible to ascertain whether the contracts are being fulfilled in terms of the amount and quality of the work performed. It is safe to assume that such agreements would not be made with non-group companies.

<sup>10</sup> Note of DG Energy & Transport on Directives 2003/54/EC and 2003/55/EC on the internal market in electricity and natural gas (16 January 2004).

## Compliance programmes

In contrast to the gas sector, in the case of electricity system operators the oversight of unbundling is not the sole responsibility of a federal authority – the energy regulator – but is largely a matter for the provincial governments. However, during the investigation carried out in connection with the redetermination of the system charges, E-Control was for the first time able to gain an overview of the effectiveness of the action taken by companies to comply with the statutory unbundling requirements. Since many of the main energy supply utilities are horizontally integrated, and have both electricity and gas business, the information gained from the monitoring of unbundling in the gas sector is generally applicable to the electricity sector.

Some provincial governments did not meet E-Control's request to submit compliance reports, and none took any action beyond informing E-Control of the contents of the utilities' compliance reports and programmes.

## Suggestions and outlook

All of the provincial governments have fulfilled the minimum statutory unbundling requirements, and transposed the unbundling provisions of the Elektrizitätswirtschafts- und -organisationsgesetz (Electricity Act) into provincial legislation. 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 physical resources necessary to provide their services. A network company in the Austrian mould is an entity whose freedom of action is effectively limited to negotiating agreements for, and billing for services provided by others under service contracts.

The oversight of unbundling by the provincial authorities is largely restricted to ensuring that the companies' compliance reports are received on time and forwarding them to E-Control. They appear to do little to investigate the measures taken by the companies or initiate action themselves.

In E-Control's view the lack of oversight of unbundling in the electricity sector is all the more serious in that many of the problems that have emerged in the gas industry also extend to the electricity sector. These include:

- Overlapping organisational structures and personnel;
- A danger of discriminatory behaviour;
- Reciprocal service provision;
- Failure to protect commercially sensitive data;
- Inadequate or non-existent data management policies;
- Staff with dual network services and energy marketing roles.

Proactive oversight of unbundling is essential. Since all of the companies active on the Austrian retail market are integrated, it is evident that the theoretical option of relying mainly on reacting to complaints from competitors is no alternative.



#### → Supply and consumption

##### Electricity generation

Chart 6 shows the generation mix in 2007. Total output was 63,741 GWh, around 60 % of which came from hydro power 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. 11 % of output.

Renewable energy sources (including hydro-power) accounted for some 66 % of total production in 2007 – roughly the same as in 2006. Supported renewable energy sources (including photovoltaic, wind, biomass, biogas and small hydro) contributed 5,757 GWh (2006: 5,110 GWh) or 9 % of output in 2007.

The three largest generators' share of production has been steady at about 53 % over the past three years (2004–2006), and only five companies own 5 % or more of the generating capacity in place. In terms of shares of generating output, in 2007 the Herfindahl-Hirschman index (HHI) was again above the 1,800 threshold, which indicates a high level of market concentration, although it has been falling since 2001. Measured in terms of capacity, the HHI was below the 1,800 mark.

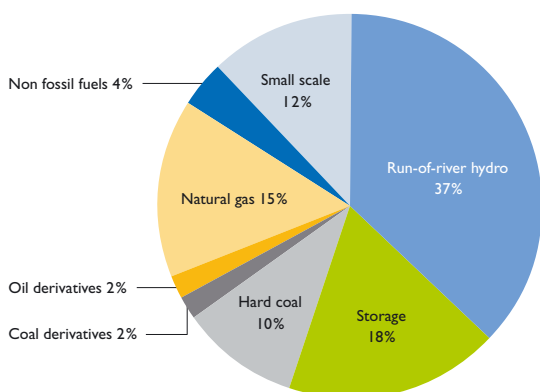
##### Renewable electricity generation

The 2003–2007 period saw a sharp increase in the output of electricity from all renewable technologies (Chart 7).

Output of “other” supported renewable energy is forecast at around 4,800 GWh in 2008. However, increases in biomass fuel and biogas feedstock prices in 2007 have meant that about one-third of the approved facilities of this type have not been built.

#### → Austrian electricity output in 2007

Chart 6



Source: E-Control; Status 31 December 2007

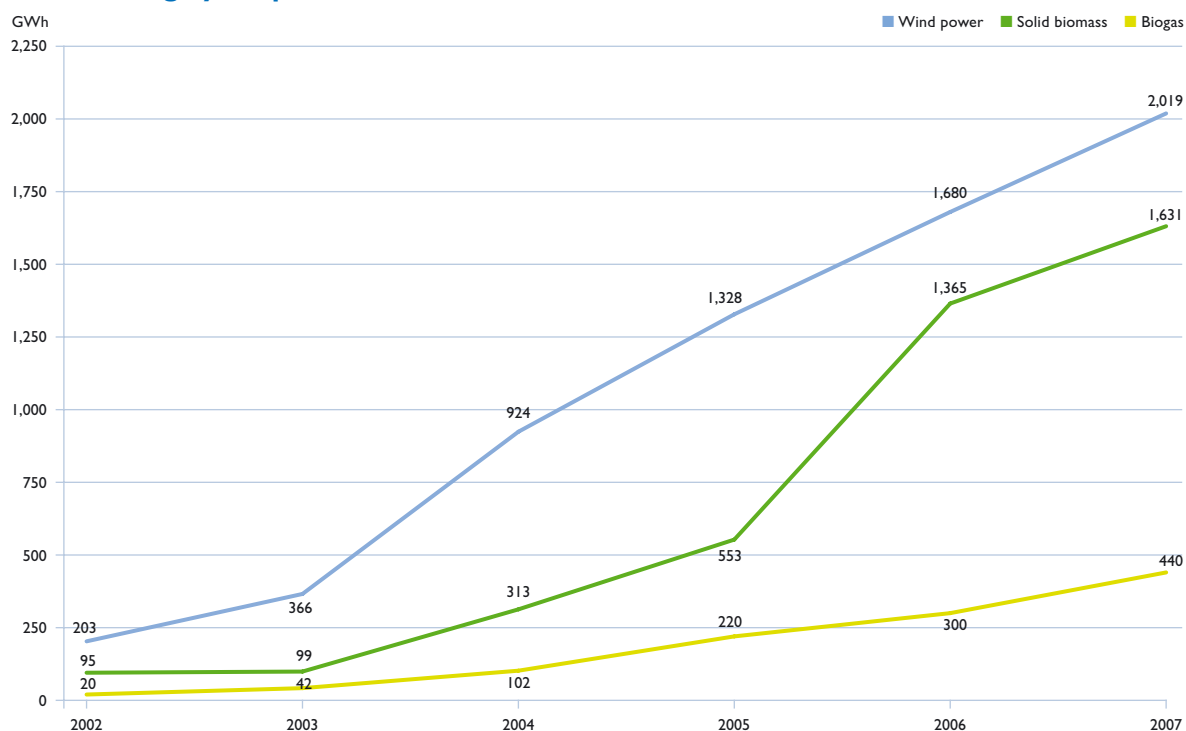
In 2007, some 1,527 GWh of power from supported small hydro stations and 4,230 GWh of “other” renewable electricity were injected into the Austrian grid. Support payments, i.e. additional expenses over and above the market price, totalled €187 m. It should be noted that most small hydro power is sold at non-supported rates and is therefore not included in these figures.

Supported renewable energy represented 10.5 % of the total power supply from the Austrian public grid in the first three quarters of 2007, of which about three-quarters (7.7 %) came from



→ Supported renewable electricity output by technology, excluding hydro power, 2002–2007

Chart 7



Sources: OeMAG and E-Control

“other” renewable generating stations and the remainder (2.8%) from supported small hydro.

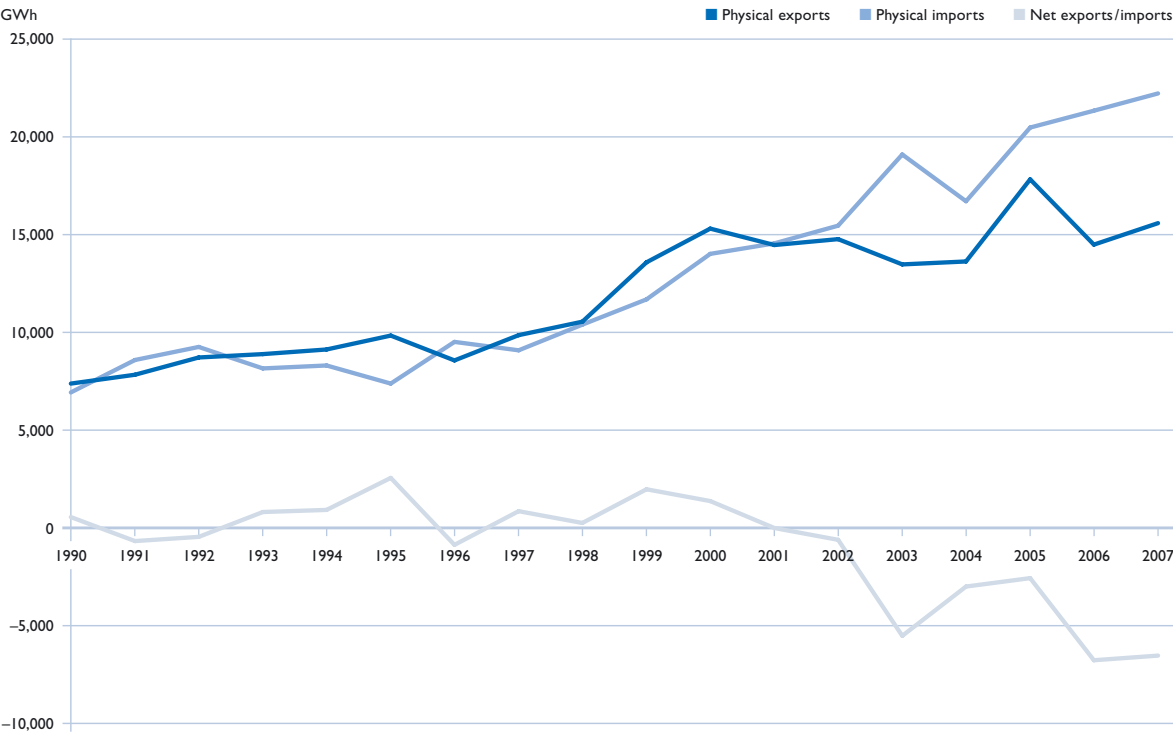
### Imports and exports

Cross-border exchanges between Austria and neighbouring countries have grown steadily since 1990 (Chart 8). 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 increased in 2007, by 7.7% and 4.1% respectively. Germany remains the most important country of origin, with Switzerland the primary destination. Net imports accounted for 6.5% of total supply in Austria in 2007 (see Chart 9).

→ Electricity imports and exports since 1990

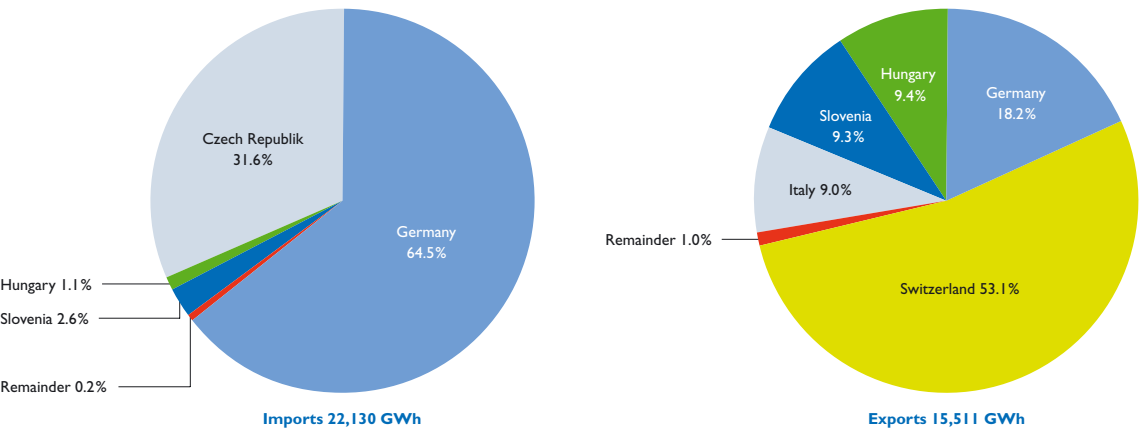
Chart 8



Source: E-Control

→ Physical imports and exports in 2007

Chart 9



Source: E-Control

## Electricity consumption

Total domestic electricity consumption (excluding pumped storage) edged up by approx. 0.7% in 2007 to reach 67.4 TWh (Chart 10). Peak demand on the Austrian electricity grid, which had risen steadily for several years, dropped slightly to 9.438 GW in 2007.

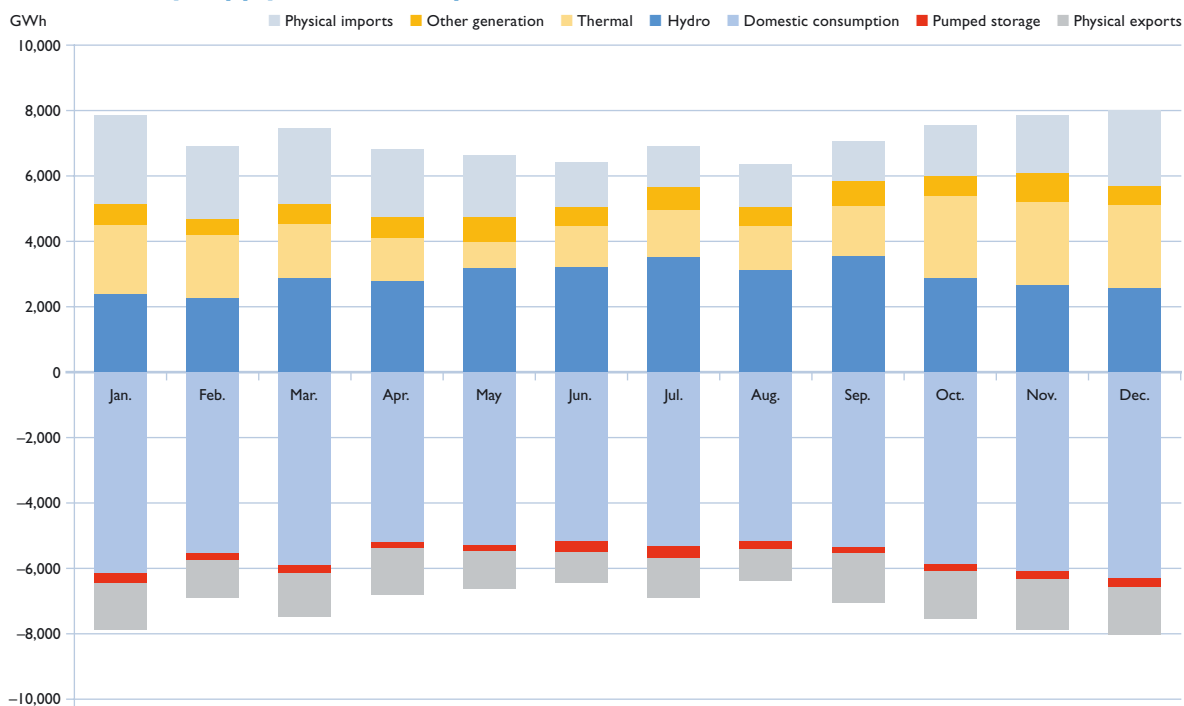
## → Description of the wholesale market

### Electricity price trends

Spot prices (baseload) on Austria's Energy Exchange Austria (EXAA) power exchange fell sharply at the start of 2007 due to the extremely mild winter, adequate water supply and slumping

## → Electricity supply and consumption in 2007

Chart 10



Source: E-Control

CO<sub>2</sub> emission allowance prices. Prices remained low until October, when they rebounded strongly. This was mainly due to poor power-station availability (primarily baseload capacity) in France, Germany and the UK. Prices dropped back to a relatively low level towards the end of the year. Spot prices on the EXAA averaged €39.10/MWh over the year.

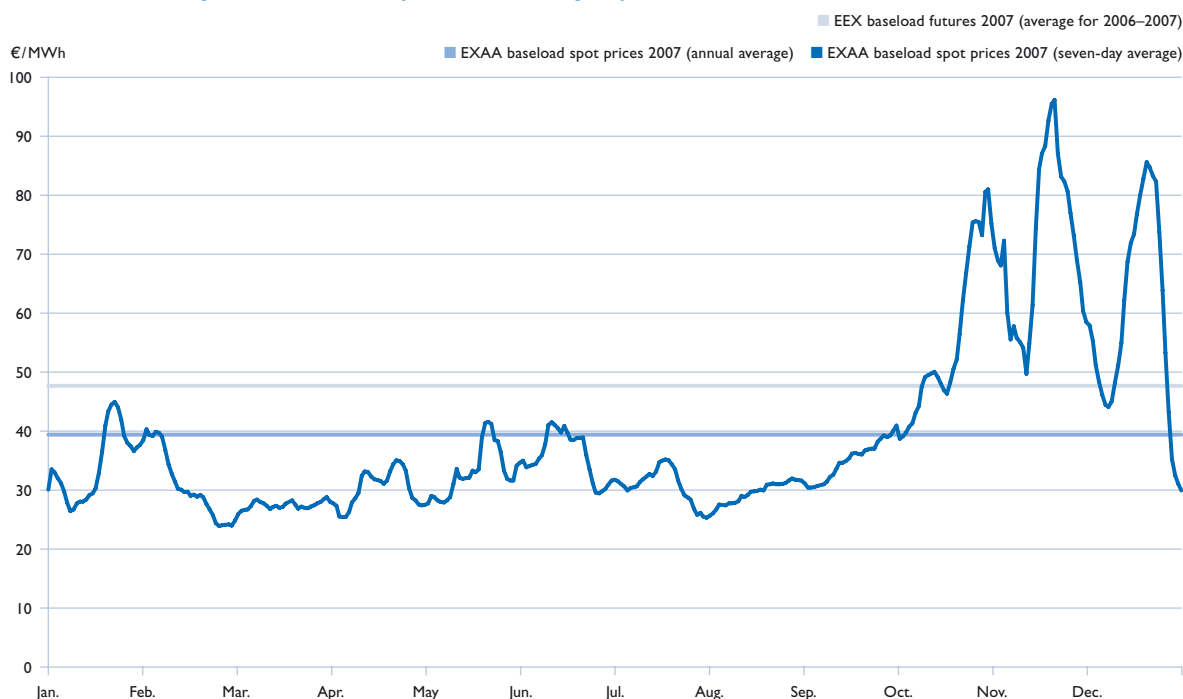
A comparison of the spot and futures prices (i.e. the size of the spread) offers interesting insights. Taking the average price of the 2007 baseload futures contract on the German EEX power exchange<sup>11</sup> in the 2005–2006 period, which was €47.40/MWh, the spread was €8.30/MWh. It

was thus considerably cheaper (in terms of the average price for the year) to meet electricity needs in 2007 by purchasing a year's deliveries in the same year (Chart 11), so typical hedging strategies mainly benefited the generators.

Some possible explanations for electricity price movements are mentioned above. However, gas and coal price trends are another major factor. Comparing the trends in the prices of these primary energy sources and CO<sub>2</sub> emission allowances reveals that the relatively low electricity prices in the first half of the year were mainly due to lower coal, gas and CO<sub>2</sub> prices (see Chart 12). Electricity futures prices jumped sharply in the

### → Wholesale prices in 2007 (forward vs. spot)

Chart 11

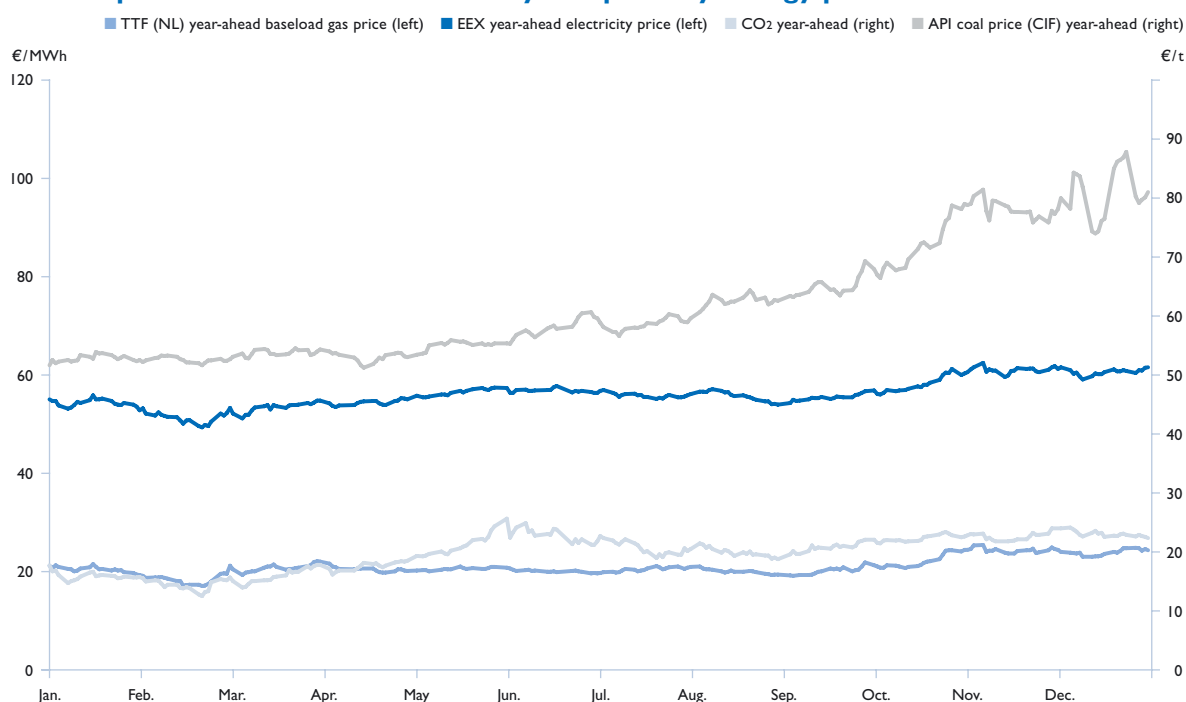


Sources: EEX and EXAA

11 There is no futures market on the EXXA.

## → Comparison of wholesale electricity and primary energy prices 2007

Chart 12



final quarter of 2007, hitting €63/MWh (baseload) in early 2008. This was principally due to changes in coal prices, although gas and – indirectly – oil prices were also influential factors.

### Volume of electricity traded

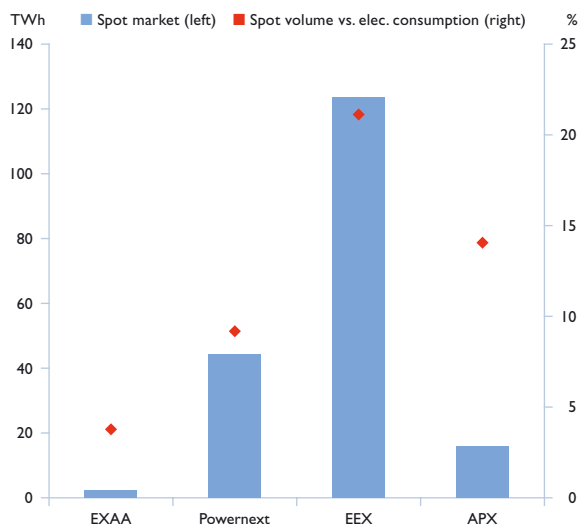
In 2007 the EXAA had 40 registered members from 11 countries – most of them foreign companies. The EXAA began trading on 21 March 2002. The exchange's shareholders are the Vienna Stock Exchange, electricity companies (e.g. APT,

Kelag, Steweag-Steg and Tiwag) and providers of system services. Apart from spot market products, CO<sub>2</sub> emission allowances are traded on the EXAA. In the period under review, the CO<sub>2</sub> emission allowances market had 17 members from five countries.

Liquidity on the exchange was up on 2006 levels, and around 2.3 TWh were traded on the exchange in 2007 – a year-on-year increase of 36.8%. This represents approximately 3.8% of total electricity consumption in Austria.

### → Spot volumes traded and market shares in 2007

Chart 13



Sources: EEX, EXAA, Powernext, APX, Nordpool, IEA and E-Control

Despite this growth, liquidity on the EXAA is modest compared to other relevant continental European exchanges. For instance, Powernext, EEX and APX recorded traded volumes of 44.2 TWh (+49.3%), 123.7 TWh (+39.9%) and 16 TWh (–15.8%), respectively, in 2007 (Chart 13). It is striking that the EXAA, Powernext and EEX all saw increases in volume of around 40%, compared with a sharp fall on the APX. The volumes traded on the EXAA as a proportion of electricity supplies to final consumers are also low in comparison to the other exchanges mentioned above. The EEX boasts by far the highest ratio (traded spot volume vs. electricity consumption) and consequently is the most liquid of all the exchanges.

#### Role of the wholesale markets in electricity procurement in Austria

Electricity procurement largely takes place via the futures and forward markets (i.e. before the electricity is actually needed), as this makes

it easier for the companies to calculate their margins and thus limit their long-term price-risk exposure. The spot market is used to manage short-term volume risk – the difference between actual demand and the quantity of electricity purchased in the past on the futures and forward markets.

The role of the EXAA in electricity procurement in Austria is confined to the spot market, since the exchange does not offer any futures products. The EXAA is in direct competition with the German EEX as a means of limiting volume risk exposure.

Since the electricity companies have very similar procurement strategies, the futures market is the main price benchmark for the retail markets, and not the spot market. This meant, for instance, that the low spot prices in 2007, which represented the current economic value of the electricity, had little influence on consumer prices. Traders' expectations often play a more important role in the prices charged to end-users than do actual movements in generation costs.

#### → Description of the retail market

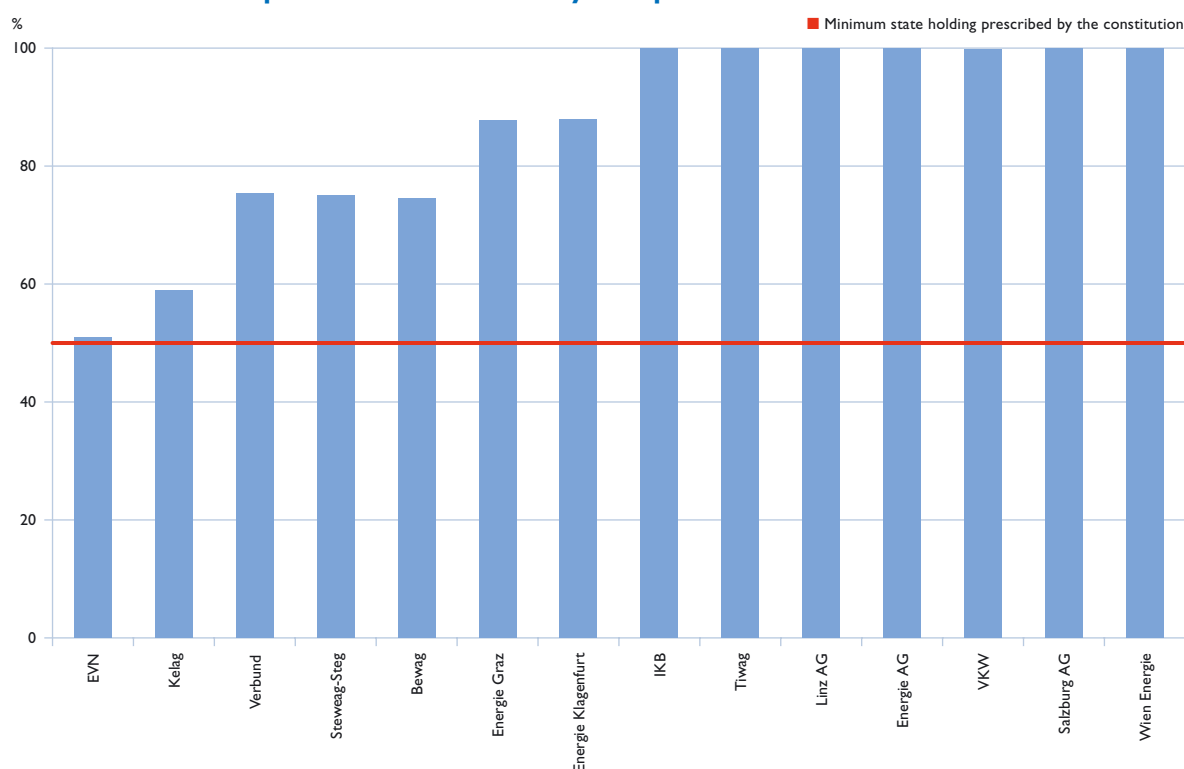
Total electricity consumption rose by 0.69% in 2007 to 67,375 GWh. Electricity was supplied to a total of 5,585,063 metering points during the calendar year. Of these 3,973,895 served domestic consumers (71.2%), 1,588,458 other small consumers (small and medium-sized businesses, farms and interruptible consumers; 28.4%) and 22,710 (0.41%) demand metered final consumers (industrial consumers).

#### Supplier market structure

The structure of the supplier side of the Austrian electricity market is characterised by a high level of provincial and local government ownership (Charts 14 and 62), which is prescribed for the main companies by legislation with constitutional

## → Public ownership of Austrian electricity companies

Chart 14



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

status.<sup>12</sup> This means 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 responsibility of the provinces.

### Austrian nationwide suppliers

Apart from some provincial utilities and ex-monopolists' subsidiaries, a number of small municipal utilities offer electricity to small consumers on a supra-regional basis. However, this is 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.

Verbund is the most active nationwide retailer through its APS subsidiary.

The nationwide suppliers on the Austrian electricity market are:

- VKW
- Kelag
- Energie Klagenfurt
- Verbund (APS)
- Ökostrom AG
- Unsere Wasserkraft
- Switch
- AAE Naturstrom
- MyElectric

<sup>12</sup> BVG-Eigentum (Federal Constitution Act on Property), BGBl. (Federal Law Gazette) I 143/1998.

*New electricity suppliers and products in 2007*

Following the withdrawal of Energie AG and Linz AG from EnergieAllianz in 2006, it was announced in June 2007 that the retail subsidiaries of Energie AG and Linz AG would be merged to form ENAMO GmbH. This has led to an increase in market concentration ratios. Energie AG holds a 65% interest in ENAMO, and Linz AG the other 35%. ENAMO GmbH, based in Upper Austria, commenced operations on 1 July 2007. The company supplies about 9.5 TWh of electricity.

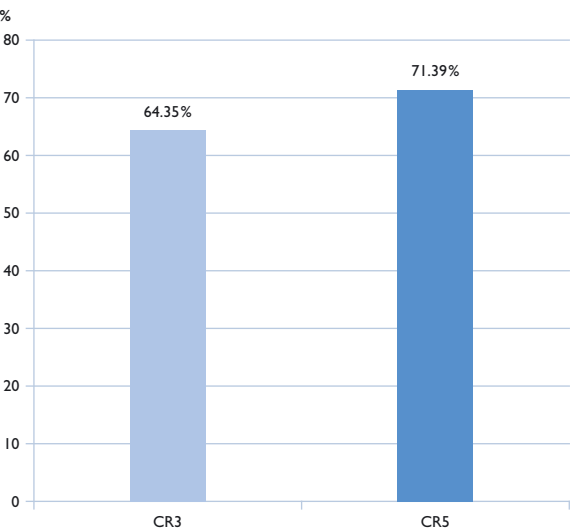
On 1 January 2008 VKW began offering a green-power product consisting entirely of electricity from renewable sources. This is marketed by a new subsidiary, VKW Ökostrom GmbH. Customers pay an extra cent per kWh to an association which promotes renewable generating stations.

*Market concentration in the Austrian electricity market*

The market shares and HHI scores of the three largest suppliers for the Austrian market as a whole are below the threshold levels that indicate a highly concentrated market (66.7% and 1,800 respectively). Nevertheless, competitive intensity on the various retail markets is low. In the opinion of the Federal Competition Authority and E-Control the data suggests that the relevant mass markets are confined to the grid areas of the distribution system operators (see Chart 15).

The Herfindahl-Hirschman Index<sup>13</sup> (HHI) index calculation yields a score of 1,700 for 2007. This is below the threshold level of 1,800 which indicates a highly concentrated market. However, it should be noted that the HHI reading has increased by 300 as compared to 2006. In the

→ **Concentration in the Austrian electricity market: CR 3 and CR 5** Chart 15



Sources: Market statistics questionnaires and company annual reports (calculations by E-Control)

previous years the HHI fell. The rise in the HHI score points to further concentration on the part of the electricity companies, at the expense of consumers.

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 in the large consumer segment the presence of foreign suppliers is modest, and they only serve consumers with an annual demand of between 10–20 GWh. No foreign suppliers are active in the domestic consumer segment. Likewise, Austrian suppliers' export activities are limited, and do not go beyond supplying distributors and large consumers. Even within Austria, only some of the suppliers operate on a nationwide

13 HHI: aggregate squared market shares of all firms.



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 particular barrier for smaller suppliers. It is certainly not possible to speak of a regional market extending beyond Austria's frontiers.

#### *Strategic behaviour of Austrian electricity companies*

On 1 July 2007 it was announced that Energie AG and Linz AG would be merging their retail subsidiaries to form ENAMO GmbH.

Upper Austria's Energie AG plans to sell a 50% stake in its subsidiary Energie OÖ Service- und Beteiligungsverwaltungs-GmbH, which holds 26% of Salzburg AG, to Tyrol's Tiwag. This has prompted widespread discussion in which the provincial governments concerned have taken part. However, the Salzburg provincial government is unwilling to waive its preemptive right to the shares. If it purchased them the city and province of Salzburg would together own more than 75% of the firm, giving them complete control. For its part, Energie AG objects to this majority. Tiwag now only wishes to invest in Energie AG directly, and would take an 8% interest in the latter at a cost of about €300 m; it does not intend to become a co-owner of Salzburg AG.

Energie AG, which had been planning a part-privatisation, has cancelled its initial public offering (IPO). For the time being, at least, this puts an end to a protracted political debate caused by the fact that some of the political parties were opposed to the IPO. The original intention was to offer about 40% of the company, in the hope of raising €600–800 m. A maximum of 49% was to have been sold, and both Tiwag and Verbund expressed interest in investing.

Verbund is active in the retail market via its APS subsidiary, and is one of the cheapest suppliers in Austria in the small-consumer segment. The company holds interests in Kelag and Steweag-Steg, as well as investments in Italian electricity and gas company Sorgenia and French electricity supplier Poweo.

#### *Electricity companies' advertising expenditure*

The evolution of advertising expenditure is one of the main indicators of the intensity of competition for mass market consumers. The advertising spend of the 20 largest power utilities more than doubled year on year in 2007. The EnergieAllianz partners continued to be the highest spenders, but do hardly any advertising under this brand, and continue to market under their subsidiaries' brands instead.

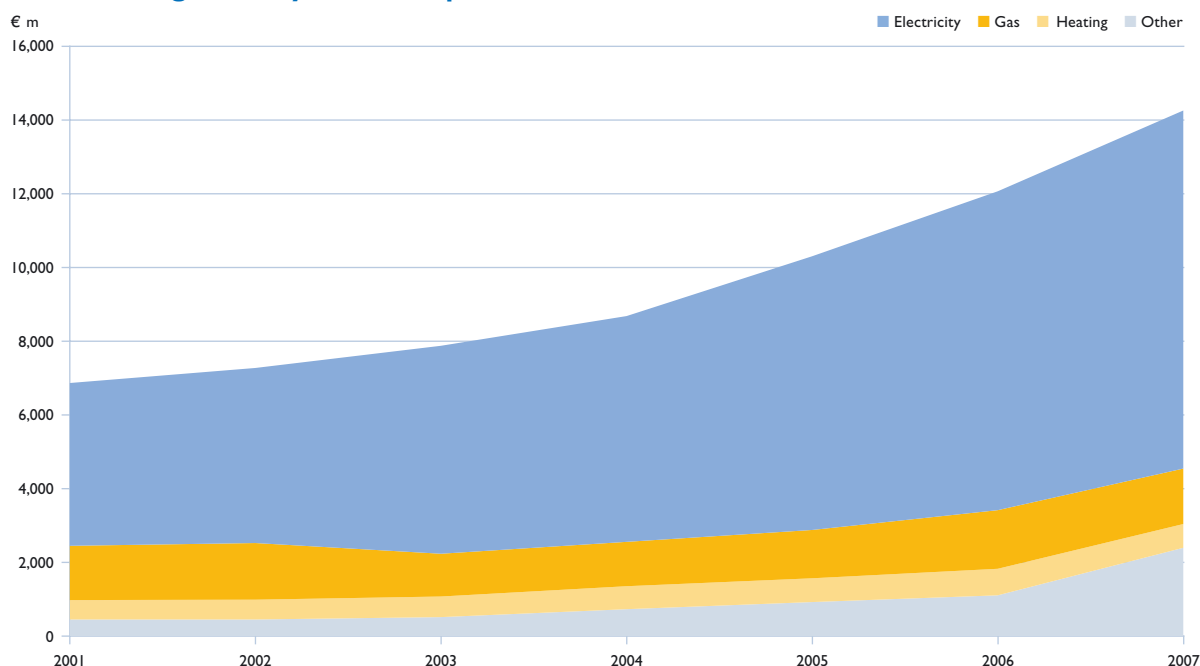
Following Energie AG's exit from EnergieAllianz its advertising expenditure has risen exceptionally rapidly. This may be explained by the company's plans for an initial public offering in the first quarter of 2008, which it ultimately pulled. There was also a sharp year-on-year increase in Verbund's advertising expenditure.

The provincial utilities account for almost 80% of the advertising expenditure of the 20 main power supply companies, and other suppliers for only about 21%.

As in previous years, during the period under review advertising was almost exclusively devoted to image maintenance, since there is little price or price advertising. Even the lowest-cost supplier scarcely advertises on price, and likewise mostly relies on image advertising. None of the other companies highlight the potential savings to be made from changing suppliers, since the lowest-cost supplier would be the main

→ Revenue growth by areas of operations<sup>14</sup>

Chart 16



Sources: Company annual reports, annual accounts as given in the commercial register

beneficiary of “switch advertising”, and they would be promoting their strongest competitor.

#### *The energy utilities' financial performance*

As can be seen from Chart 16, the total revenue returned by Austrian energy companies<sup>15</sup> has climbed sharply since 2001. The energy utilities more than doubled their total revenue between 2001–2007. Growth was largely driven by the rapid increase in the contributions of the companies' electricity businesses (up by 120%), whereas gas revenue only gained about 3% over the period. The revenue generated by “other” services (including water supply, and wastewater and waste disposal) advanced strongly. Between 2001–2007 revenue from these areas of opera-

tions rose more than fivefold, while district heating turnover progressed by about 20%.

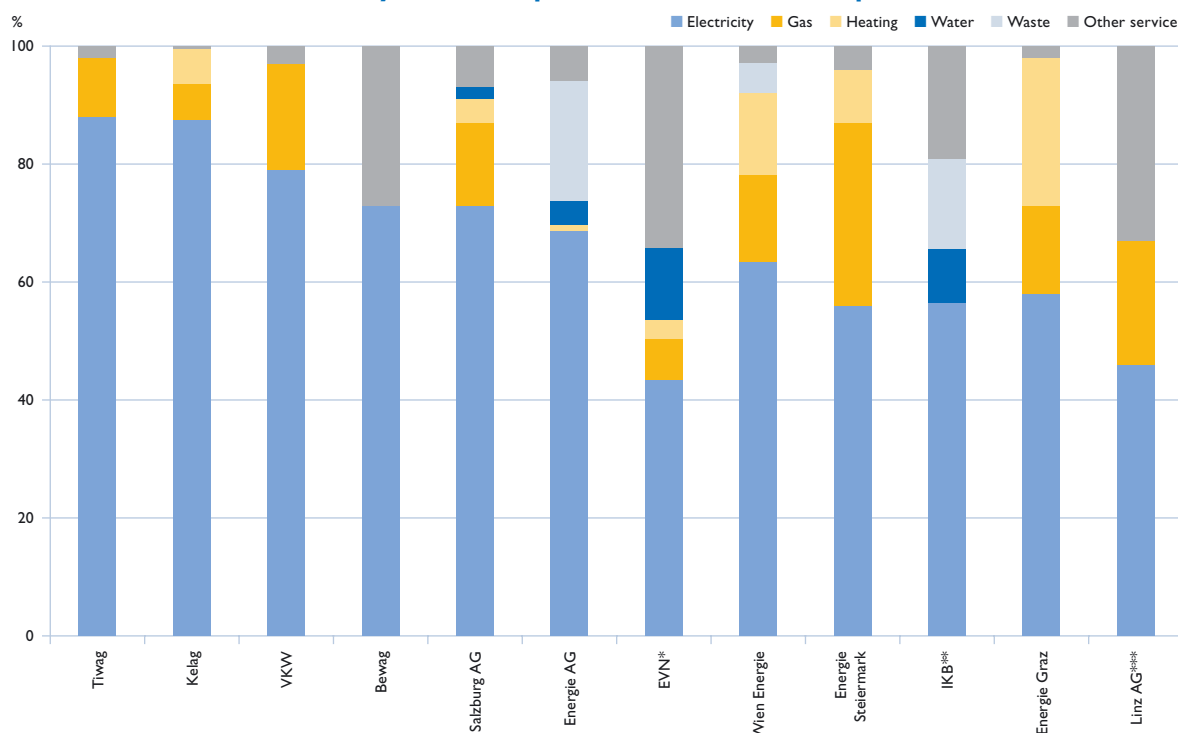
The annual revenue growth recorded by Austrian electricity and gas companies ranged between 1% and 25%. Verbund posted the largest revenue increase in 2007, at about 25%. This was partly due to the rapid expansion of the company's electricity trading and wholesale activities. Peak-time supplies of power from pumped storage command top prices on the international electricity market. Wien Energie GmbH registered a fall of about 1% in revenue, largely as a result of lower gas and district heating sales due to warm weather. Linz AG's revenue slid by about 8% in 2007, depressed by weather conditions and reduced power station use (see Chart 17).

<sup>14</sup> “Other” includes EVN South East Europe business unit.

<sup>15</sup> The figures include the following companies: Begas, Bewag, Energie AG, Energie Graz, Energie Steiermark, EVN AG, Kelag, Linz AG, OÖ Ferngas, Salzburg AG, Tigas, Tiwag, VEG, Verbund, VKW and Wien Energie. EconGas and EnergieAllianz were excluded as some of their revenue is recognised in the consolidated accounts of the joint venture partners.

## → Revenue contributions by areas of operations: selected companies

Chart 17



\* Segmentation: Electricity/Gas/Heating/Water-waste/Other inc. South East Europe

\*\* Values are taken from the 2006 financial year

\*\*\* Segmentation: Electricity/Gas-heating/Other

Sources: Company annual reports, annual accounts as given in the commercial register (calculations by E-Control)

Austrian energy companies' water supply, and wastewater and waste disposal businesses are playing an increasingly important role for them (see Chart 18). The same is true of their foreign operations.

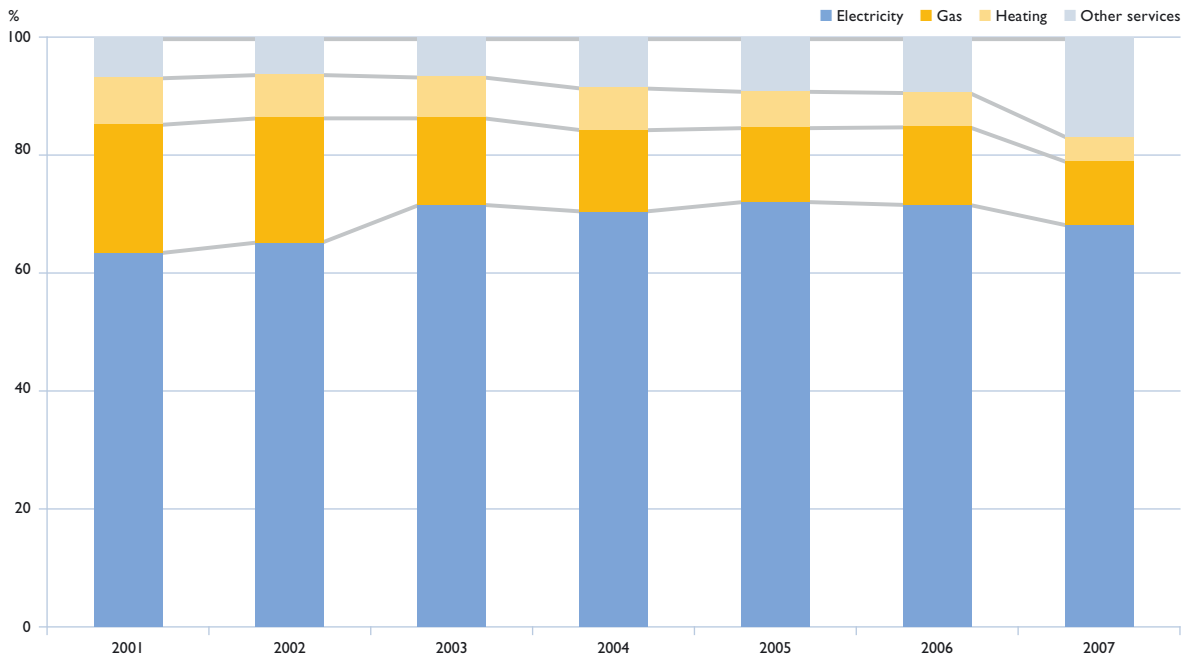
The companies have succeeded in improving their earnings as well as their revenue. The profits after tax of the electricity and gas companies included in the analysis are up more than four-fold since liberalisation. Some firms' post-tax profits rose by more than 180% between 2007 and 2006. The growth of after-tax profits in the

electricity sector is largely explained by higher electricity prices and virtually unchanged hydro power generating costs, but also reflects the fact that many companies have stepped up their wholesale activities. Expansion abroad has also generally had a positive impact on post-tax profits (see Chart 19).

The companies posted an increase of over 15% in their earnings before interest and taxes (EBIT) in 2007. The average EBIT margin was always over 10% during the period, and was 13% in 2007. The EBIT-based profitability ratios have

→ Revenue contributions by areas of operations

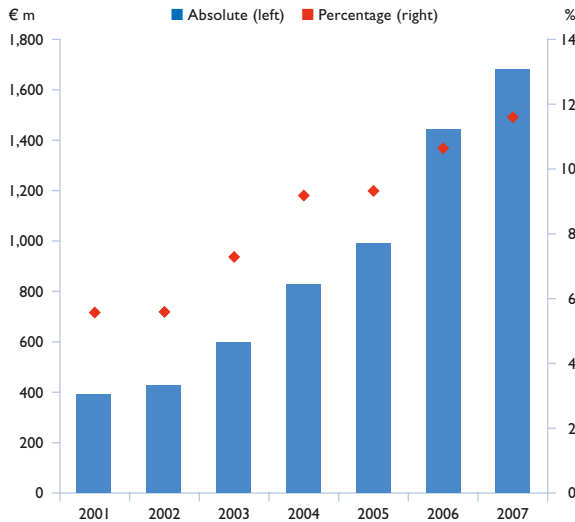
Chart 18



Sources: Company annual reports, annual accounts as given in the commercial register (calculations by E-Control)

→ Annual profits after tax in absolute terms and as a percentage of revenue<sup>16</sup>

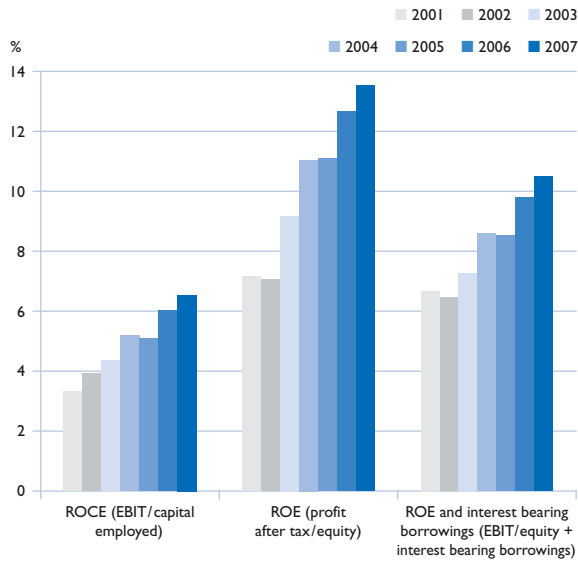
Chart 19



Sources: Company annual reports, annual accounts as given in the commercial register (calculations by E-Control)

→ EBIT-based profitability measures, 2001–2007

Chart 20



Sources: Company annual reports, annual accounts as given in the commercial register (calculations by E-Control)

<sup>16</sup> 2006 based on updated data as this was partly unavailable when the last report was written.

also improved. Return on capital employed increased to 6.5%. Return on equity, and return on equity and interest-bearing borrowings improved still more markedly between 2001 and 2007, from approx. 7% to almost 13%, and from approx. 6.5% to almost 10%, respectively (see Chart 20).

### → Retail price trends

The regulation of energy prices ended with the liberalisation of the electricity market in 2001. The system charges are set by the regulator, and taxes and levies 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.

### Industrial electricity prices

As in the preceding years, industrial electricity prices rose in 2007. This trend reflects higher wholesale prices, as well as increased settlement prices for electricity from subsidised renewable and small hydro generating stations.

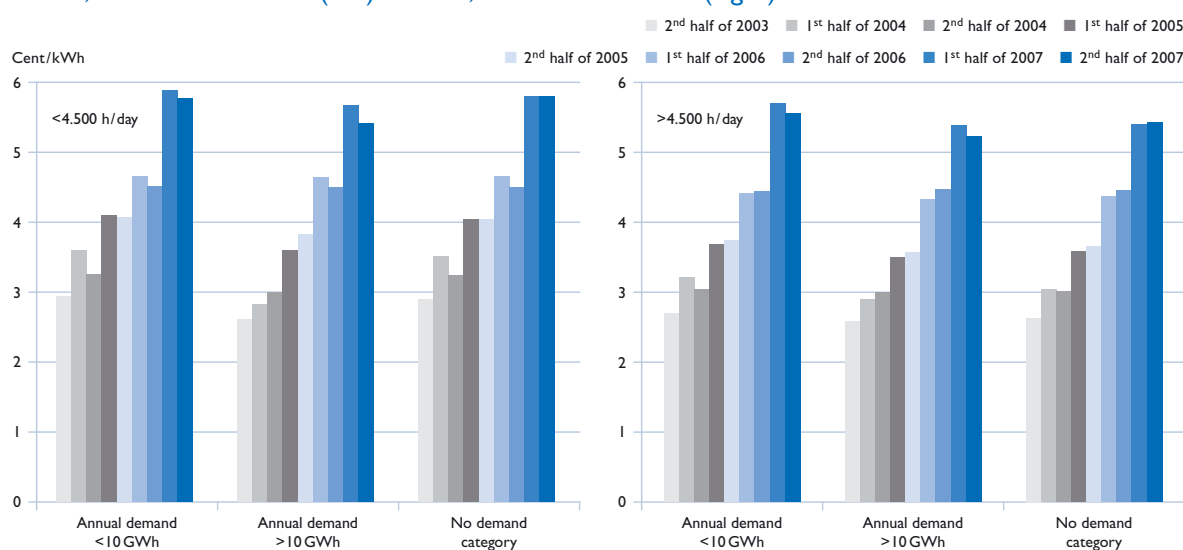
Suppliers are obliged to take the supported electricity, which is allocated by the renewable power settlement agent ÖMAG in proportion to the total supply to final consumers, at a fixed settlement price (weighted at around €93/MWh). In 2007 the settlement price for small hydro power was 6.47 cent/kWh, and 10.33 cent/kWh for “other” renewable energy. The difference between the settlement and market prices is passed on to consumers on a pro-rata basis.

E-Control conducts surveys of industrial prices every six months and publishes the results. Chart 21 depicts the evolution of industrial prices for a variety of demand categories. Prices for

### → Industrial electricity prices

<4,500 full load hours (left) and >4,500 full load hours (right)

Chart 21



Source: E-Control

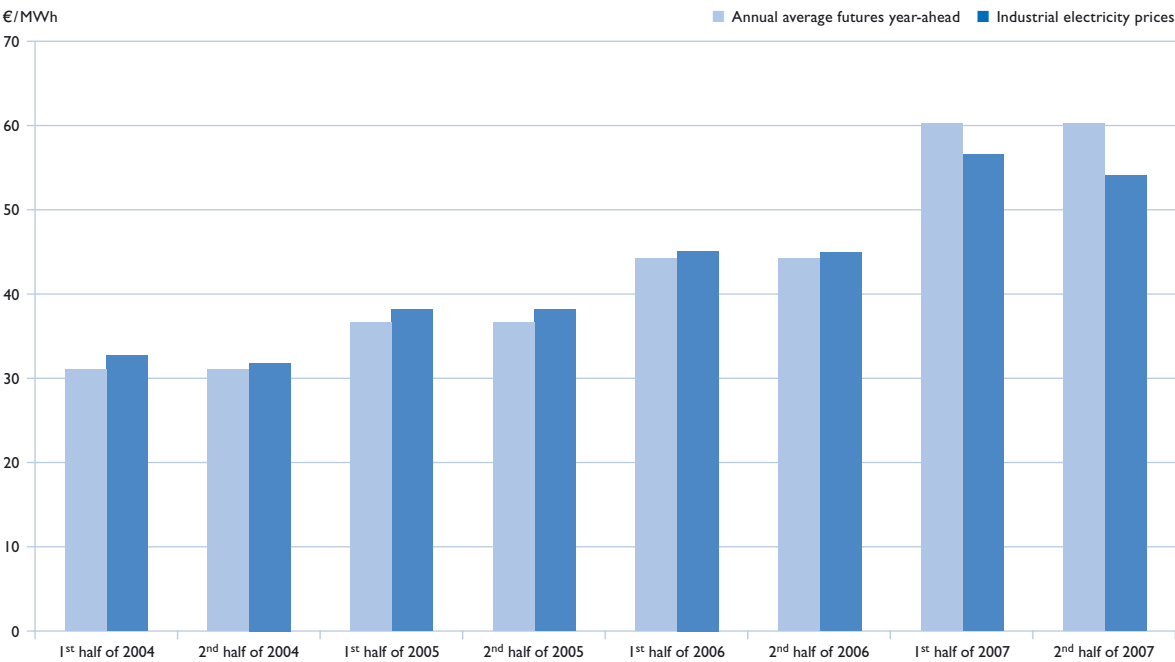
industrial consumers have risen steadily since E-Control began the surveys, with marked jumps at the turn of each year.

Chart 22 compares movements in wholesale (using EEX futures prices as a reference) and industrial electricity prices. Until the second half of 2006 the wholesale price was always below the average industrial price identified by the E-Control survey. The comparisons for the first and second half of 2007 are of particular interest because the industrial price includes additional expenses for renewable electricity as well as the energy price itself.

However, it is not possible to deduce from the data whether suppliers are charging industrial consumers less than the wholesale prices. The difference may be attributable to companies' having concluded supply agreements well in advance of 2007. This means that the electricity prices shown here actually represent a combination of rates from agreements with differing durations. For instance, if an industrial consumer has concluded an agreement two years before deliveries begin, the price will be well below that paid by a company that agrees a contract closer to the commencement date.

→ Trends in exchange-quoted prices and energy prices charged to industrial consumers<sup>17</sup>

Chart 22



Sources: EEX and E-Control

<sup>17</sup> The wholesale prices were calculated on the basis of the annual average year-ahead futures prices (weighted at 80% for baseload and 20% for peakload contracts). In other words, the futures prices taken for the first half of 2007 were those quoted in 2006 for contracts for delivery in 2007.

The net energy price is only one of the determinants of an industrial company's choice of location and competitiveness. System costs, taxes and levies also play an important part – especially where energy is a major component of a firm's costs.

#### Price trends in Europe

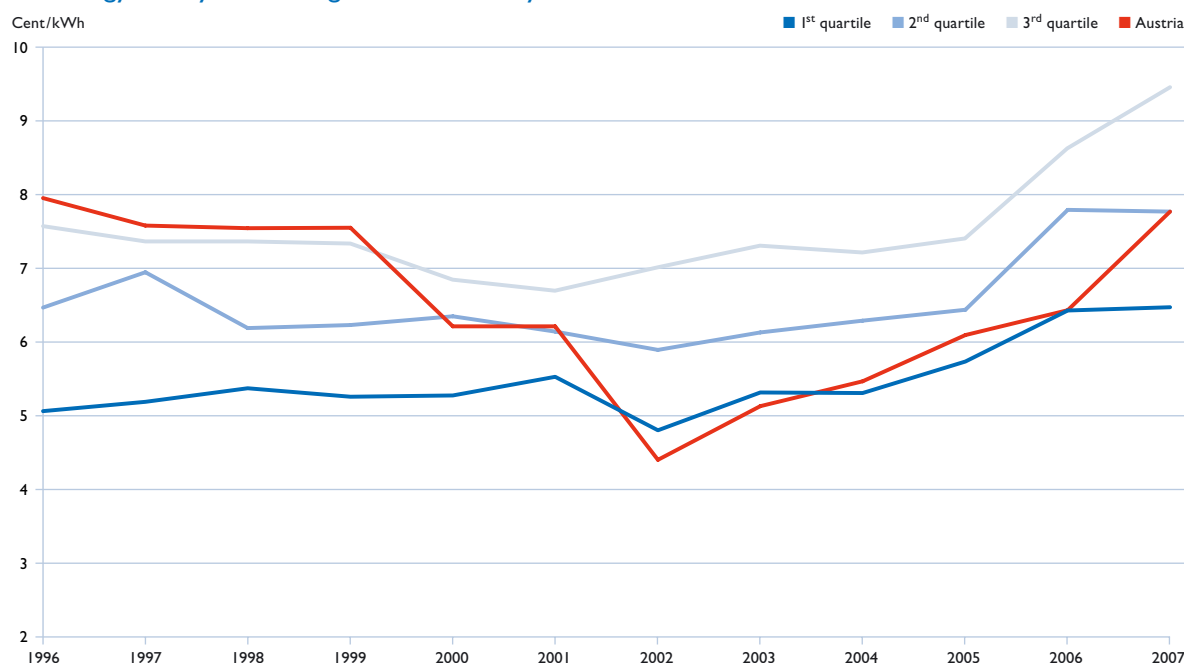
Chart 23 compares the prices paid by industrial customers in Austria and the rest of Europe. To illustrate the distribution, prices were sorted by level and the middle 50% shown. The median curve shows the average price, while the lines

above and below indicate the 25% of prices above and below the median. The first quartile curve shows that 25% of the prices in the EU are below this level. A further 25% lie between the first and second quartiles, and 25% between the second and third. The remaining 25% of the prices are above the third quartile.

The electricity prices for industrial consumers (with average uptake) in Austria (Chart 23) were among the highest in Europe between 1996–1999, and in the mid range between 2000–2001. In the aftermath of liberalisation Austrian prices were in the lowest quartile. Since then, however,

### → Industrial electricity prices in Europe<sup>18, 19</sup> Energy and system charges, 2,000 MWh/year, exclusive of tax and levies

Chart 23



Sources: Eurostat and E-Control calculations

<sup>18</sup> Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden and United Kingdom.

<sup>19</sup> Prices are sorted from low to high, the first quartile, for instance, contains the lowest 25%.

the situation has worsened, and Austria is only barely among the 50% of countries with the lowest prices.

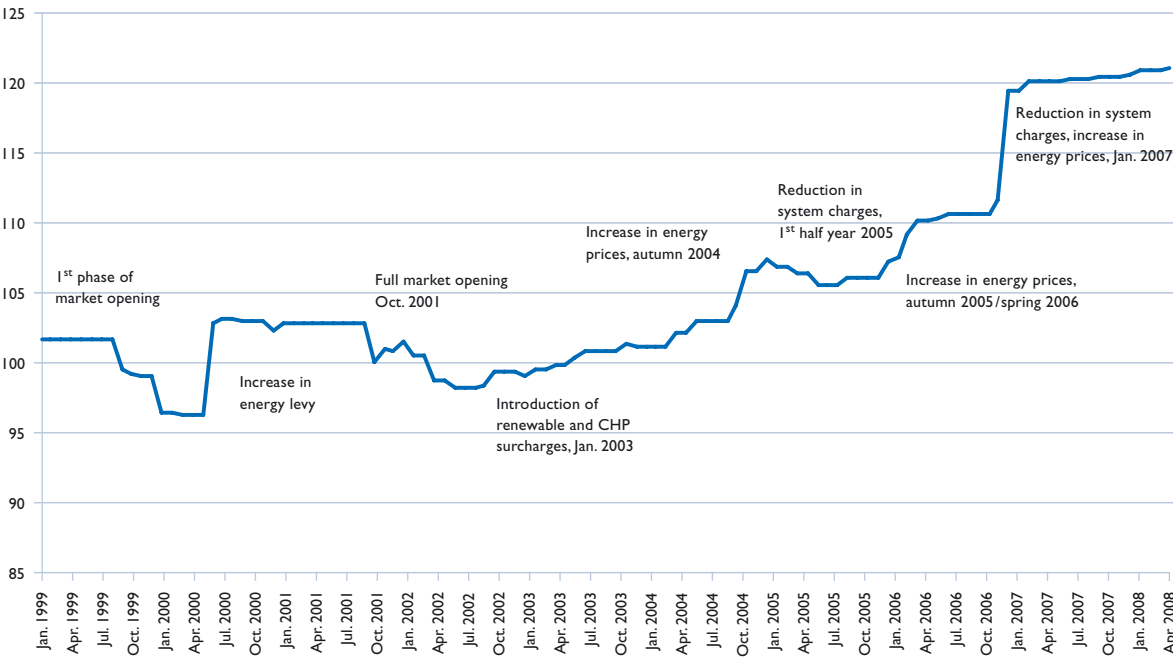
Domestic electricity prices

Chart 1 depicts the evolution of overall electricity prices charged to domestic 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. The modest increase at the beginning of 2008 mainly reflects the fact that the regulator cut the system charges for Grid Level 7 with effect from 1 January 2008 (Chart 24). However, only a few companies have passed on the decrease directly to consumers; instead, most have offset it with a price increase or raised their overall prices.

→ Electricity CPI (overall price, October 2001 = 100)

Chart 24

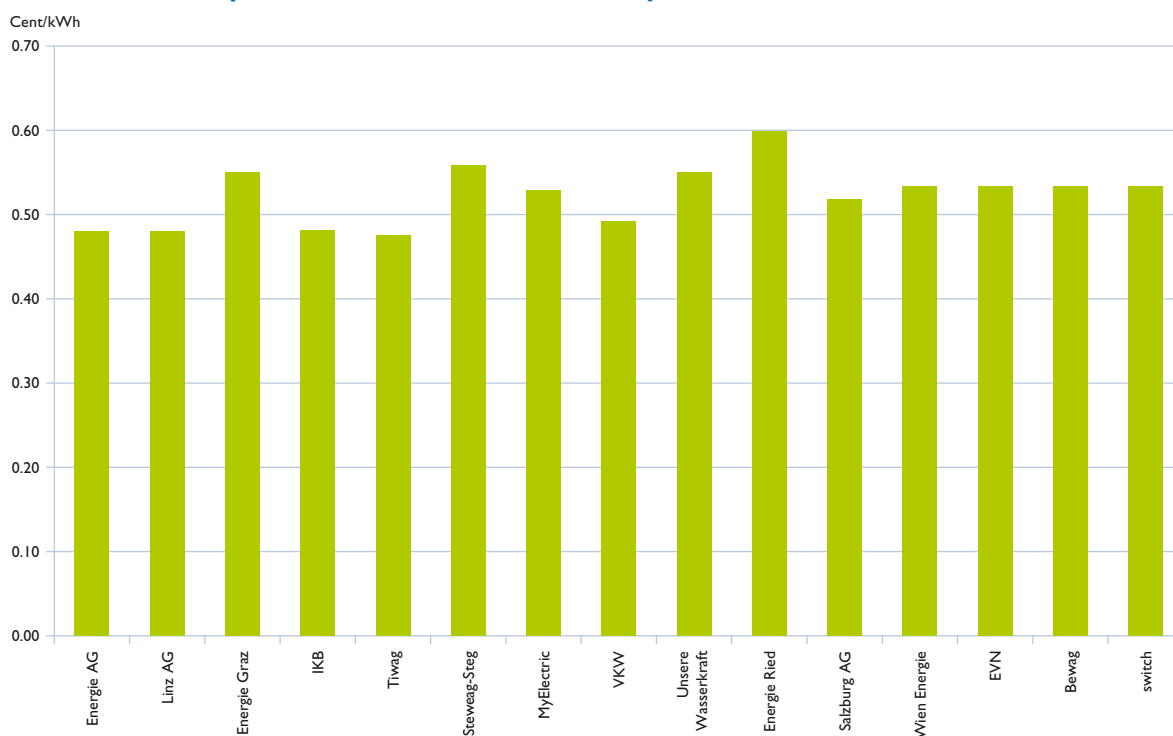


Sources: Statistics Austria and E-Control



### → Additional expenses for renewable electricity

Chart 25



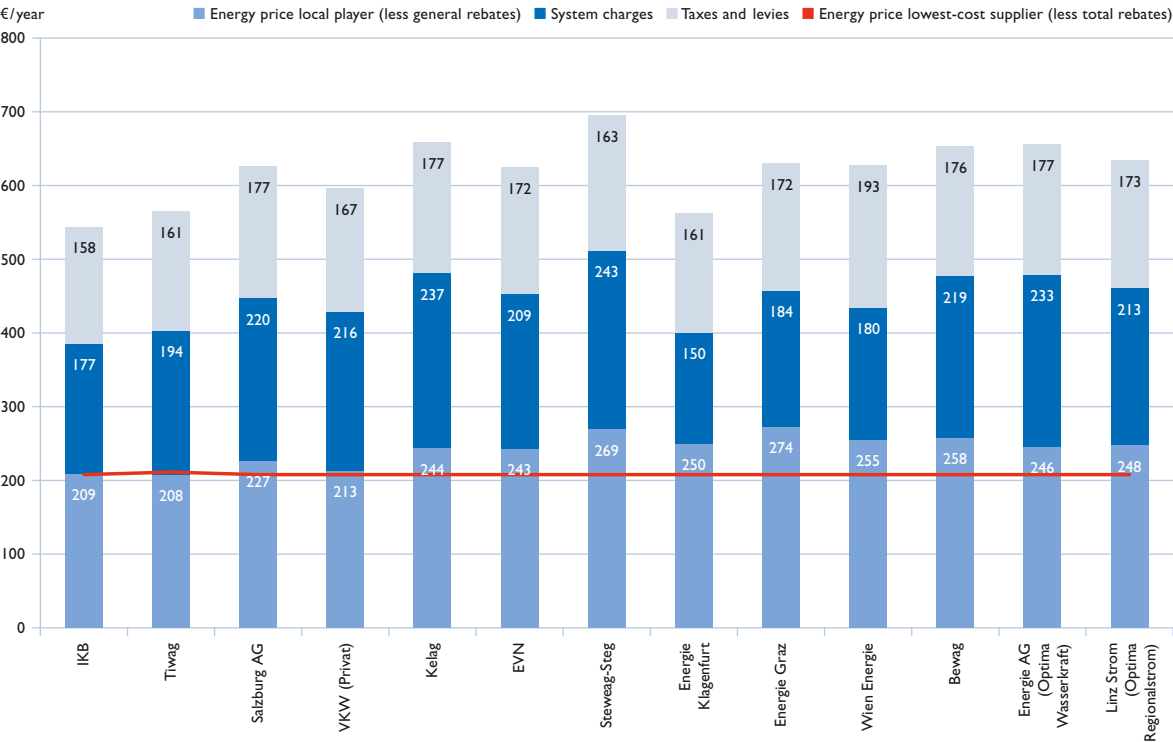
Sources: Price lists / corporate websites; Status June 2008

The amounts charged by suppliers to compensate them for “additional expenses” arising from renewable electricity vary widely (Chart 25). The difference between the lowest and highest is around 22%. The additional expenses depend on the market price for renewable electricity. They represent the difference between the purchasing price and the settlement price for the

allocated green power, assigned on a pro-rata basis. This should mean that the suppliers with the highest additional expenses due to renewable energy charge the lowest energy prices. However, a comparison of additional expenses for renewable electricity and domestic electricity prices does not show such a link.

→ **Comparison of prices charged by local players and the lowest-cost supplier, (3500 kWh) less general rebates offered by local suppliers and the total rebates offered by the lowest-cost supplier**

Chart 26



Source: E-Control; Status July 2008

Chart 26 shows the local players' energy prices, and the related system charges, and taxes and levies. As seen above, there are considerable differences between local incumbents' electricity prices. The energy prices of the most expensive local players are around 29% higher than those of the cheapest incumbent supplier for a domestic customer with an annual consumption of

3500 kWh. When the local players' prices are compared to the lowest-cost nationwide supplier the gap widens to some 31%. Varying system charges also play a part in these wide disparities between the overall prices. The difference between the highest and lowest overall price for an average domestic consumer is around 28%.

### Suppliers' product and discount policies

Product design is largely a matter of offering discounts – mainly to customers paying by direct debit and new customers – on standard rates.

Verbund was the country's lowest-cost supplier up to 1 June 2008 – not least because of a 10% rebate on the energy price for new customers which has no longer been granted since then. Salzburg AG offers all former customers who return to it a one-time discount in the form of 30 days of free electricity. Bewag has added four "Optima" tariffs, which come with a wide

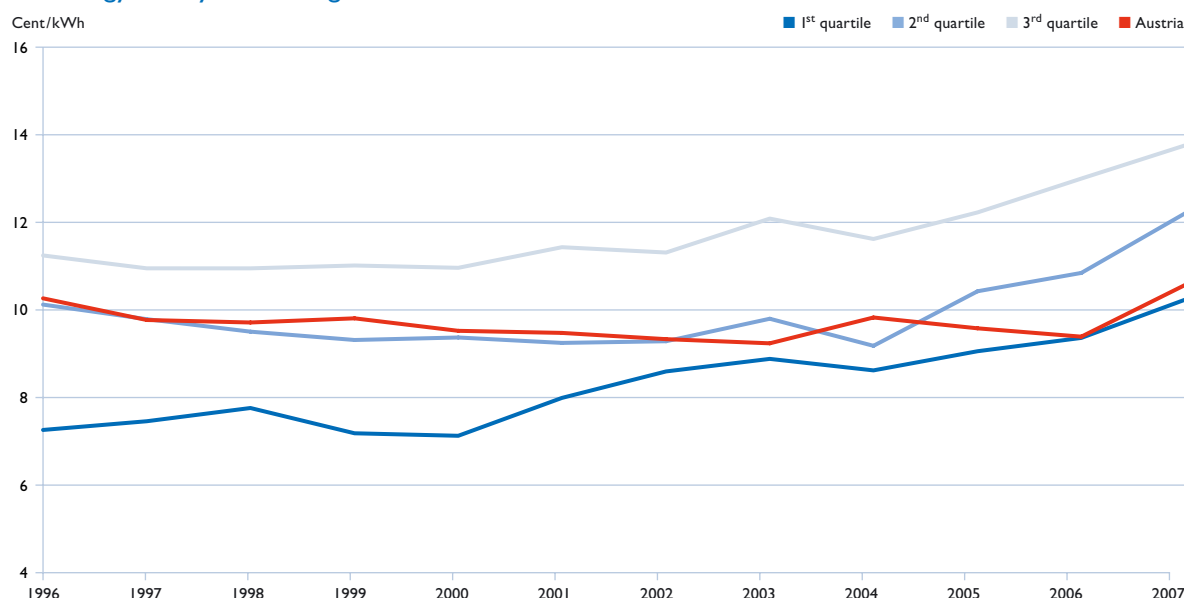
range of extra services, to its product offerings. It also gives all new customers a €20 rebate on their annual bill. From December 2007 to January 2008 MyElectric offered a fixed rate to customers applying for services online, with a price guarantee for one year.

### Price trends in Europe

Chart 27 compares the prices paid by domestic consumers in Austria and in the rest of Europe. For Austrian domestic consumers with average uptake levels, prices were in the mid range between 1996–2004, and have been just inside the lowest quartile of the EU since 2004.

## → Domestic electricity prices in Europe<sup>20</sup> Energy and system charges, 3,500 kWh, exclusive of tax and levies

Chart 27



Sources: Eurostat and E-Control calculations

<sup>20</sup> Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain Sweden and United Kingdom.

Austrian electricity companies' margins

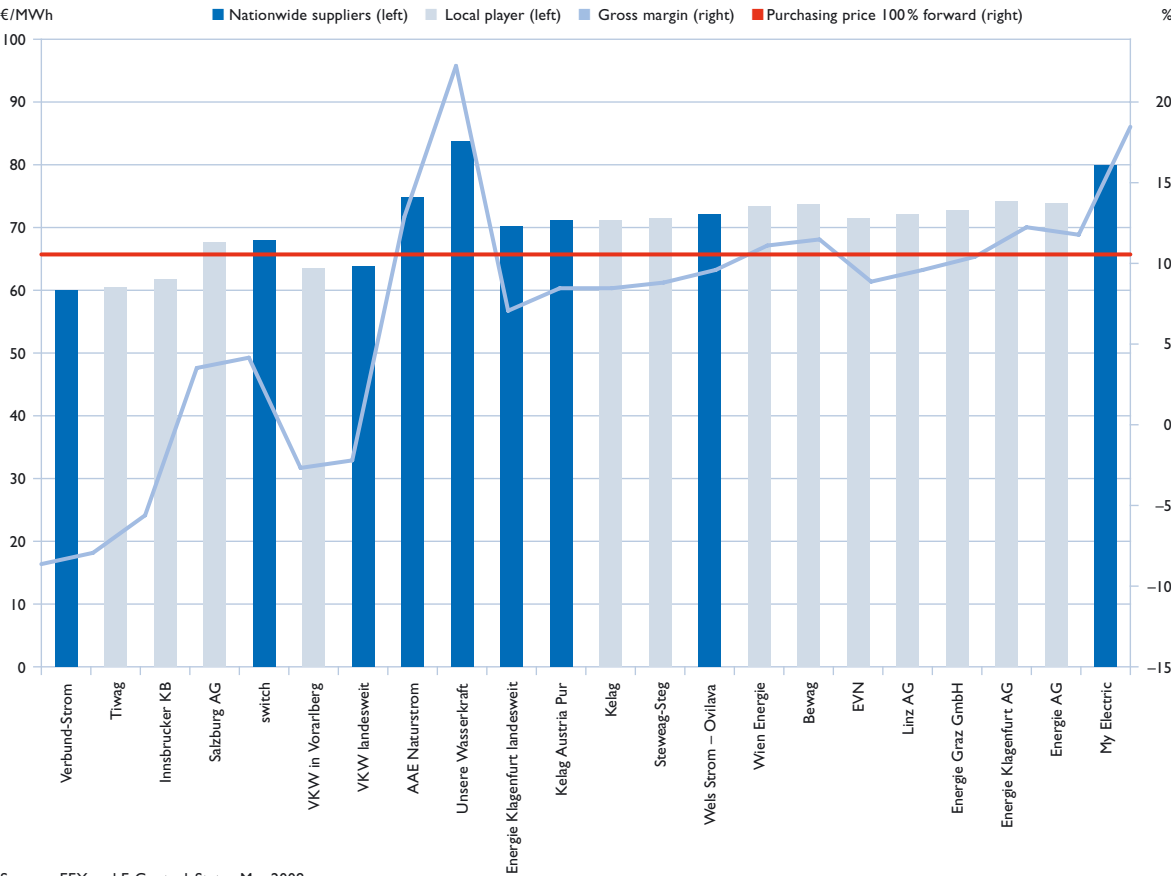
Chart 28 shows the (imputed) gross margins of Austrian electricity suppliers on the assumption that their procurement portfolio is based on futures or forward purchases 18 months ahead. The procurement costs are deducted from the suppliers' selling prices (excluding discounts).

Chart 28 reveals that on this assumption some of the incumbents in eastern Austria have

significantly higher margins that 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. On this basis, some west Austrian utilities and Verbund would be selling at below opportunity cost. However, it should be noted that some of these companies generate electricity themselves, which is cheaper than purchasing it on the wholesale market.

→ Gross margins of companies purchasing all of their electricity on the futures or forward markets (3,500 kWh) no discounts

Chart 28



Sources: EEX and E-Control; Status May 2008

## Demand behaviour

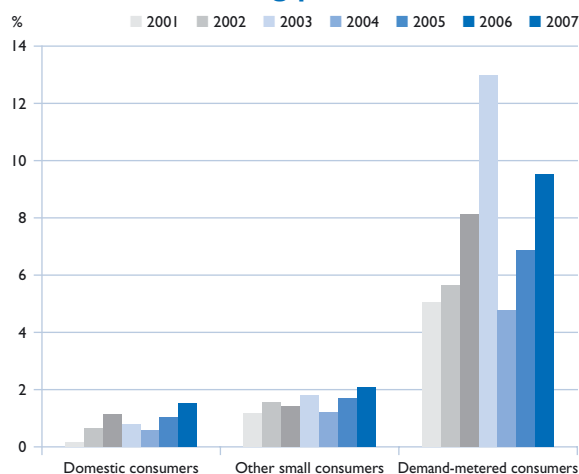
### *Switching figures and behaviour on the electricity market*

Since 1 October 2001 all electricity consumers have been free to change their suppliers. By December 2007 a total of 232,000 domestic consumers, representing 5.9% of all electricity consumers, had done so.

After a sharp decline in the switching rate for domestic consumers between October 2004 and September 2005, to 0.5%, last year the churn rate recovered to 1.5%. Over 20,000 more supplier transfers by households were recorded than in 2006 – an increase of almost 50%.

### → Switching on the electricity market: metering-point transfers

Chart 29

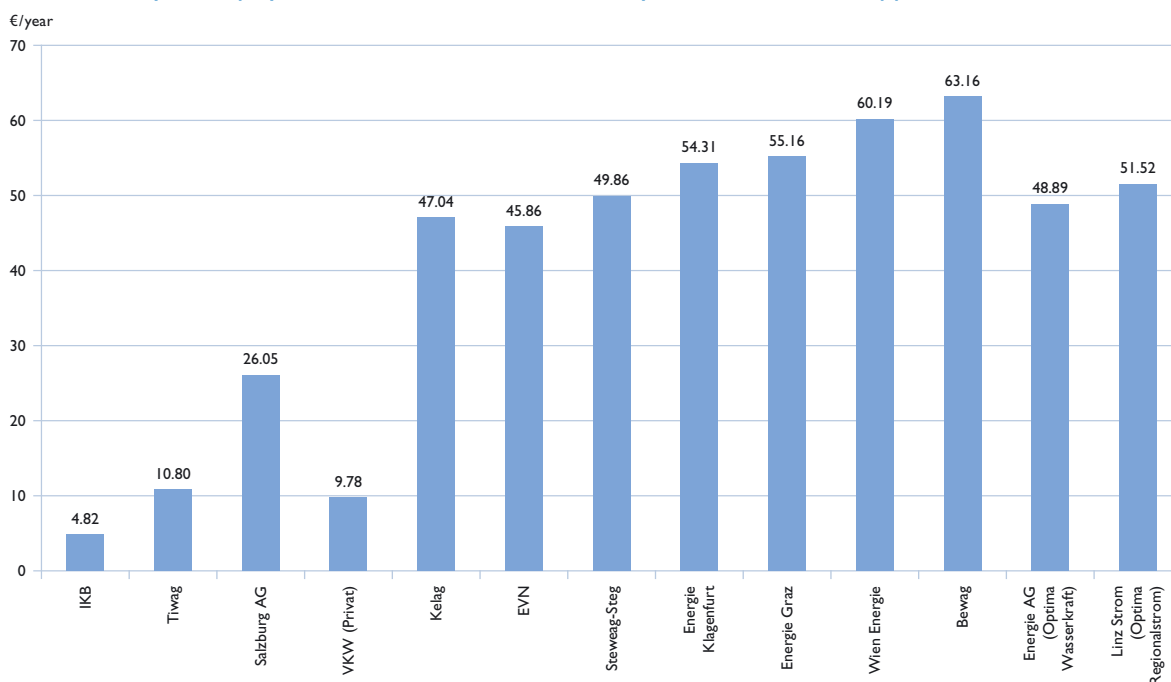


Source: E-Control

55

### → Potential annual savings for domestic consumers switching to the cheapest supplier, by grid areas (3,500 kWh), less general rebates offered by local players and total rebates offered by the lowest-cost supplier

Chart 30



Source: E-Control; Status June 2008

Some 2.1% of the other small consumers changed their electricity suppliers in 2007. This group has had a relatively constant churn rate over time in comparison to domestic consumers.

The demand-metered consumers, which include large consumers in the industrial, agricultural and service sectors, are the most active switchers on the electricity market. The reasons for this behaviour are the greater absolute savings to be made and the fact that these consumers are better informed (see Chart 29).

Domestic consumers can make substantial savings by switching. The potential savings in eastern Austria range between €70–110 (Chart 30), representing reductions of up to 49% in the energy price and 16% on the overall price. There is considerably less to be gained from switching in western Austria. Despite these opportunities to cut costs the switching figures for the domestic consumer segment are still low. The weak switching rates, despite the wide spread between the energy price of the cheapest provider and those of most local suppliers, point to the existence of switching barriers and thus of entry barriers.

*Study on switching attitudes, motives and concerns (spring 2006)*

E-Control has undertaken a number of studies of switching behaviour over the past few years.

This first investigation by Karmasin Motivforschung dealt with consumers' attitudes, motives and concerns with regard to changing to a new electricity supplier. It was carried out in two stages, consisting of telephone and face-to-face interviews, in order to address the problem in both quantitative and qualitative terms. The main focus of the study was on analysing the behaviour of the domestic and small business consumer segment. Three main barriers to switching were identified:

1. The perception that switching would bring only minor savings;
2. The effort required to transfer to a new electricity supplier;
3. The sense that the time consuming, complex and uncertain information and transfer conditions were out of all proportion to the benefits.

These are switching barriers that rest exclusively on consumers' perceptions, and related switching costs (psychological switching costs).

The study revealed that consumers are often unaware of their electricity bills, the potential savings to be made, potential suppliers or the procedures and effort involved in a switch.

Security of supply is seen as an important yardstick for selecting a supplier, and is only attributed to the incumbents. In principle, end-users favour liberalisation. However, on closer inspection it emerged that details of deregulation were unknown, and there was a significant information deficit with regard to electricity suppliers, potential cost savings, and the roles of the incumbent and the new supplier after a transfer.

The importance that consumers attach to supply security, and the way that they associate it with suppliers offset their dissatisfaction with the former local players.

What springs to mind in terms of cutting electricity bills is power saving, not changing suppliers. The respondents saw reducing consumption as a better way of saving money than switching.

*Study on switchers and domestic and small business electricity consumers who are thinking of switching (winter of 2007/2008)*

Building on the results of the study by Karmasin Motivforschung, E-Control set out to gain a deeper understanding of churn behaviour so as to pinpoint the differences between switchers

and people considering switching, and the kinds of communication activities that would suit given target groups and prompt more potential switchers to do so.

The telephone survey was carried out by Österreichische Gesellschaft für Marketing GmbH (OGM) between November 2007 and January 2008. Residential and small enterprise consumers in seven Austrian provinces who have switched or are thinking of doing so were polled.

The survey found that actual switchers tended to be male, to be aged between 30 and 49, and to have higher incomes (net monthly household income above €2,100) than potential switchers. Their level of education was similar, but they were less likely to be single, and more of them had children aged under 14. Their homes were considerably larger, at 148.5 square metres. Another interesting finding was the fact that 45% of the switchers lived in municipalities with less than 5,000 inhabitants.

Among the businesses, the switchers are more prevalent in small-scale industry and personal services than in the retail sector. Companies that have already changed their electricity suppliers tend to have larger workforces and premises than the potential switchers.

As emerged from the first E-Control study in 2006, consumers are less likely to be aware of the amount of their electricity bills than of their electricity consumption. As was to be expected, the switchers had thought more about their bills than the potential switchers. It is also worth noting that the expectations of 61% of the switchers with regard to the potential savings were fulfilled or exceeded.

The main motives for switching were again found to be issues connected with money, i.e. higher electricity bills, media reports on potential savings and announcements of price increases by the electricity companies.

The switchers were less satisfied with their former suppliers than the potential switchers. Willingness to switch on the part of both households and businesses was increased by knowing other switchers (and discussing the subject), and by familiarity with E-Control's information on the subject.

#### *Survey on perceptions of energy (February 2008)*

E-Control has also commissioned a survey by Karmasin Motivforschung on perceptions of energy, conducted in February 2008. This showed that the issue was only of moderate interest to the Austrian public. Security of supply and energy saving were seen as particularly important. Only one-third of the sample felt that current electricity and gas prices were reasonable. This had prompted most respondents to consider energy-saving measures, but less had given thought to the possibility of switching. The survey results showed clearly that the public believe that high energy prices chiefly benefit the energy utilities and the state.

#### **→ Measures for the promotion of fair competition in 2007**

Under section 10(1)(1) Energie-Regulierungs-behördegesetz (Energy Regulatory Authorities Act), E-Control is responsible for competition oversight of all system operators and market participants, particularly with regard to the non-discriminatory treatment of market participants. If E-Control detects abuse it is required to take all necessary steps to restore compliance with the law without delay.

During the period under review there were less abuse proceedings than in previous years. Some cases of companies' abusing their market positions were resolved informally. It was often possible to prevail on market participants to comply with the law without initiating proceedings.

Amendments to the Electricity Act have 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 the introduction of these changes E-Control has been checking electricity bills for compliance with these legal requirements, initiating abuse proceedings and taking action to restore compliance with the minimum standards for invoices by issuing notices.

The tariff calculator on the E-Control website is undoubtedly a useful means of achieving greater transparency in the Austrian electricity sector. The calculator enables electricity consumers to identify the cheapest electricity and gas supplier for their individual needs and demand. It makes it easier to switch, and thus promotes competition.

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.

#### Differences between the treatment of domestic and business consumers

Domestic consumers receive more legal protection than Austrian business customers. The main reason for this is the fact that the consumer protection provisions of the Konsumentenschutzgesetz (Consumer Protection Act) do not apply to entrepreneurs making transactions in the course of business. In this respect, for instance, the law treats microbusinesses in the same way as large industrial companies, and differently to domestic consumers.

In practice, this means that under some circumstances the Consumer Protection Act confers a right of rescission on consumers who conclude transactions by way of doorstep or distance selling, but this right does not apply to business customers.

As regards legally permissible components of contracts – and particularly of general terms and conditions – far stricter yardsticks are applied to private than to business consumers. Thus, the Consumer Protection Act states that consumers concluding energy supply contracts must be permitted to terminate them after expiry of the first year (section 15[1] Consumer Protection Act). However, business consumers who conclude an energy supply contract to be able to conduct business can be bound for longer than one year, and it is thus entirely normal to tie business customers to contracts for longer periods. This means that when making energy supply agreements they should make particularly thorough comparisons, and pay especially close attention to price change, and term and termination clauses.

Caution is also called for with regard to the general terms and conditions for the supply of gas and electricity ("General delivery terms"). Some companies have separate terms and conditions for business customers, but many have only one version, though some clauses are not equally applicable to private and business consumers.

This is true, for example, of the price change clauses: it is easier to raise the prices charged to business customers during the terms of standing contracts. Here, too, it is advisable to read the small print carefully before concluding an energy supply contract, or to make a fixed-price agreement.





# Regulation and performance of the natural gas market in 2007



#### → Gas network regulation

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

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 “backpack” (portability) principle. This means that the transportation capacity required to supply the quantity of gas specified by the end-user’s contract belongs to the customer and cannot be lost in the event of a supplier transfer. 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)<sup>21</sup> introduced arrangements for cross-border transportation which came into force on 1 January 2007. These brought a change-over to regulated third-party access. The system charges are not determined by the E-Control Commission, but the methods for calculating the rates require its ex ante approval.

#### Domestic transmission and distribution: system charges

On 1 January 2007 the second amended Gas-Systemnutzungstarife-Verordnung 2006 (Gas System Charges [Amendment] Order 2006) cut the system charges by an average of about 4.5%, resulting in total savings for consumers of €21 m.

The order also necessitated amendments to the Gas-Regelzonenführer-Verordnung (Gas Control Area Managers Order) and the Fernleitungsanlagenverordnung (Transmission Systems Order). The use of system charges were further reduced by another amended Gas System Charges Order on 1 February 2008.

Since the full liberalisation of the Austrian gas market in October 2002 the system charges have fallen by an average of over 17% or €100 m. 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 least efficient firms are to be brought up to the level of the most efficient within two regulation periods, i.e. ten years. There will not be a review for the first five years, but there will be annual adjustments to the gas system charges. During the consultation procedure in the run-up to the enactment of the second Gas System Charges (Amendment) Order 2006, discussions with the Fachverband Gas/Wärme (Natural Gas and District Heat Association) were initiated with a view to developing a suitable incentive regulation system for the gas sector, following the introduction of such a model in the electricity sector. It was not possible to enact a new Gas System Charges Order between the conclusion of these negotiations and the end of the year. However, the model development process has now been completed, and has led to an incentive regulation system that is satisfactory both from the perspective of the majority of the Natural Gas and District Heat Association’s members and from a regulatory point of view. While the design of the system draws heavily on the experience of the electricity sector, as well

21 Energie-Versorgungssicherheitsgesetz 2006 (Energy Security of Supply Act 2006), BGBl. I No. 106/2006.

as the verdicts of the constitutional court on regulation in this industry, it also takes account of the special features of the gas industry.

### Regulation of the transit pipelines

In 2007 some 80% of all gas imports were re-exported. Of the 37.1 billion normal cubic metres (bn N cu m) imported only 8.4 bn N cu m were destined for the Austrian market. The lion's share of the transited gas – about 23 bn N cu m in 2007 – went to Italy (Chart 31).

The transmission systems, which are largely used for cross-border shipments, have a total length of 792 km. OMV Gas GmbH operates all 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 Gasleitungen GmbH (BOG), and that on the Trans-Austria-Gasleitung (TAG) by Trans Austria Gasleitung GmbH (TAG).

### → Gas flows in 2007

Chart 31



\* Inclusive own use, losses, system losses, statistical adjustments

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

### Capacity allocation and congestion management

Most of the capacity on the transit systems is allocated under long-term transportation contracts concluded before liberalisation. These agreements were made when the pipelines were built, and the entire capacity went to the investors. Third-party access (TPA) for new customers is hindered by the existing long-term contracts. There is a non-discriminatory mechanism for the allocation of new capacity arising from expansion projects. For instance, in January 2006 TAG GmbH allocated additional capacity created by the construction of a new compressor station on a pro-rata basis. The large number of

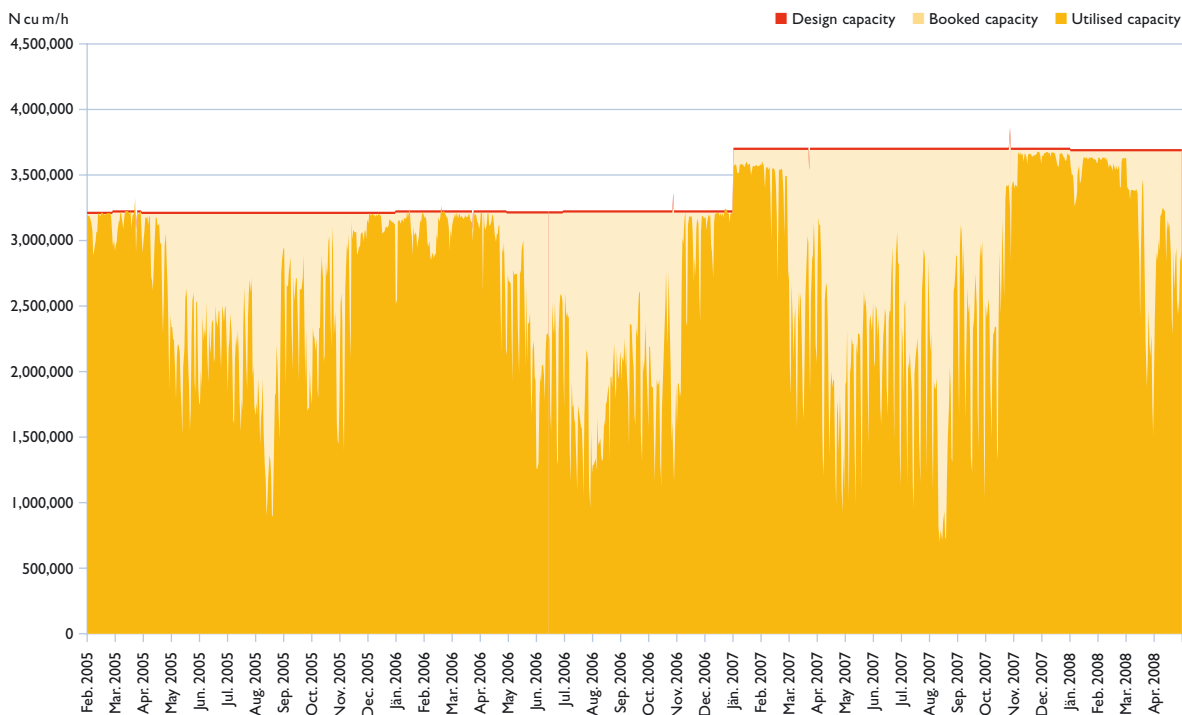
companies taking part in the procedure resulted in very small lots. It showed that the demand for existing capacity on the TAG far exceeds supply. Particularly in the winter months, the TAG system operates close to its physical limits (Chart 32).

In 2006 BOG GmbH carried out a market survey among existing and potential transportation customers in order to ascertain the demand for additional capacity on the WAG. The results have prompted the company to hold an open-season tender up to autumn 2008.

As information published by OMV Gas GmbH makes clear, the entire design capacity of the

### → Capacity utilisation of the TAG system at the exit point on the Austrian/Italian frontier over time

Chart 32



Source: TAG GmbH

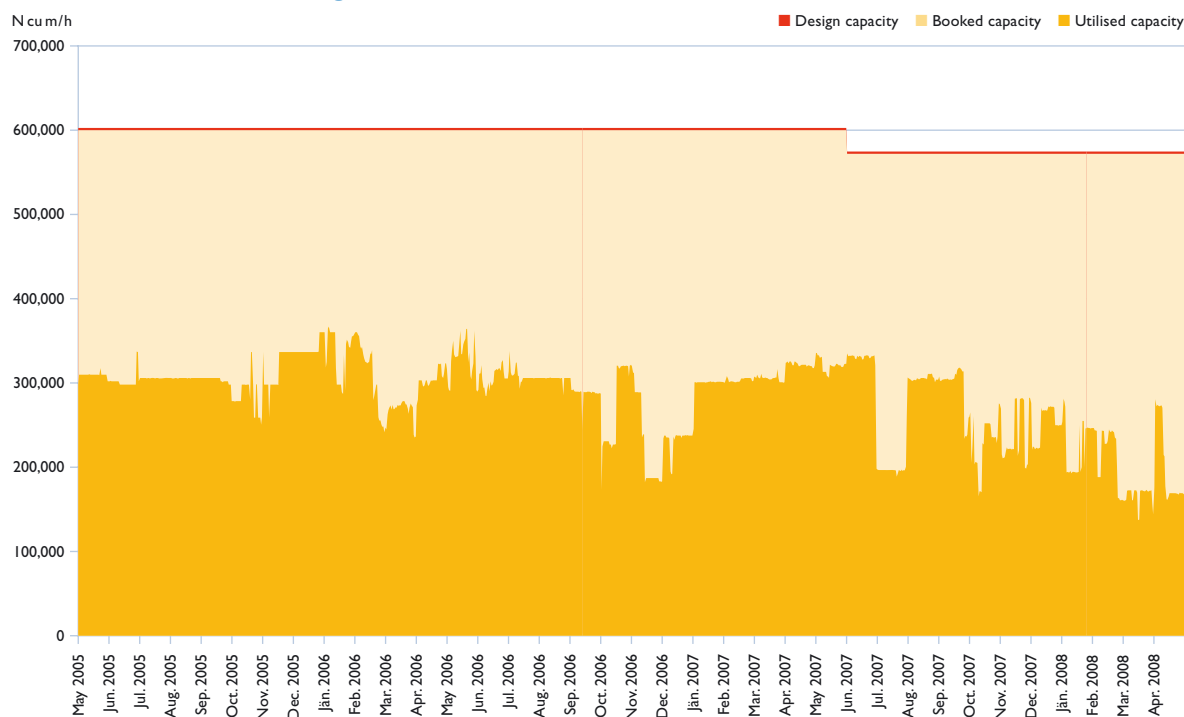
HAG system is reserved up to October 2016,<sup>22</sup> and no firm capacity is available on the primary market (Chart 33). OMV Gas offers interruptible capacity in order to make more efficient use of the pipeline, but there are no effective arrangements for cases of non-use of capacity by transportation customers. Chart 33 shows that not even half of the booked capacity was used over the past three years. Under section 31i Natural Gas Act, which transposes Directive 91/296/EEC of 31 May 1991 (Transit Directive), contracts concluded after 30 April 2004 are entirely governed by the provisions on third-party access to transit systems.

#### Network access tariffs

The Natural Gas (Amendment) Act 2006<sup>23</sup> contains provisions governing the determination of tariffs for cross-border shipments which entered into effect. 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

#### → Utilisation of the capacity of the HAG system at the exit point on the Austrian/Hungarian frontier over time

Chart 33



Source: OMV Gas GmbH

<sup>22</sup> See OMV Gas GmbH Online Capacity Booking, <https://ocb.omv.com/gma/akv/>.

<sup>23</sup> Forming part of the Energy Security of Supply Act 2006, BGBl. I No. 106/2006.

the Commission for the first time approved the calculation methods of OMV Gas, BOG and TAG.

The Natural Gas (Amendment) Act allows for a variety of approaches to certain calculation parameters and to the manner in which tariffs for cross-border and domestic transportation are determined. In particular, rates for cross-border transportation must allow for a return on capital which is reasonable in international terms, and thus higher than the return yielded by domestic shipments.

The companies' terms and conditions must include detailed rules for the calculation of tariffs on the basis of capital costs, depreciation and operating costs. Applications for approval of the tariff calculation methods must be accompanied by tariff benchmarking analyses giving an indication of the reasonableness of the resultant rates in comparison with those for like services elsewhere in Europe. Once approved, the tariff calculation methods must be posted on the website of the transmission company/transportation rights holder concerned.

The approved calculation methods may include investment incentives in the form of reserves set up 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 may be used after four years to reduce transportation charges.

#### *Contracts with neighbouring system operators*

Section 31a(1)(2) requires transmission companies to make agreements with the operators of interconnected systems establishing the modalities of the delivery and acceptance of gas. The cooperation of interconnected transmission

companies is vital for cross-border gas transportation, and should therefore be underpinned by the conclusion of interconnection-point agreements (IPAs) at each exit/entry point. Because of delays in reaching such an agreement with regard to the Baumgarten interconnection point, in May 2008 E-Control initiated abuse proceedings against the transmission companies concerned which are still pending.

#### *Transparency*

In 2007 E-Control initiated proceedings against OMV Gas, TAG and BOG aimed at forcing the publication of all the information needed by network users pursuant to Regulation (EC) 1775/2005. Since the completion of these proceedings in December 2007 the companies have been posting comprehensive information on their websites as required by the Regulation.<sup>24</sup> They offer the option of making inquiries about capacity via an online capacity-booking system. All three sites also feature tariff calculators that make it easy to work out transportation rates.

#### *Secondary capacity trading*

As most of the capacity on the transit systems is allocated under long-term transportation contracts, non-discriminatory and transparent secondary capacity trading is extremely important. Following the 2006 amendments to the Natural Gas Act, provisions requiring the trading of unused transportation capacity<sup>25</sup> entered into effect on 1 January 2007. Under these all transportation customers must offer unused committed capacity to third parties on a central trading platform operated by OMV Gas on its website. E-Control has launched proceedings against some shippers in connection with this requirement.

<sup>24</sup> See [www.omv.com](http://www.omv.com), [www.taggmbh.at](http://www.taggmbh.at) and [www.bog-gmbh.at](http://www.bog-gmbh.at).

<sup>25</sup> See section 31e(7) Natural Gas Act.

→ **Regulation of domestic networks: refinement of the system access regime**

**“Other” shipments**

Since the amendments to the Natural Gas Act regarding the management of capacity at entry points came into force on 1 April 2007 suppliers have been able to apply for capacity for “other shipments”. The Sonstige-Transporte-Gas-Systemnutzungstarife Verordnung 2007 (Other shipments Gas System Charges Order 2007) established the system charges for these shipments (cross-border “other” gas shipments, and shipments from control area entry points to control area exit points). The related order came into force in October 2007, and at the same time the Grenzüberschreitende Transport-Verordnung (Cross-border Gas Transportation Order) was repealed. Previously, it was necessary to calculate the charges (governed by the Natural Gas Act) on a case by case basis.

Pursuant to section 31 h(5) Natural Gas Act, the arrangements made by sections 23 et seq. of the Act, under which the ratio of the energy and capacity components is to be 30:70, were applied to the Other shipments Gas System Charges Order 2007. This prevents competition between the control area and the transit systems. Under the congestion management rules the supply of final consumers takes precedence over cross-border shipments. Apart from the injection charge, shipments to storage facilities, and shipments from them into the control area for the purpose of supplying end-users are subject to domestic postalisation.

In order to determine the charges for transportation from production systems and storage facilities near borders in a cost reflective manner, the tariff includes a distance component in the shape of two distance classes (up to and over 150 km; see Table 5).

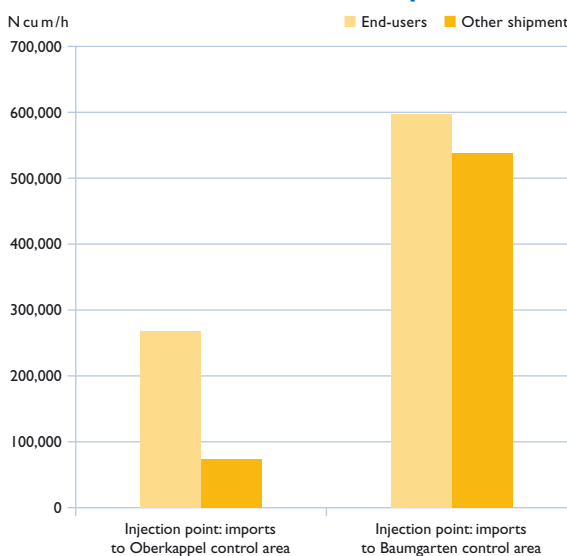
→ **Current charges as of Feb. 2008** Table 5  
**under the Other shipments Gas System Charges (Amendment) Order 2008**

Route length	Up to 150 km (Cent/kWh)	Over 150 km (Cent/kWh)
Unit rate	0.0110	0.0441
Capacity charges	90.2500	361.0200

Source: E-Control

Since the cost, volume and capacity data used for the calculation is derived from the control area data requirements established by the current Gas System Charges Order, it must be adjusted whenever the order is amended. The E-Control Commission redetermined the gas system charges in February 2008, and the Other shipments Gas System Charges Order was amended accordingly.

→ **Firm capacity for final consumers and “other” shipments** Chart 34



Sources: E-Control and AGGM

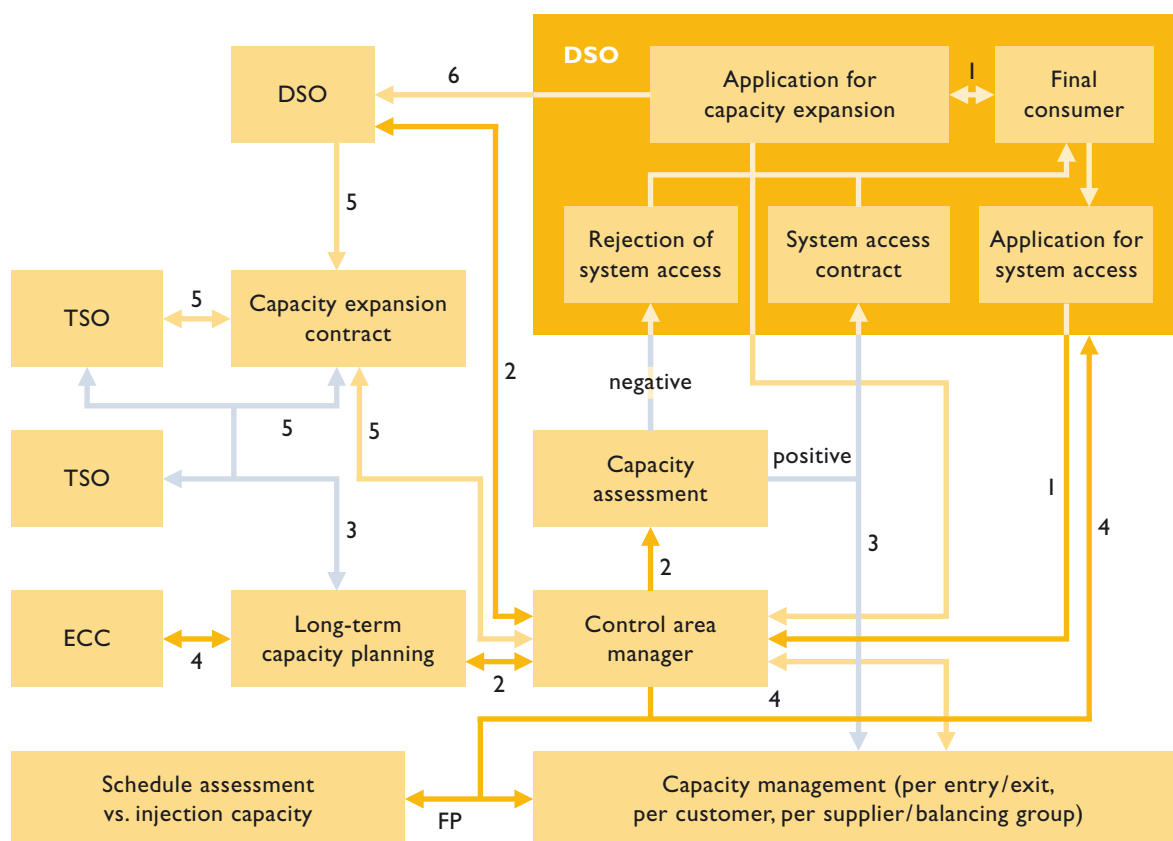


In 2006 the Natural Gas (Amendment) Act introduced formal arrangements for capacity expansions which entered into effect in 2007. Section 19a(2a) Natural Gas Act<sup>26</sup> creates an entitlement to submit capacity expansion applications in the event that insufficient domestic transportation capacity is available. This provides appropriate incentives for necessary investments in transportation infrastructure. The network expansion

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.

Approval of the projects in question by the E-Control Commission as part of the long-term plan assures system operators of regulated tariffs adequate to finance their investments, while system operators and end-users can rely on

Chart 35



Numbers indicate the sequence of action.

Source: E-Control

26 "In the event of the refusal of system access under section 19 (1)(2) for shipments into the control area, the eligible party shall be entitled to make a capacity expansion application. The capacity requirements on which such application is based shall be taken into account by the control area manager when drawing up the long-term plan under section 12e. The application shall be granted under the following conditions:

- a) that the long-term plan containing the measures necessary to satisfy the capacity requirements on which the capacity expansion application is based has been approved by the Energy Control Commission;
- b) that any such contracts as may be needed between the transmission or distribution companies concerned and the control area manager regarding the implementation of the measures provided for by the long-term plan have been concluded;
- c) that the capacity expansion application can be granted under any conditions."



the implementation of planned projects. System users which have reported a need for additional capacity must conclude capacity expansion agreements with the system operators in order to back network development projects with contractual commitments (Chart 35).

Most of the growth in capacity requirements is driven by the power generation sector, and the first scheme for which these network expansion contracts were used was the “V3-West” option in the 2007 feasibility study, approved as part of the 2007 long-term plan, which is connected with the Mellach power station project. During the second quarter of 2008 network expansion contracts were signed by system users and operators, opening the way for construction of the “V3-West” planning variant.

This scheme has the following objectives:

- Satisfaction of the demand for transportation capacity to supply end-users, and preparedness for emergency scenarios;
- A high level of availability of transportation capacity (adequate infrastructure to maintain security of supply);
- Provision of capacity for “other shipments”.

Following a planning phase lasting several years, expansion of the national grid has now been underpinned by the conclusion of multilateral agreements. OMV Gas will be expanding capacity at the Baumgarten gas hub.

In addition, EVN Netz GmbH is adding to the capacity of its pipeline systems running southwards and westwards, and Gasnetz Steiermark GmbH is expanding the capacity of the line that travels southwards from the Semmering mountain. In all, some 400 km of new pipelines will be laid. The three system operators concerned will be investing some €450 m in these infrastructure projects. The expansion schemes will eliminate the main bottlenecks in Lower Austria and Styria, and meet the long-term growth in demand for transportation capacity. With the scheduled

completion of the measures on the southward route in September 2011 supplies for the Mellach gas-fired power station will be assured. The decision to go ahead with construction of the plant was taken in June 2008.

The fact that network development is now under way shows that all concerned are aware of their responsibilities, and are working to put sufficient transportation capacity in place for future needs.

### → **Balancing-group model and balancing market**

#### Overview of the Austrian balancing-group model

Liberalisation of the Austrian natural gas market in 2002 led to the introduction of the “balancing-group model”. A balancing group consolidates wholesalers, retailers and end-users into a virtual group, within which natural gas supply and demand are balanced. The supply side of a balancing group comprises both natural gas in storage in the control area and importation from other balancing groups. The demand side is made up of consumption within the balancing group, supplies to other balancing groups and gas withdrawn from within the control area.

It should be noted that – in contrast to the balancing-group model adopted for the electricity market, in which power stations (i.e. production) is always assigned to a control area and a balancing group – the model used for the gas market places the sources of supply (imports, domestic production and storage) outside the control areas, in “external balancing groups”.

Every supplier and consumer connected to the Austrian gas grid must belong to a balancing group or form one of its own. The suppliers and some large final consumers have a direct contractual relationship with the balancing-group representative, and are thus referred to as “direct” balancing-group members, while most

of the end-users are “indirect” members of their suppliers’ balancing groups, by dint of their supply contracts.

The balancing-group representative is responsible for the business management of the balancing group, and for representing it. Every balancing group should seek to maintain a balance between supply and demand. The balancing-group representative is responsible for preparing forecasts of supply and demand in its balancing group, and for forwarding corresponding schedules, stating projected supply and demand, and planned energy exchanges with other balancing groups, for every hour of the following day, to the settlement agent.

The settlement agent, also known as the balancing-group coordinator (AGCS in the Eastern control area), receives all the necessary metering data, recording actual gas flows and demand behaviour, from the system operators at the end of each month. The difference between actual supply and demand in a balancing group is referred to as “balancing energy”. The settlement agent calculates the amount of balancing energy on an hourly basis, and bills it at the end of the month. Another task of the balancing-group representative is that of invoicing direct members for their net balancing-energy use, determined by the settlement agent at the end of the month.

Apart from financial balancing in the control area, through clearing and settlement by the balancing-group coordinator, it is also necessary to continuously monitor and balance actual gas flows in the control area, and this is one of the tasks of the control area manager. The control area manager (AGGM in the Eastern control area) has all the relevant information on current gas flows and system pressure. In contrast to the electricity industry, in which system balance is a physical necessity at every instant, the control area manager can use linepack – the gas present in the transmission system – to control the gas flows. The difference between supply and

demand must thus not constantly be balanced by physical injection or withdrawal, since within limits it can be compensated by variations in linepack. If the linepack is insufficient to maintain system balance, the control area manager must call off balancing-energy offers from the balancing market. In other words, it must inject or withdraw physical gas in order to maintain the stability of the transmission network.

### The balancing mechanism

An important consideration when introducing the balancing-group model was arriving at a competitive mechanism for the procurement of balancing energy. Because of this a framework for an organised balancing market was created in the Eastern control area in the course of liberalisation. The Tyrol and Vorarlberg control areas, which are linked neither to the Eastern control area nor to each other, and are supplied with natural gas via Germany, are a special case in terms of balancing-energy procurement, and the following discussion thus applies only to the Eastern control area.

The balancing market in the Eastern control area is organised and managed by the balancing-group coordinator, AGCS. The arrangements for the balancing market are laid down by the AB-BKO (General Terms and Conditions of the Balancing Group Coordinator), which are subject to approval by E-Control.<sup>27</sup>

To be eligible bidders on the balancing market, prospective participants must be balancing-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), and 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 balancing-group representatives.<sup>28</sup>

<sup>27</sup> For the annex to the AB-BKO on balancing-energy management visit [www.e-control.at](http://www.e-control.at) or [www.agcs.at](http://www.agcs.at).

<sup>28</sup> Allgemeine Bedingungen des Bilanzgruppenverantwortlichen (AB-BGV) (General terms and conditions of balancing-group representatives), [www.e-control.at](http://www.e-control.at).

Registered balancing-energy suppliers can offer balancing energy on the day-ahead market up to 4 pm on working days, via an online market platform provided by AGCS. Bids for the delivery and acceptance of gas are made separately on an hourly basis, and the bidders state the volume and price for every hour. 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. If the control area manager believes the control area to be long he asks suppliers to withdraw gas. If the control area is short suppliers are requested to inject gas. The balancing-energy suppliers receive the price offered by them for withdrawing gas from or injecting into the control area network.

The control area manager calls off balancing-energy bids not later than 30 minutes before actual recourse to them. It bears no financial risk, as it dispatches balancing energy on behalf of the balancing-group coordinator, and these transactions are deemed to be contracts between the balancing-group coordinator and the balancing-energy supplier concerned. The balancing-group coordinator takes account of the balancing energy called off by the control area manager when clearing the accounts of balancing energy balancing-group members and the balancing group supplying or procuring balancing energy.

The prices paid on the balancing market yield an hourly clearing price which is invoiced to the commercial balancing groups by the balancing-group coordinator 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 short 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 balancing group is short, or be paid for supplied accrued energy if it is long.

### Mechanisms to deal with congestion

Mechanisms to deal with congestion have gradually been built into the market rules for the balancing market.<sup>29</sup> The following measures are designed to ensure that the balancing market continues to function at times of congestion.

#### *Reopening of the balancing market by the balancing-group coordinator*

The balancing market is reopened if the control area manager regards the bids received as insufficient: The balancing-group coordinator sets a new market close and informs all the balancing-energy suppliers.

#### *Balancing-energy call-offs that diverge from the merit order list*

On reasonable grounds, e.g. congestion on the control area network, the control area manager may change the ranking of balancing-energy bids from that of the merit order list in favour of offers from given geographical injection points, or make use of a number of bids relating to different locations at the same time.

<sup>29</sup> Sections 3.2–3.4 annex to the AB-BKO on balancing-energy management, [www.e-control.at](http://www.e-control.at) and [www.agcs.at](http://www.agcs.at).

*Day-ahead rates (DAR)*

This storage product is only available to balancing-energy suppliers which have contracted OMV Gas to provide storage services after reopening of the market. The day-ahead-rates product enables unused storage services to be made available to the balancing market. This means that balancing-energy suppliers with gas at their disposal can place additional quantities on the balancing market which would otherwise have been shut in due to contractual storage limits.

*Balancing-energy bids by fax*

At the request of the control area manager, the balancing-group coordinator can permit the submission of balancing-energy bids by fax. The balancing-group coordinator determines the duration of this action and notifies all the balancing-energy suppliers. Due to the longer notice period of 150 minutes for faxed bids, balancing energy can also be provided in the form of imports or consumer cut-offs.

*Round-the-clock merit order list*

The General Terms and Conditions of the Balancing Group Coordinator allow for the possibility of keeping the balancing market open round the clock. The balancing-group coordinator would determine the duration of this action. In the event of continuous market opening, the bids made on the internet platform would be forwarded to the balancing-group coordinator at given intervals. The round-the-clock merit order list is not yet operational, but according to AGCS its introduction in 2009 is conceivable provided that the related IT issues can be resolved.

**→ Effective unbundling**

The Natural Gas Act requires system operators to draw up compliance programmes stating what action is to be taken to prevent discriminatory behaviour. These programmes must set out the special duties of staff members with regard to equal treatment of customers. Companies must appoint compliance officers responsible for drawing up the programmes, monitoring compliance and reporting to them. The compliance officer must submit annual reports to E-Control on the measures taken.

In fulfilment of its statutory duties, E-Control has compiled a report on Austrian gas system operators' compliance programmes in 2006. This report was posted on E-Control's website in August 2007. The findings are summarised below.

**Overlapping organisational structures and personnel**

As noted by the previous report on Austrian system operators' compliance programmes, in most cases there are still extensive overlaps between the regulated and competitive areas of companies' operations in organisational and personnel terms. The only improvements in these areas identified by the latest investigation related to efforts to protect commercially sensitive information.

**Risk of discriminatory treatment**

Though seldom illegal, the interrelationships referred to above tend to restrict competition and jeopardise the non-discriminatory treatment of market participants.

### Reciprocal service provision

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. There was no change in this area during the latest reporting period. Company size and structure appears to have no influence on system operators' readiness to make the necessary organisational changes.

### Commercially sensitive data

The protection of commercially sensitive data was discussed in depth at an E-Control workshop held for the companies concerned in November 2006. Agreement was reached with them to specify the types of data involved in their compliance programmes. Some companies have spelt them out in great detail in their programmes, but others have made no improvements and merely cite the relevant legislative provisions. The regulatory authority takes the view that data access policies cannot be developed until the relevant data categories have been precisely defined.

### Inadequate data access policies

The companies' data access policies now exhibit a greater awareness of the shortcomings of previous solutions. Some have launched projects aimed at keeping commercially sensitive data confidential. However, the rate of progress has been very mixed, and hardly any companies have submitted written data access policies.

### Staff with dual network services and energy marketing roles

Efforts are now being made to sensitise employees who market both network services and energy to the issue of discrimination, and to provide them with special training. For instance, some companies are producing or are already using information leaflets for distribution to applicants for network connections. These draw attention to the possibility of selecting an alternative supplier. However, the question remains as to whether staff whose core duties include selling energy supply agreements for their companies can ever be impartial when informing consumers of the option of choosing an alternative supplier. The fact that dual roles in marketing are not explicitly prohibited by the Natural Gas Act in its present form is unsatisfactory as regards the non-discriminatory treatment of suppliers.

### Suggestions and outlook

During the next reporting period, i.e. the 2007 gas year, compliance by holders of transportation rights will be monitored for the first time. The report will probably again focus on companies' definitions of commercially sensitive data, and the restriction of access to network data by retail and wholesale operations. In E-Control's view, an on-site investigation into the effectiveness of the implementation of these measures by the staff of the regulatory authority would be helpful; one such visit has already been carried out during the current reporting period. Some other companies have consulted the regulatory authority on their data confidentiality policies.



There were no fundamental changes in the structure of the Austrian natural gas industry in 2007. 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.

#### → Supply and consumption

Table 2 (see page 8) sets out the main indicators for the Austrian natural gas market in 2007. In comparison with 2006 there was a marked

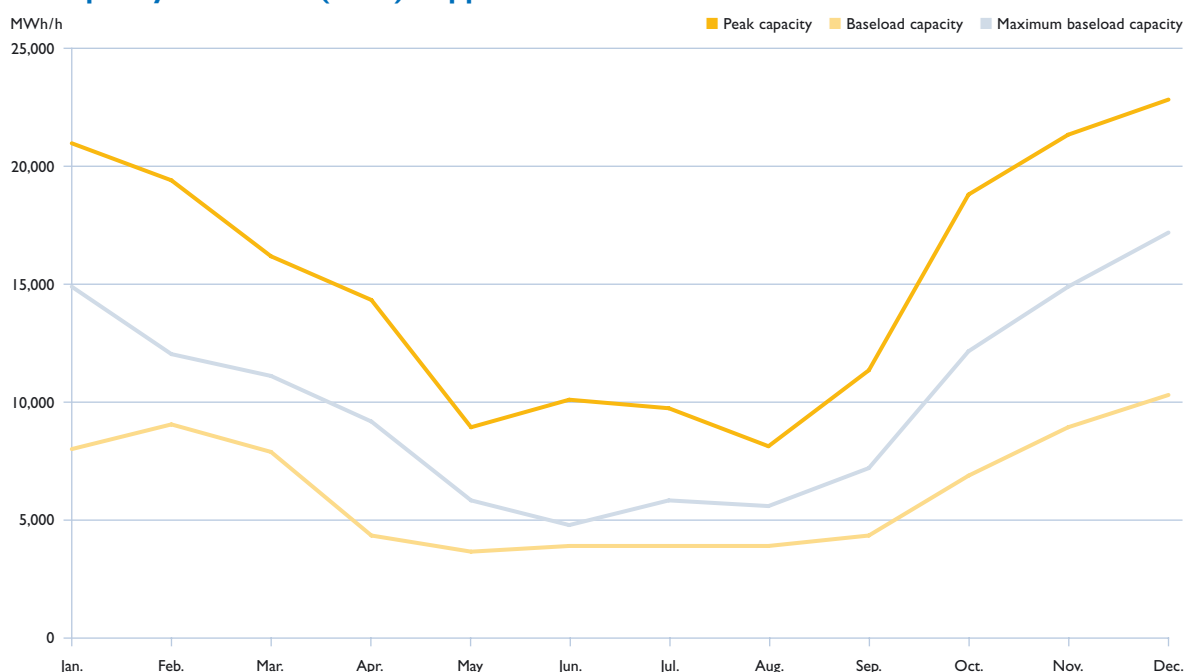
decline on the consumption side (supplies to final consumers;  $-6.1\%$ ), while withdrawals from storage ( $+34.1\%$ ) rose. Exports were up slightly ( $+4.2\%$ ), as were production ( $+1.6\%$ ) and imports ( $+0.9\%$ ). There was a year-on-year increase in injection into storage ( $+9.5\%$ ), while own use fell somewhat ( $-1.3\%$ ).

#### *Indicators of the size of the Austrian gas grid*

Charts 36 and 37 depict indicators of the size of the Austrian gas grid in 2007. They focus on supplies to final consumers (Chart 36), distinguishing between peak capacity, minimum capacity and maximum daily baseload capacity, as well as peak and baseload daily consumption, and the duration of peak load (Chart 37).

#### → Capacity indicators (2007): supplies to end-users

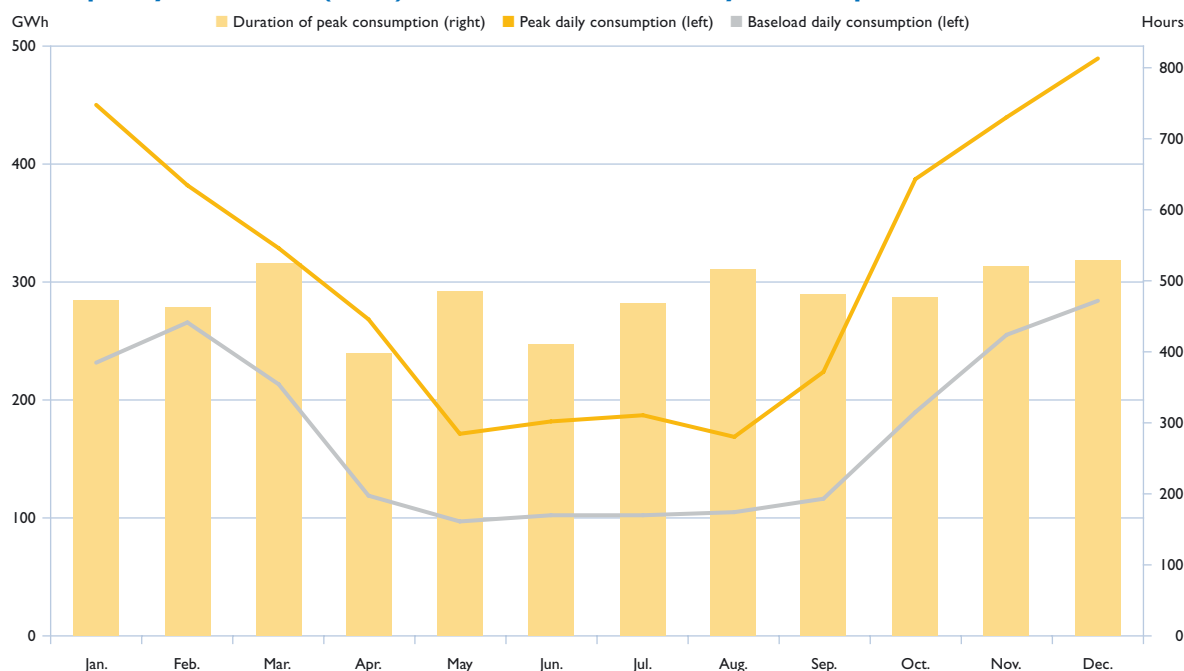
Chart 36



Source: E-Control

### → Capacity indicators (2007): Peak and baseload daily consumption

Chart 37



Source: E-Control

During the review of the market rules in 2006 the calorific value of natural gas in Austria for settlement and conversion purposes was set at 11,110 kWh/N cu m (at a temperature of 0°C, a water content of 0% and an absolute pressure of 1,013.25 mbar).<sup>30</sup>

#### Gas supply and demand in Austria in 2007

Chart 38 shows natural gas supply and demand in Austria in 2007. End-users were supplied with 6,000 GWh less natural gas in 2007 than in the previous year. Net imports were almost 10,000 GWh lower, and net withdrawals from

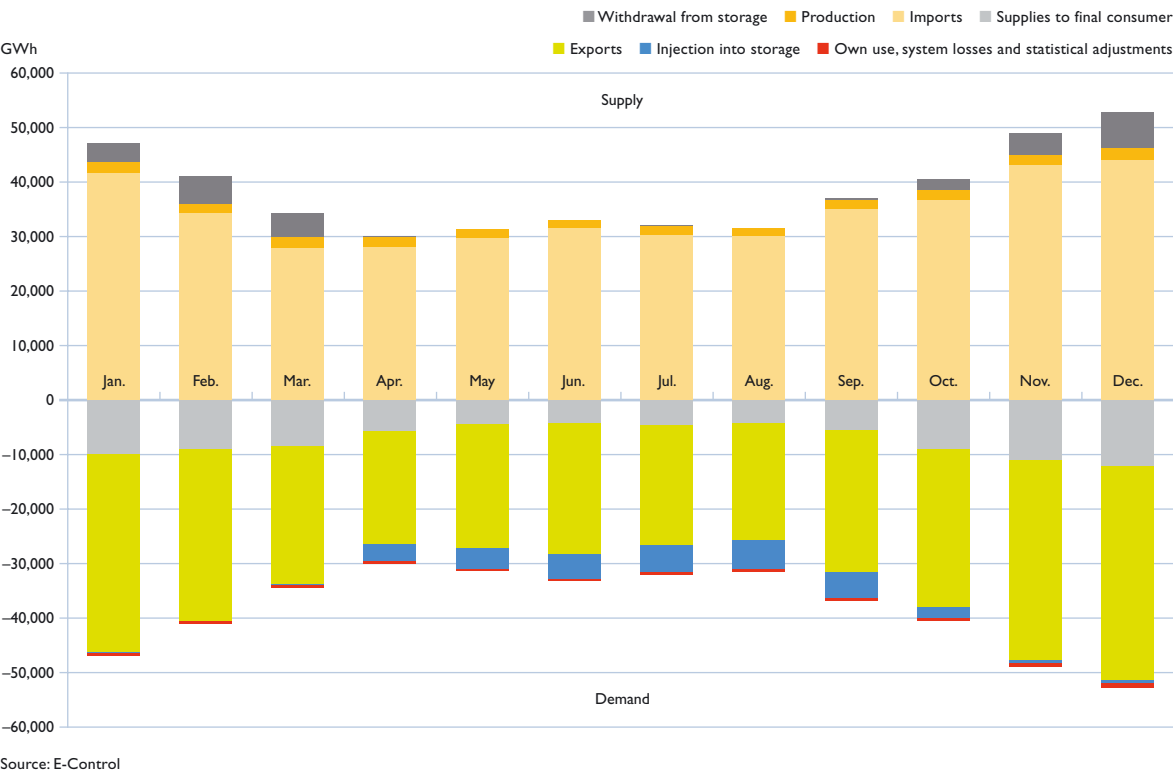
domestic storage were up by 4,000 GWh, while production ran at roughly the same level.

On the demand side (the negative balance) the variation in consumption between summer and winter is clearly visible, 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. Chart 38 underlines the importance of storage as a source of seasonal flexibility.

<sup>30</sup> Chapter 6, Technical Regulations, Other Market Rules. The control area manager for the Eastern control area, AGGM calculates and publishes the weighted average calorific value on a monthly basis. If this deviates from the current settlement calorific value in the meaning of the Gas System Charges Order as amended by no more than 2%, then it must be applied to calculation of the quantity of energy. In 2007 the actual calorific value was between the upper and lower tolerance limits, and there was hence no need to redefine or adjust the calorific value used for settlement and conversion purposes.

→ Gas supply and demand in Austria, 2007

Chart 38



Domestic gas production

Austria has two domestic gas producers – OMV Austria Exploration & Production GmbH and Rohöl-Aufsuchungs AG (RAG). Domestic natural gas<sup>31</sup> output totalled some 1.8 bn N cu m in 2007.<sup>32</sup> Some 70% of the total was produced by OMV Austria Exploration & Production (see Table 6).

Seven commercial gas discoveries were made in 2007, five of them by RAG. As at 1 January 2007 the companies' proven and probable reserves totalled 40.8 bn N cu m.

→ Natural gas production in Austria, 2007

Table 6

	m N cu m	2007	change to 2006
OMV Austria Exploration & Production	1,309	71.3%	4.9%
Rohöl-Aufsuchungs AG	526	28.7%	1.8%
<b>Total</b>	<b>1,835</b>	<b>100.0%</b>	<b>4.0%</b>

Source: Geologische Bundesanstalt (Geological Survey of Austria), [www.geologie.ac.at](http://www.geologie.ac.at)

31 Natural gas includes associated gas.  
32 See Geological Survey of Austria, [www.geologie.ac.at](http://www.geologie.ac.at).



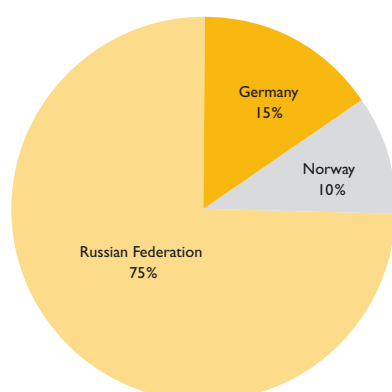
## → Description of the wholesale market

### Gas procurement under long-term contracts

There were no changes in the structure of the supplier market in 2007. Russian gas procured from Gazexport/GWH accounted for 75 % of all imports, while Norwegian and German suppliers took the remaining 25 % of the market (see Chart 39). In addition, 1.8 bn cu m of gas was produced in Austria by OMV AG and RAG AG and sold in the Eastern control area, partly under long-term contracts.

### → Austrian natural gas imports, 2007

Chart 39



Source: BP Statistical Review, 2007

In 2006 the gas import and domestic production contracts, which until then had been between EconGas, STGW, Kelag and Salzburg AG (EIS) as purchasers, and OMV/OMV Gas as the seller, were revised,<sup>33</sup> and OMV Gas ceased to be a party. EconGas concluded direct contracts for approx. 5 bn cu m/year of gas with Gazexport on the basis of a guarantee from OMV AG.<sup>34</sup>

STGW, EIS and Kelag made contracts with Gas- und Warenhandels GmbH (GWH) for the supply of Russian gas up to 2027. At the time of the conclusion of the contracts GWH was a joint venture between Gazprom (50 %), Centrex (24.9 %) and OMV Gas (25.1 %). It likewise made a supply agreement with Gazexport until 2027.<sup>35</sup> GWH sells the gas on to STGW, Salzburg AG (EIS) and Kelag. In 2007 OMV Gas withdrew from GWH and Centrex increased its interest to 50 %.

The Norwegian gas supply contracts are also 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, and OMV Gas is no longer active as a buyer at this level of the wholesale market.

At the same time as the import arrangements were reordered the contractual quantities of domestically produced gas were increased. EconGas, STGW, Salzburg AG and Kelag made long-term direct contracts with OMV Exploration and Production, and OMV Gas thus has also ceased to be a party to the domestic gas supply agreements. According to OMV Gas, volumes in excess of these contractual amounts are to be marketed exclusively by EconGas. In the regulatory authority's view this is a negative development, as it takes a major additional source of supply off the market.

### Wholesale prices

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.

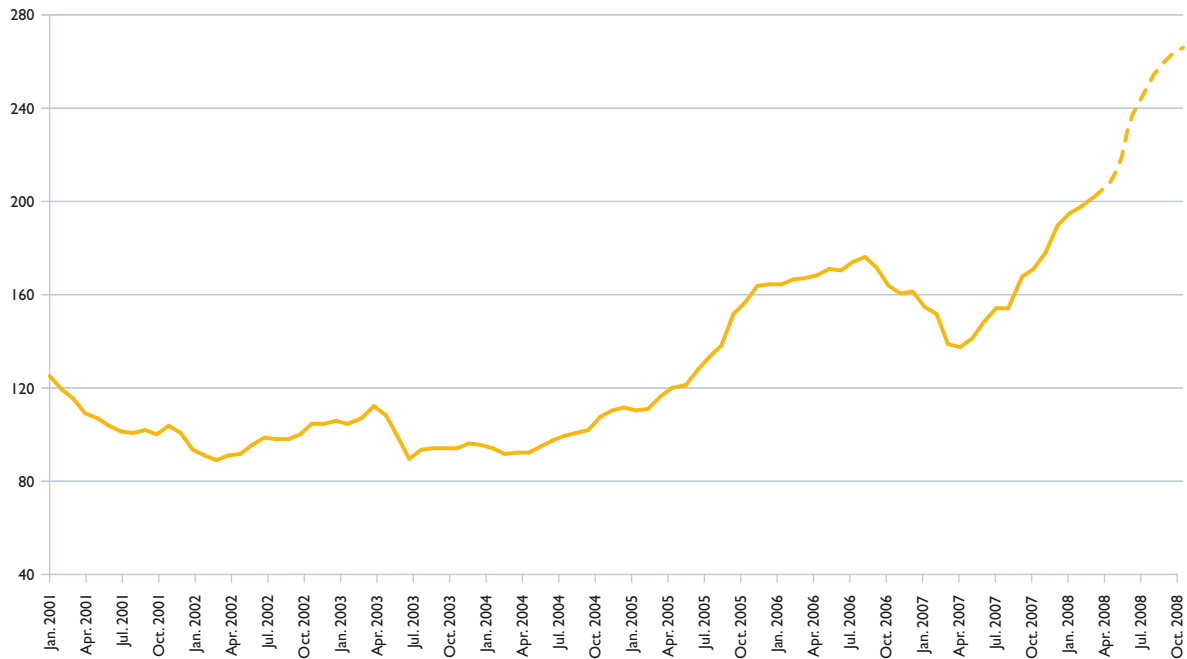
33 See OMV press release dated 29 September 2006 on [www.omv.com](http://www.omv.com).

34 See OMV press release dated 29 September 2006 on [www.omv.com](http://www.omv.com).

35 See [www.centrex.com](http://www.centrex.com).

→ **Development of the average gas import price since January 2001**  
(October 2002 = 100)

Chart 40



Sources: Statistics Austria; broken line E-Control estimates

Chart 40 reveals that import prices fell between January and May 2007, but rose sharply thereafter. The broken line is a forecast made by E-Control on the basis of an imputed price formula and oil futures; it shows import prices continuing to rise.

*Alternative supply sources  
for the Austrian gas industry*

The Austrian gas industry is heavily dependent on a single supplier, Gazprom (approximately 65% of total supplies). Moreover, since domestic production is in decline it does not hold out any hope of reducing import dependence. Alternative transportation routes (diversification of transportation routes) and supply sources (diversification of the sources of supply)

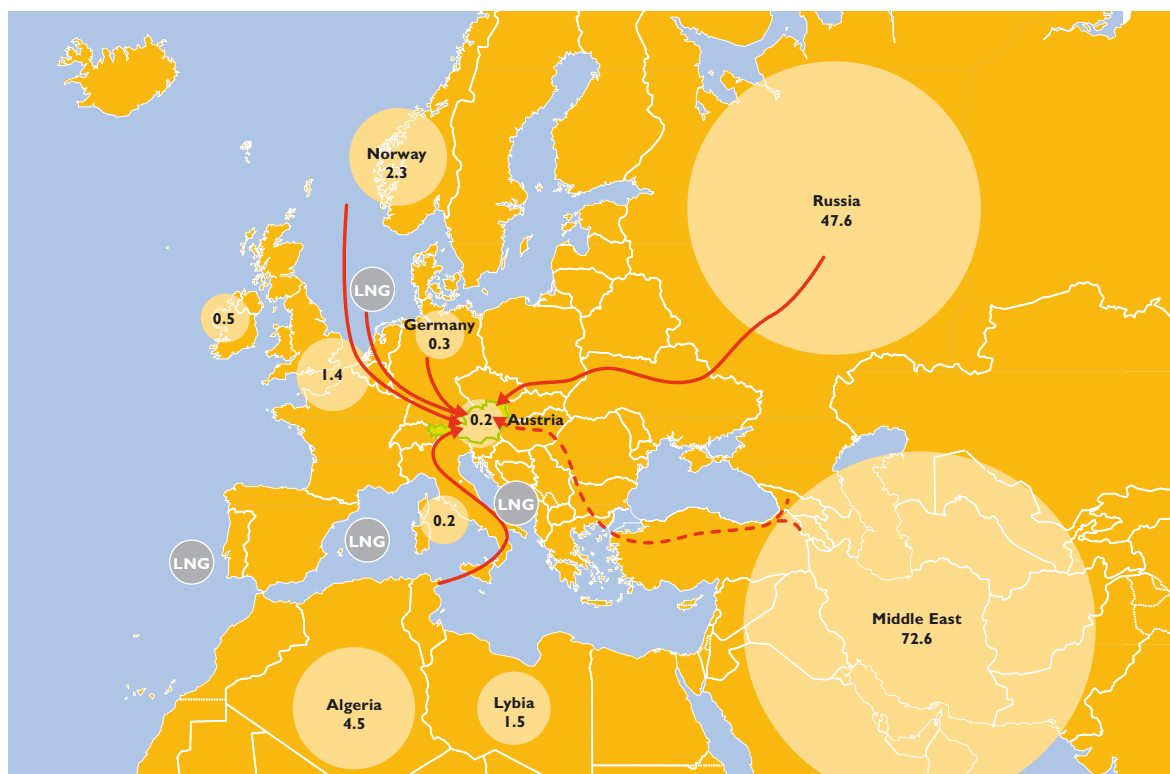
therefore play a key role in efforts to reduce dependence.

Chart 41 depicts the existing and planned transport links with natural gas reserves in Africa, Asia and Europe. It is important to distinguish between existing and theoretically possible access to gas reserves. Austria already has access to Russian, Norwegian and German natural gas. Alternatives, such as supplies from Algeria (via Tunisia and Italy) or LNG are not possible at present because the necessary transportation infrastructure does not exist. New pipelines such as the Nabucco project are still on the drawing board. If the Nabucco project can be implemented Austria will be able to tap into natural gas reserves in the Caspian region – chiefly Azerbaijan, Iran and Turkmenistan.

### → Austria's access to gas reserves (in bn cu m)

Chart 41

— Existing pipelines — Planned routes



Source: EconGas, based on data from the Energy Information Administration (EIA), January 2008

### Development of short-term gas trading

Apart from the Eastern control area balancing market the main short-term gas trading point in Austria is the Baumgarten gas hub. In 2007 some 300 m cu m of gas, equal to approx. 4% of total sales in the Eastern control area, were traded on the balancing market (see section Balancing-group model and balancing mark) and physically delivered.<sup>36</sup> During the summer months the proportion is about 1% higher. The prices of these volumes are not known when they are traded, but are only published afterwards. The volume risk on this market is low as all the gas injected into the network is accepted, but there is price

risk, which cannot be hedged against at present. Like import prices, average balancing-energy prices (Chart 51) have risen since May 2007.

The Baumgarten gas hub is operated by Central European Gas Hub GmbH (CEGH). During the year under review CEGH was a wholly owned subsidiary of OMV Gas International (now renamed OMV Gas & Power GmbH). However, in 2007 OMV Gas and Gazprom announced their intention to cooperate at CEGH as equal partners, with the aim of turning it into the largest trading platform in continental Europe. Details of the nature of this cooperation are not yet available.

<sup>36</sup> E-Control calculations based on data from AGCS.

In 2007 CEGH continued to offer the following services in Baumgarten: title transfer, wheeling, no-notice storage nomination, gas auctions and nomination. On 1 February 2007 the company introduced a new tariff system for these services. It plans to launch a back-up/down service in 2008, already.

In 2007 a total of 17.75 bn cu m of gas was traded on the Baumgarten market; physical deliveries were 5.8 bn cu m.<sup>37</sup> This was about 15 % of the total volume of gas imported via Baumgarten in 2007. The quantity of gas traded at CEGH rose sharply in 2007, though it retreated towards the end of the year. The average churn rate was 2.57. The volume traded and physical throughput are higher during the summer months. Turnover has declined this year, but the numbers of regis-

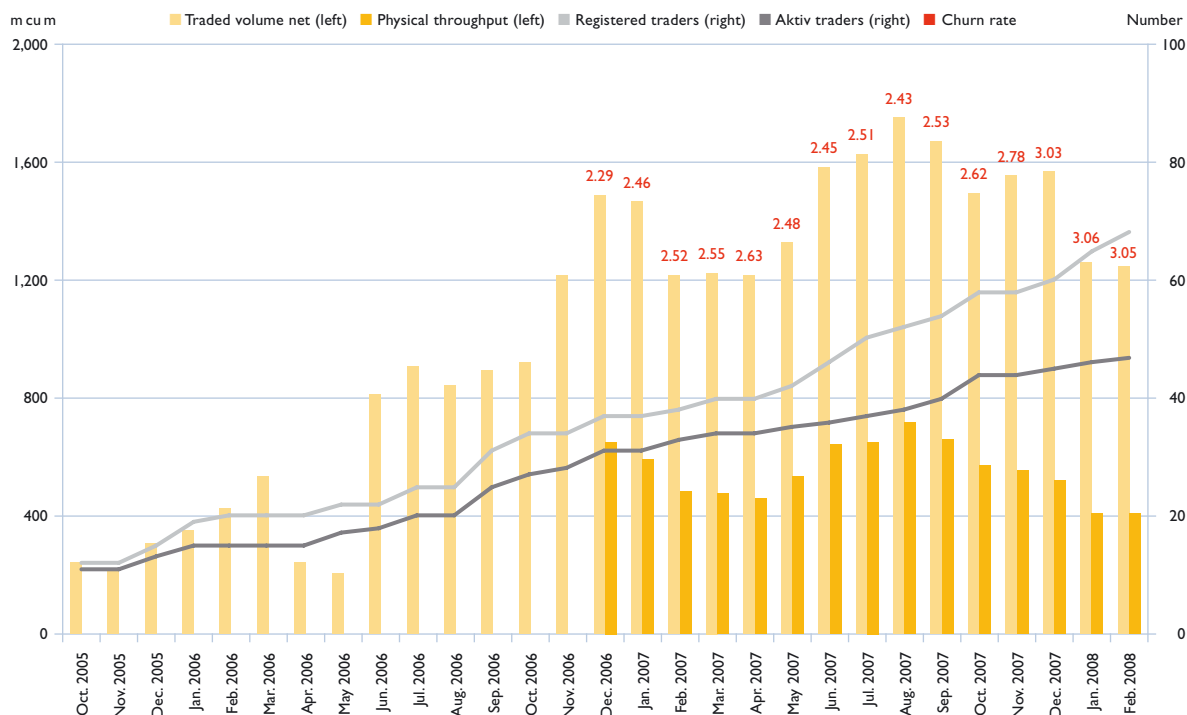
tered and active members continued to grow in 2007 and 2008 (see Chart 42).

However, the traders at Baumgarten say that trading there is sporadic and is mostly bilateral;<sup>38</sup> liquidity is low. Heren Energy defines liquidity as the ability to trade throughout the day, and measures it by the bid/offer spread.<sup>39</sup> The month-ahead contract is reportedly the most actively traded product on the Baumgarten market.

Baumgarten is the European trading hub with the fourth-highest turnover. Activity at European trading hubs increased in 2007. Volume at the NBP was again by far the highest; turnover at smaller, but well-established hubs such as the TTF and Zeebrugge (Huberator) grew again, but remained well behind volume at the NBP (see Chart 43).

### → The growth of trading at CEGH, 2005–2008

Chart 42



Source: CEGH GmbH

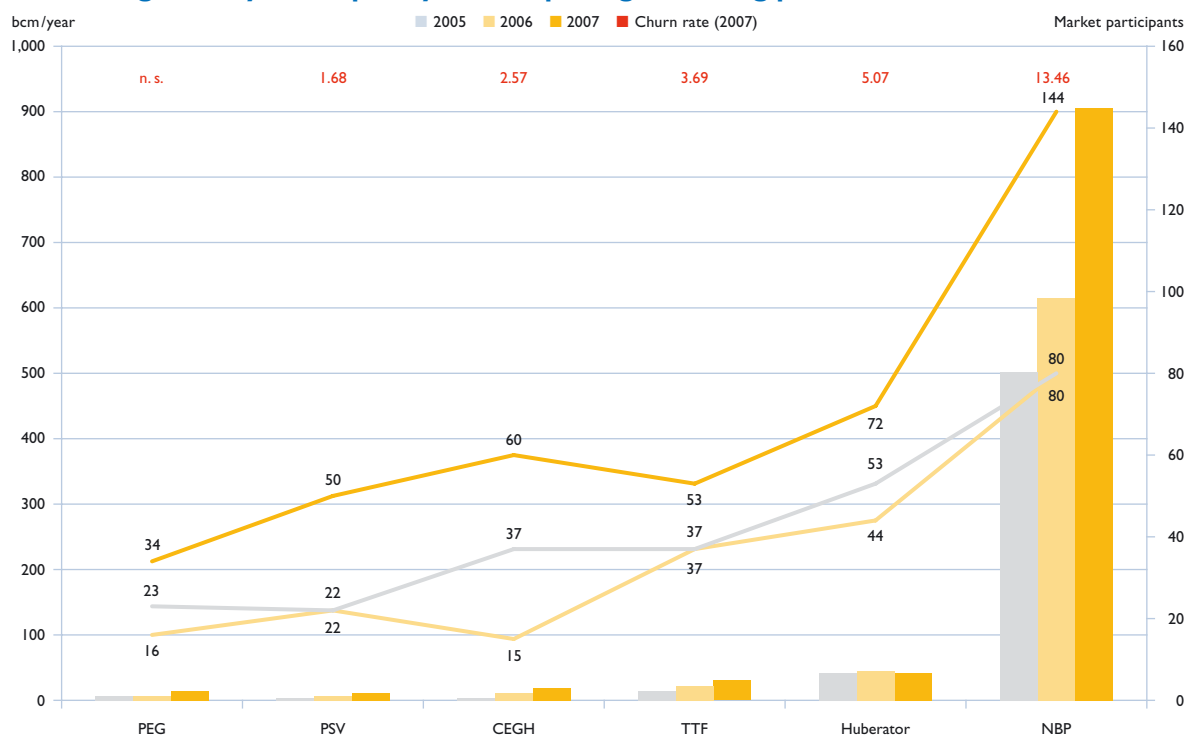
<sup>37</sup> See CEGH monthly title tracking volume, [www.gashub.at](http://www.gashub.at).

<sup>38</sup> See Heren Energy European Gas Hub Report, spring 2008, p. 28.

<sup>39</sup> Ibid.

## → Trading activity and liquidity at European gas trading points, 2005–2007

Chart 43



Source: CEGH GmbH

### CEGH gas release programme

The fifth gas auction under the gas release programme was held by CEGH in July 2007. EconGas offered 25 lots of 10 m cu m, and a total of 35 bidders from eight countries registered to participate. The 250 m cu m of gas were sold to five bidders, from Italy, Switzerland and the United Kingdom. The EconGas auctions have so far permitted a degree of price transparency. During the auction in 2007 the starting price is believed to have been €21.75/MWh and the final price well above €23/MWh.<sup>40</sup> Austrian gas traders were not among the successful bidders.

### Development of CEGH

The continued evolution of CEGH into a formal market depends on the introduction of contracts for firm delivery, i.e. excluding supply interruptions or reductions. To this end CEGH plans to offer a back-up/down service. This calls for the conclusion of interconnection-point agreements and operational balancing agreements (IPAs/OBAs).

The publication of prices resulting in clear price signals is another vital precondition for the creation of a gas exchange at CEGH. Until now

40 See Energate, 4 July 2007: Econgas auktioniert Gas in Baumgarten (EconGas auctions gas at Baumgarten), [www.energate.de](http://www.energate.de).

most of the trading has been OTC, and since there is thus no obligation to disclose prices there is little price transparency at CEGH as a result it is unable to perform one of the main functions of a market.

For the market to serve as a procurement option, the liquidity in the sense of the trading volume will need to expand, while the range of products will have to be extended and they will need to be constantly available. To date, only short-term increases in trading volume have been achieved at CEGH, through the EconGas gas release programme (GRP). The only potential source of long-term growth, other than higher imports from Gazprom, is independent Russian exporters or a transportation link with new supply sources, e.g. via Nabucco. It would be helpful for a supplier to act as a market maker.

Due to the heavy dependence on Gazprom, its willingness to supply more gas is crucial to the development of CEGH as a market. Gazprom has yet to make firm commitments on this. Its announced investment in CEGH will have to be checked for compliance with antitrust law, and is unpopular with market participants because of Gazprom's role as the main supplier. In the opinion of both regulatory authorities involved it raises the questions as to whether Gazprom will gain an information lead by buying into the hub, and what steps need to be taken to maintain transparency and confidence in the market. The development of effective market and exchange oversight, so as to maintain participants' confidence in the trading hub irrespective of ownership, will be an important task for the regulator. The oversight function with regard to physical trading has not been defined in sufficient detail in Austria. It will therefore be necessary to assess the extent to which the legal basis exists for E-Control, the Federal Competition Authority and the Financial Market Authority to exercise effective market oversight in this area.

## Integration of wholesale markets in 2007

Market integration is one of the regulatory authority's key strategic objectives. In 2007 E-Control again played an active role in working towards stronger regional markets through its involvement in the ERGEG Gas Regional Initiative (GRI) South-South East Regional Energy Market (REM). This is aimed at pushing regional market integration forward as a step towards the creation of a single European energy market.

The following achievements to date are of particular significance for the Austrian gas market.

### *Developing gas hubs into regional balancing markets*

Hub development was a major focus of the work of the GRI SSE in 2007. The goal is to turn the hubs into regional balancing points and fully functioning gas markets. Further progress is expected to be made in 2008.

### *Improving interconnectivity*

Progress has been made towards the conclusion of Interconnection Point Agreements (IPAs) and Operational Balancing Agreements (OBAs), especially at CEGH. Following intensive discussions between the TSOs concerned in 2007 (particularly regarding the proposed Gazprom investment in the Baumgarten gas hub), IPAs and OBAs are expected to be concluded in 2008.

### *Booking gas shipments across different transmission systems*

Ideas being talked about at present include means of simplifying booking capacity for gas shipments along different TSOs' systems (one-stop-shop service). The possibility of establishing a regional ISO (R\_ISO) has been raised in this connection. The theoretical principles behind this idea and possibilities for its practical implementation

were looked at, and these discussions will continue in 2008.

#### *A regional entry/exit tariff system*

In connection with the idea of an R\_ISO, detailed concepts for regional tariffs based on an entry/exit system were examined. A simulation was used to analyse the impacts of the introduction of such a system. The consultations on this issue are to proceed in 2008.

#### *Work on standardised trading platforms for transportation capacity, to facilitate secondary market trading*

TSOs in the region have been asked to provide examples of best practice. When examining experience with platforms for trading capacity on the secondary market it was noticed that they have been provided, but that little use has been made of them. The regulators in the region are currently working on a plan for increasing use of the platforms and thus creating functioning secondary markets.

#### *Standardised investment planning in the SSE region*

In order to gain a better picture of the need for investment in infrastructure the GRI South-South East REM began working on proposals for standardised investment planning in the region in 2006. This work continued in 2007 and is ongoing. Thought is being given to using a gas-flow simulation to analyse regional investment requirements, and to developing standards for coordinated investment planning in cooperation with TSOs, shippers and end-users.

#### **Mergers and acquisitions in the Austrian gas wholesale market in 2007**

In 2007 OMV Gas International disposed of its interest in GWH. The industry investigation by the Federal Competition Authority and

E-Control in 2006 had found that this investment raised competition concerns, and in response OMV Gas International undertook to pull out of GWH within the next year. GWH is now a 50 : 50 joint venture between Centrex Europe Energy & Gas AG and Gazexport Ltd., Moscow.

In 2007 Shell disposed of its interest in RAG AG, which produces oil and gas and is also a storage operator and gas wholesaler. Shell's stake was acquired by the other existing shareholders, EVN AG, Eon Ruhrgas E&P GmbH, STGW and Salzburg AG via a holding company. The majority shareholder is now EVN, with a total holding of 50.05%. Since 2008 Shell has been registered with AGCS as a balancing group, and it has entered the Austrian gas market.

### **→ Storage market**

#### **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 (Chart 44). Both of these companies are storage operators. Wingas GmbH and ZMB are also storage companies as defined by the Natural Gas Act. The Haidach storage facility was commissioned<sup>41</sup> in July 2007; it is connected not to the Austrian but to the south German transmission grid (the upstream system operator is Wingas GmbH).

OMV Gas owns about 50% of the country's storage capacity (Table 7). Total working-gas capacity at Austrian storage facilities is over 4 bn cu m – equal to almost one-half of domestic gas demand in 2007.

The first stage of the Haidach project has created a working-gas capacity of 1.2 bn cu m and a withdrawal capacity of 500,000 cu m/hour.

41 [www.haidach.zmb.at](http://www.haidach.zmb.at).

## → Storage facilities in Austria

Chart 44



Source: GSE, [http://www.gje.eu.com/download/gridmap/GSE\\_STOR\\_1031.pdf](http://www.gje.eu.com/download/gridmap/GSE_STOR_1031.pdf)

## → Storage capacity (underground storage) in Austria, 2007

Table 7

Storage facility	Injection capacity in cu m/h	Proportion of total capacity	Withdrawal capacity in cu m/h	Proportion of total capacity	Working-gas volume in cu m/h	Proportion of total capacity
OMV-Schönkirchen	650,000	36 %	770,000	39 %	1,570	38 %
OMV-Tallesbrunn	125,000	7 %	160,000	8 %	300	7 %
OMV-Thann	115,000	6 %	130,000	7 %	250	6 %
Total OMV	890,000	50 %	1,060,000	54 %	2,120	51 %
RAG-Puchkirchen	400,000	22 %	400,000	20 %	850	20 %
Wingas-Haidach	167,000	9 %	167,000	9 %	400	10 %
Gazprom-Haidach	333,000	19 %	333,000	17 %	800	19 %
Total Haidach	500,000	28 %	500,000	26 %	1,200	29 %
<b>Total</b>	<b>1,790,000</b>	<b>100 %</b>	<b>1,960,000</b>	<b>100 %</b>	<b>4,170</b>	<b>100 %</b>

Sources: [www.omv.com](http://www.omv.com), [www.rohoel.at](http://www.rohoel.at) and [www.wingas.de](http://www.wingas.de)

The Haidach site is linked to the storage facility at the Burghausen/Überackern gas hub on the Austro-German border by the 39 km Austria-Bavaria-Gas-Pipeline (ABG). To date there is no link with the Eastern control area grid.<sup>42</sup>

*Description of storage facilities*

Table 8 gives an overview of the Austrian storage companies' products and access arrangements. The range of products grew again in 2007.

<sup>42</sup> Due to the lack of transportation capacity in Burghausen German storage customers are also unable to use the free capacity at Haidach. This will not be possible until further network development has taken place (see Energate, 12 March 2008: Speicher Haidach: Beschränkte Möglichkeiten für deutsche Marktteilnehmer (Haidach storage facility: limited possibilities for German market participants)).



## → Overview of Austrian storage companies' services (underground storage)

Table 8

	OMV Gas	RAG	Wingas	ZMB
<b>Total storage capacity</b>	2,120 m cu m WGV 1,060,000 cu m/h withdrawal capacity, 890,000 cu m/h injection capacity	850 m cu m WGV, 400,000 cu m/h withdrawal capacity, 400,000 cu m/h injection capacity	400 m cu m WGV, 167,000 cu m/h withdrawal capacity, 167,000 cu m/h injection capacity	800 m cu m WGV, 333,000 cu m/h withdrawal capacity, 333,000 cu m/h injection capacity
<b>Ownership</b>	OMV AG 100%	E&P Holding 25%, RAG Beteiligungs- ges. mbH 75%	Wintershall 50.2%, ZMB 49.98%	Gazexport 100%
<b>Standard products</b>	Classic Bundled Services, fixed and variable	Standard services	Winstore Pack	Bundled Service firm fix
<b>Standard products: details</b>	2 m WGV, 1,000 cu m/h withdrawal capacity, 800 cu m/h injection capacity	1,68 m WG, 1,000 cu m/h withdrawal capacity, minimal contractual duration 3 years	22,000 kWh WGV, 10 kWh/h withdrawal and injection capacity	Not yet specified
<b>Withdrawal duration of bundled services</b>	83 days	70 days	92 days	Not yet specified
<b>Other products</b>	Unbundled services: WGV, withdrawal or injection capacity; Click and Store; interruptible products	Is not specified	Winstor Add (un- bundled services): additional WGV, withdrawal and injection capacity, in conjunction with Winstore Pack; Winstore Part: short-term inter- ruptible product	Not yet specified
<b>Storage tariff calculator</b>	Yes	Yes	Yes	Yes (no tariffs published to data)
<b>Capacity allocation method</b>	First come first served; online capacity booking system	First come first served; booking using application form on website	First come first served; booking using application form on website	Not yet specified
<b>Anti- hoarding mechanism</b>	Secondary market: online bulletin board, no obligation to offer capacity	Secondary market: no obligation to offer capacity	UIOLI: withdrawal of storage capacity, left unused for 12 consecutive months; secondary market: store-x	Not yet specified

Sources: Corporate websites (www.omv.com; www.rohoel.at; www.wingas.de; www.zmb-speicher.de); Status July 2008

Utilisation and availability of storage capacity

OMV Gas posts information on the utilisation of its storage capacity on an hourly, weekly and monthly basis on its online capacity booking system. Charts 45 and 46 reveal that some reserved capacity has been left unused in the winter months, e.g. between December 2006 and March 2007, and from December 2007 to March 2008 (there is no data for January 2008). Storage capacity is also employed for balancing services, and these should be taken into account when considering the extent to which unused capacity is made available to third parties.

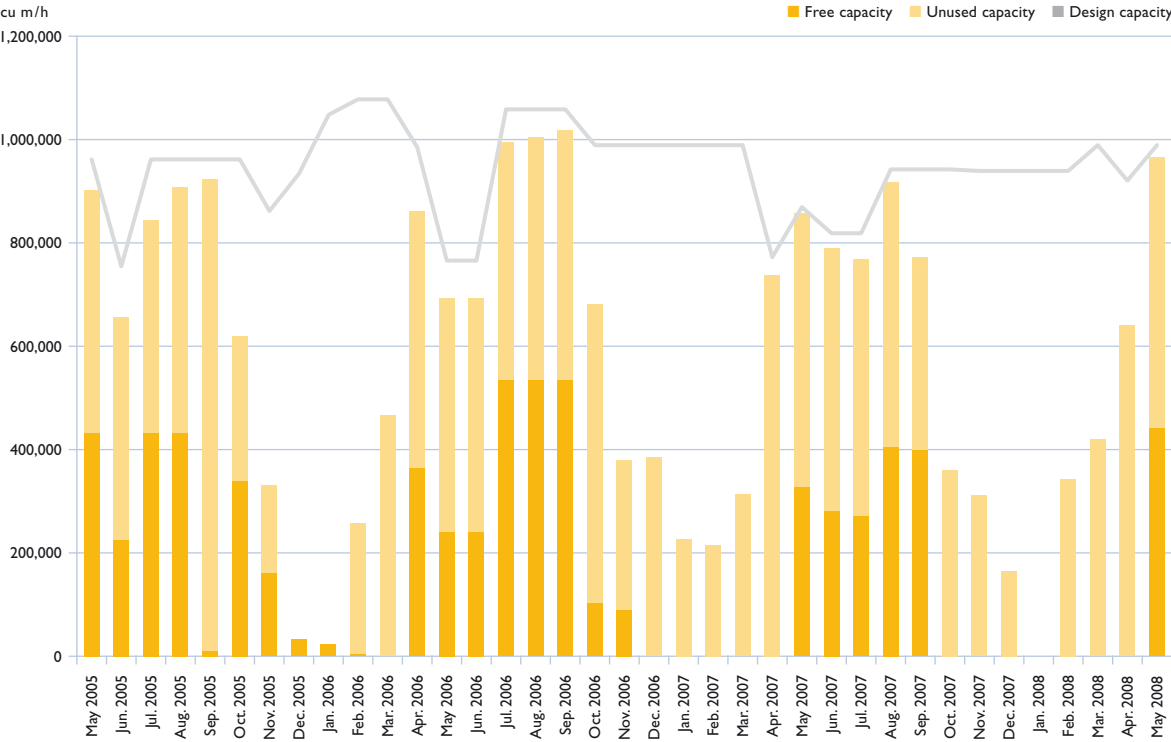
The storage terms and conditions of RAG AG and OMV Gas GmbH contain no arrangements to prevent the hoarding of capacity. OMV Gas GmbH offers interruptible storage products through which unused capacity can be provided, while Wingas GmbH provides for the loss of unused capacity UIOLI in its terms and conditions.

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

Storage capacity availabilities have increased in comparison to 2006, as Wingas has free capacity (Chart 47). As mentioned above, it is not possible

→ Utilisation of storage capacity operated by OMV Gas: withdrawal capacity, May 2005 to May 2008

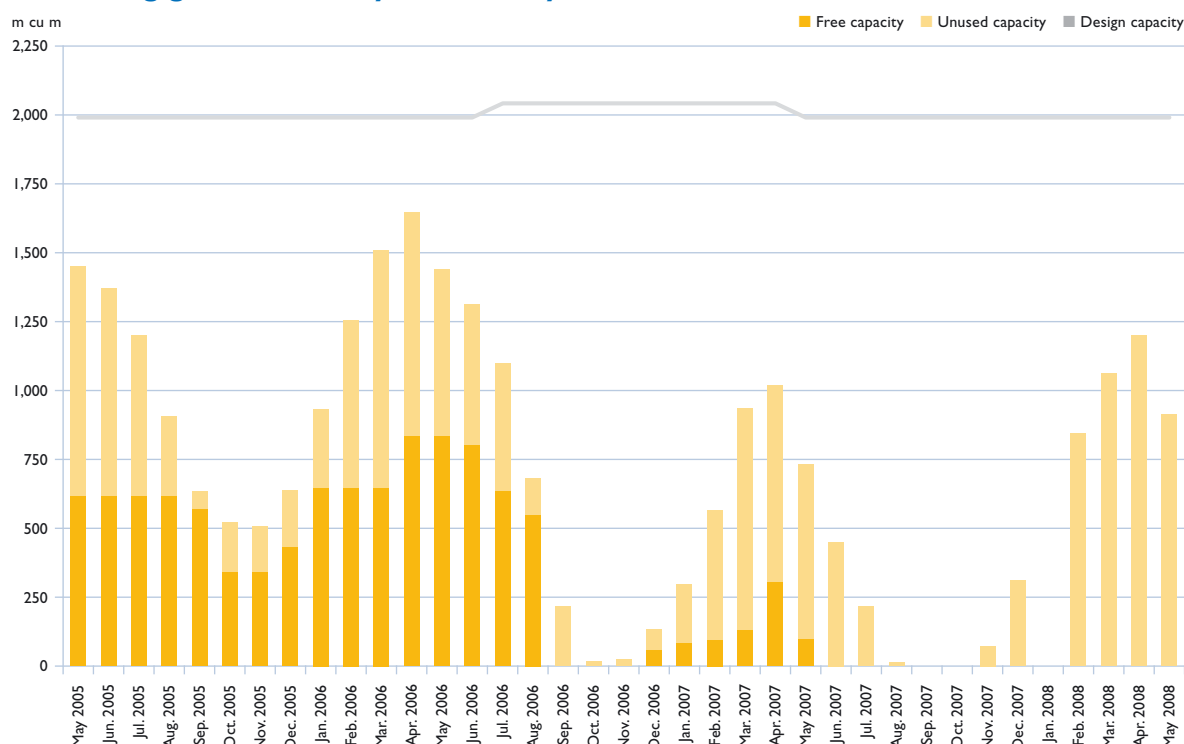
Chart 45



Source: [www.omv.com](http://www.omv.com), online capacity booking system; Status July 2008

→ **Utilisation of storage capacity operated by OMV Gas:  
working-gas volume, May 2005 to May 2008**

Chart 46



Source: [www.omv.com](http://www.omv.com), online capacity booking system; Status July 2008

to use the Haidach storage facility because of the lack of an interconnection with the Eastern control area grid. Because of this, there was no improvement in the situation of Austrian storage customers in 2007.

According to RAG its storage capacity is booked out until the end of 2008.<sup>43</sup> Some 20,000 cu m/hour of withdrawal capacity is still unreserved at the Puchkirchen storage facility in 2009, and 50,000 cu m/hour in 2010. The OMV Gas online capacity-booking system<sup>44</sup> shows no more withdrawal capacity available for the winter months

and no more free withdrawal capacity for the summer.

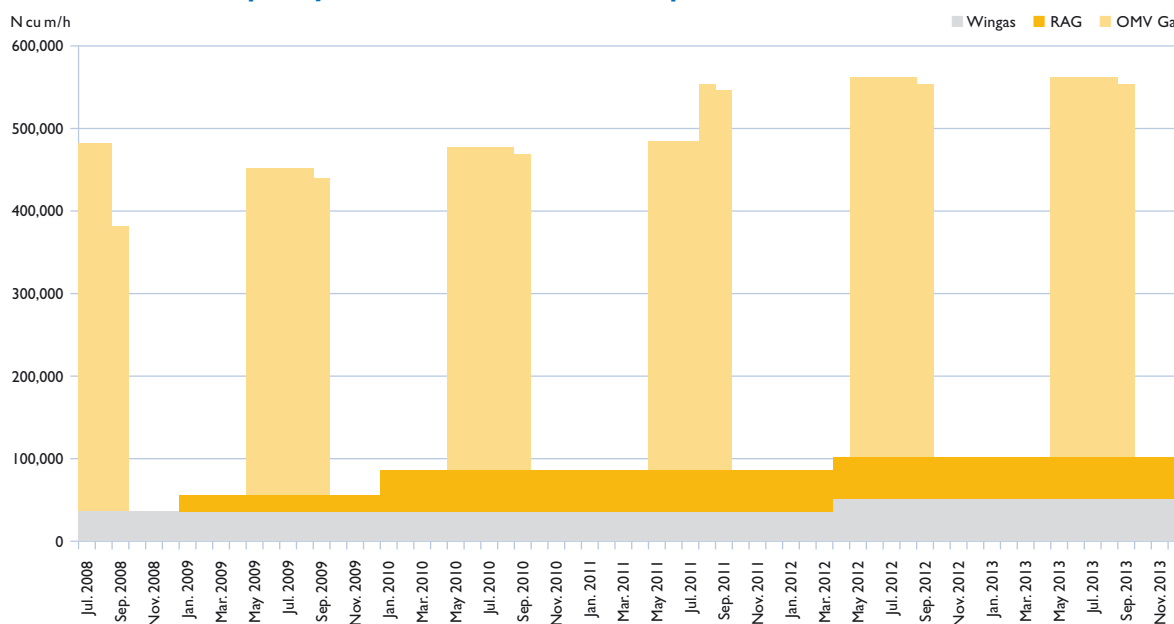
On the basis of the information available to E-Control it is not possible to determine to what extent there is a secondary storage capacity market. There are no contractual limitations on the resale of storage rights, and the storage operators offer title tracking services for their capacity. OMV Gas 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.

<sup>43</sup> See [www.rohoel.at](http://www.rohoel.at).

<sup>44</sup> [www.omv.com](http://www.omv.com).

## → Withdrawal capacity availabilities in Austria up to 2013

Chart 47



Sources: [www.omv.com](http://www.omv.com), [www.rohoel.at](http://www.rohoel.at) and [www.wingas.de](http://www.wingas.de); Status July 2008

### Capacity expansion plans

According to AGGM's 2008–2012 long-term plan<sup>45</sup> both RAG and OMV Gas need to expand their storage capacity. The capacity model reflects this projected demand for “other shipments”. However, the plan does not contain precise data. As of June 2008 no storage company had announced an open-season tender for additional capacity.

To expand storage capacity a cooperation with RAG or OMV Gas would be necessary, since they hold the necessary 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).<sup>46</sup> In May 2007 OMV Gas announced its

intention to cooperate with Gazprom on developing the Schönkirchen Tief storage facility.<sup>47</sup> According to information in the GSE Storage Investment Database, the planned Schönkirchen Tief project will create an additional 2 bn cu m of working-gas capacity.<sup>48</sup>

### Demand structure

The demand for storage capacity comes from Austrian gas wholesalers and distributors, large consumers, generating stations and local retailers. Foreign companies also use the facilities<sup>49</sup> for interim storage related to transit business, and to offer flexible delivery to CEGH. Since liberalisation in 2002 the number of storage customers and the interest of foreign companies in Austrian storage services have increased

45 See AGGM, Langfristige Planung 2006 für die Regelzone Ost für den Zeitraum Gasjahr 2008–2012 mit Ausblick auf das Gasjahr 2030 (2006 long-term plan for the Eastern control area for the 2008–2012 gas year period, and outlook until the 2030 gas year), 27 July, p.9.

46 [www.rohoel.at](http://www.rohoel.at).

47 See OMV AG press release dated 23 May 2007: OMV und Gazprom verstärken Kooperation im Gasbereich (OMV and Gazprom step up cooperation in gas business), [www.omv.com](http://www.omv.com).

48 See [www.gie.eu.com/maps\\_data/database/database.php](http://www.gie.eu.com/maps_data/database/database.php).

49 See AGGM, Langfristige Planung 2007 für die Regelzone Ost für den Zeitraum Gasjahr 2008–2012 mit Ausblick auf das Gasjahr 2030 (2007 long-term plan for the Eastern control area for the 2008–2012 gas year period, and outlook until the 2030 gas year), 27 July, p.9.

significantly. According to EconGas (Annual Report 2006/2007) it is the largest storage customer, with reservations amounting to about 1.5 bn cu m of working-gas volume.<sup>50</sup>

### Relevant geographic market and concentration

No information is available on the extent to which Austrian gas companies have been making storage contracts with operators in neighbouring countries. The contracts that must be submitted to E-Control betray a growing interest in Austrian storage operators' products on the part of foreign suppliers.

Other storage facilities in the vicinity of Austria, e. g. the LAB facility operated by NAFTA and Pozagas, have no free capacity.<sup>51</sup> It is also unclear whether the transportation charges apply to the MAB link line. The south German storage facili-

ties, too, have no free capacity. It is thus safe to assume that Austrian gas companies are unable to use storage capacity abroad.

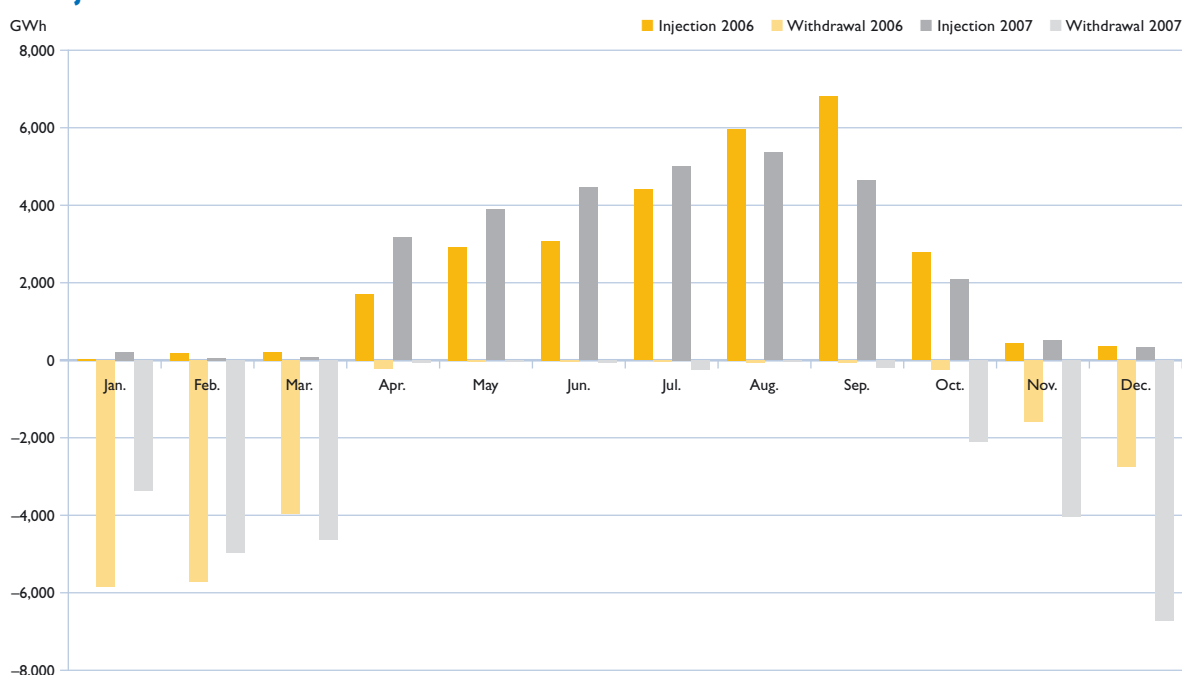
As a result, while market concentration has diminished due to the commissioning of the Haidach storage facility, and the HHI has fallen to 3,404 (market shares measured by working-gas volumes) from 5,722 in 2006, it is still above the 1,800 threshold that indicates a high level of concentration.

### Storage volumes and charges

Monthly inventory movement statistics (injection and withdrawals) are available.<sup>52</sup> These figures reveal a typical seasonal pattern, with injection in the summer and withdrawal in the winter (Chart 48). During the winter of 2007/2008 considerably more gas was withdrawn from storage

### → Injection and withdrawal in 2006 and 2007

Chart 48



Source: E-Control; Status July 2008

<sup>50</sup> See EconGas Annual Report 2006/2007, p. 44 ff.

<sup>51</sup> See [www.nafta.sk](http://www.nafta.sk).

<sup>52</sup> [www.e-control.at](http://www.e-control.at).

than in the previous winter. This was due to the commissioning of the Haidach storage facility in July 2007. Some gas was also withdrawn during the summer of 2007.

#### Storage charges in Austria

OMV Gas, RAG and Wingas post the charges for use of their storage facilities on their websites. ZMB has yet to publish any storage tariffs.

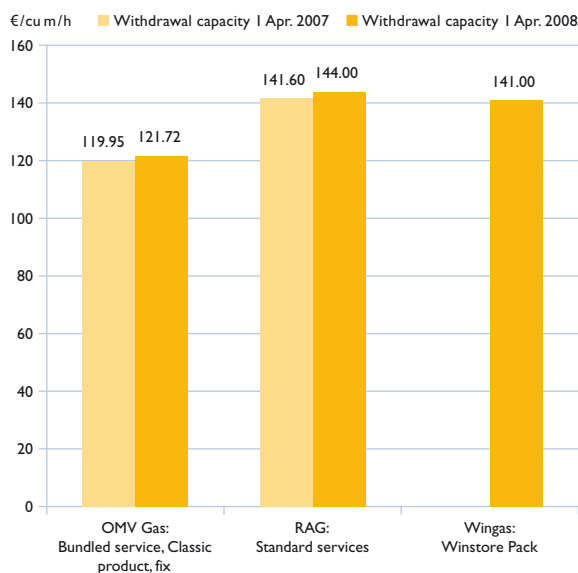
Chart 49 compares the charges for standard services. The charges posted are the effective prices. There has been a slight increase in the storage charges in comparison with the previous year. Current contracts are inflation indexed.

#### Outlook for the regulatory regime

Storage capacity is tight in the Austrian gas market as a whole and the Eastern control area in particular. The storage companies are subsidiaries of gas companies which are also active on the wholesale and retail markets. This means that they have an incentive to hoard storage capacity, which costs money but also represents an entry barrier for new suppliers and thus results in market foreclosure. The allocation procedures are governed by national legislation, but this is not the case with congestion management. The regulatory authority therefore aims – at national level and working through ERGEG – to develop and introduce effective anti-hoarding mechanisms.

#### → Charges for standard storage services in Austria in 2007 and 2008<sup>53</sup>

Chart 49



Sources: [www.omv.com](http://www.omv.com), [www.rohoel.at](http://www.rohoel.at) and [www.wingas.de](http://www.wingas.de); Status June 2008

#### → Supply of local distributors

Wholesalers generally supply local distributors such as municipal utilities under “total requirements” (full supply) agreements also encompassing storage and balancing-group management services. This market amounted to 2.2 bn cu m in 2004.<sup>54</sup> It is served by EconGas, Steirische Gas Wärme, Kelag and Salzburg AG. EconGas has by far the largest market share. 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.<sup>55</sup> Some 80% of the gas supplied to local retailers is sold under indefinite term contracts. These were concluded for the entire relevant geographic market (the Eastern control area), with a single supplier, and there is thus a web of similar

<sup>53</sup> OMV Gas bundled services: working-gas volume 2 m N cu m, withdrawal rate 1,000 N cu m/h, injection rate 800 N cu m/h. Both OMV Gas and RAG include fuel gas in their rates.

<sup>54</sup> See Federal Competition Authority, *Allgemeine Untersuchung der österreichischen Gaswirtschaft* (General investigation of the Austrian gas industry), final report, 2006; no newer statistics are available.

<sup>55</sup> For more details on this issue, please see the Austrian Gas Sector Inquiry, Bundeswettbewerbsbehörde (2006), *Allgemeine Untersuchung der österreichischen Gaswirtschaft*, Endbericht.

agreements. The latter include minimum offtake obligations of 80 % of contractual supply, and the sole supplier has given its customers an option on the remaining 20 %. Procurement from third parties is thus effectively ruled out. These supply contracts result in market foreclosure, and thus represent a restriction of competition in the meaning of Art. 81 EC Treaty.

### → Balancing market

#### Supply structure

The requirements for balancing-energy suppliers outlined above significantly narrow the field of potential bidders among the registered balancing-group members (Austrian market participants). While 33 gas suppliers (balancing-group members) are registered with the balancing-group system in the Eastern control area,<sup>56</sup> at year end 2007 there were only nine registered balancing-energy suppliers, of which eight offered active balancing energy.

The active suppliers were CE Gas Marketing & Trading AG, EconGas, ENOI S.p.A. (since December 2007), Kelag, RAG, Salzburg AG, Steirische Gas Wärme and Terragas. 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 balancing-energy suppliers (e.g. ENLOGS since April 2008).

#### Demand structure

Although the control area manager is responsible for calling off physical balancing energy, the demand for it comes from the balancing 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 to the balancing-group representative and the balancing groups' actual demand or the actual gas flows, which are referred to as accrued balancing energy. The accrued balancing energy arising in each hour is calculated by the settlement agent, AGCS and invoiced to the commercial balancing groups.

In 2007 total accrued balancing energy (the aggregate absolute quantities by which commercial balancing groups are long or short) was equal to 4.1 % of total gas consumption in the Eastern control area – down from 4.3 % in 2006. The largest commercial balancing group in terms of both demand and accrued balancing energy is that of EconGas. The other commercial balancing-group representatives operating in 2007 were CE Gas Marketing & Trading AG, Energie Ried, Kelag, RAG, Salzburg AG, Steirische Gas Wärme and Terragas. The wholesale balancing groups – groups not serving end-users – registered in the Eastern control area at year end 2007 were: Central European Gashub GmbH, Centrex Europe Energy & Gas AG and ENOI S.p.A.

In 2007 it was again apparent that the balancing market is taking on the function of a spot market, with some balancing groups using it to buy or sell gas by making over- or under-deliveries. This demonstrates that balancing prices are at competitive levels.

<sup>56</sup> AGCS: List of registered suppliers as of 1 February 2008; [www.agcs.at](http://www.agcs.at).

### Relevant geographic market and 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 as between the buying and selling sides of the market. In 2007 the HHI for purchases of balancing energy by balancing-energy suppliers was 2,952 (2006: 2,330), while that for the sales of balancing energy by them was 2,127 (2006: 2,354). The combined market share of the three main suppliers was 81.4% (2006: 73.9%) as measured by purchases of balancing energy and 72.0% in terms of sales. The three largest suppliers on the purchasing and selling sides sometimes change from one month to another.

Supply substitutability is severely limited by the existing storage contracts and the capacity avail-

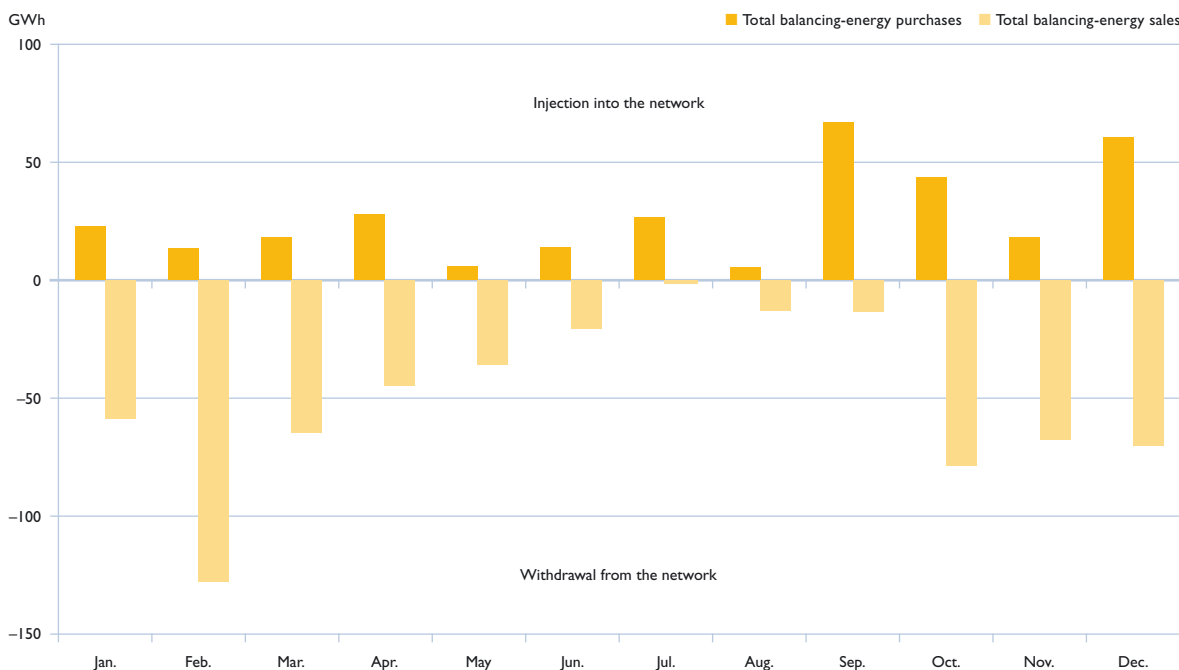
able under them. It is safe to assume that the balancing energy provided by the leading supplier cannot largely or entirely be substituted by the other suppliers. The loss of the largest supplier would therefore have a significant impact on prices. E-Control therefore strives to simplify entry to the balancing market in order to bring it additional suppliers and hence additional balancing-energy availabilities.

### Balancing-energy volumes and prices

In 2007 a total of 322,200 MWh of physical balancing energy was purchased for the control area, i.e. injected into the system by balancing-energy suppliers, and 595,940 MWh was sold, i.e. withdrawn by them. Total balancing energy corresponds to 1.1% of total gas demand in the Eastern control area. Balancing energy was

### → Physical quantities of balancing energy in 2007

Chart 50



Sources: AGCS and E-Control



purchased in 9.5% of all hours during the year and was sold in 17.2% of them. During most of the hours (73.3%) the control area manager relied entirely on linepack for gas-flow management, and was not obliged to call off physical balancing energy.

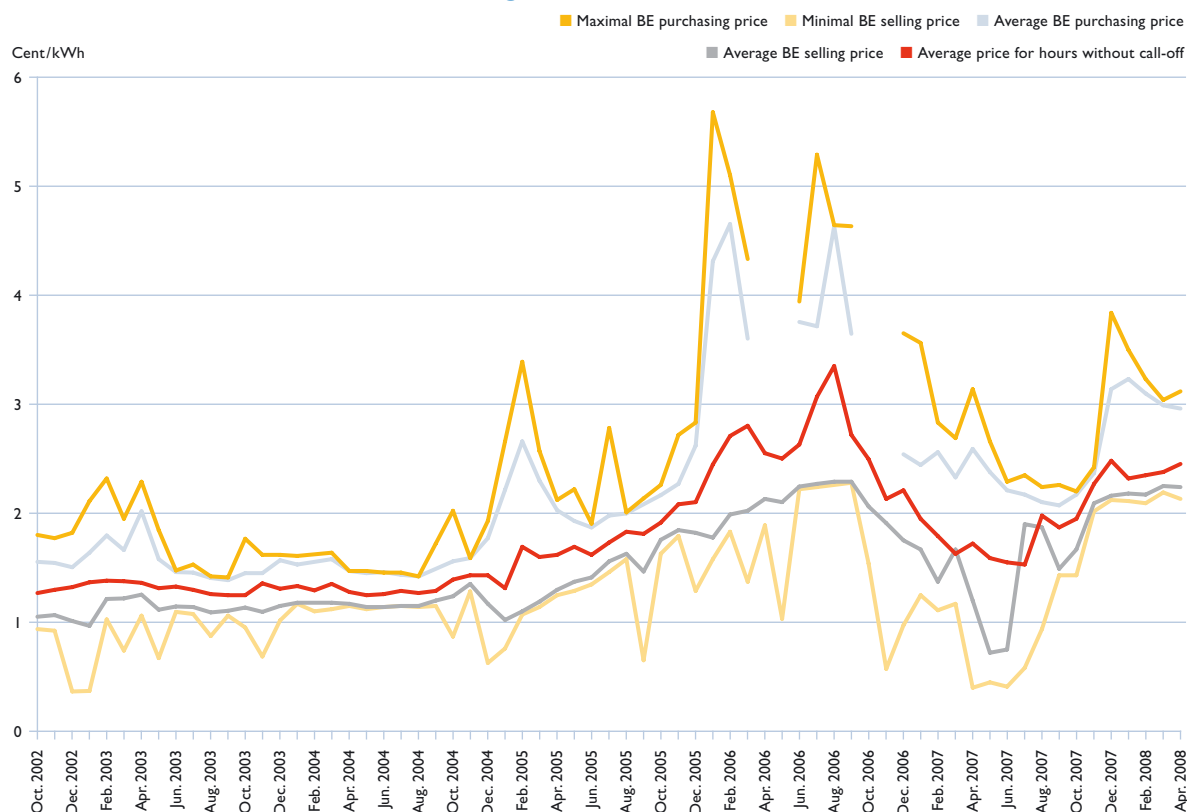
Chart 50 shows monthly call-off of physical balancing energy in 2007. Only in July and September were purchases of balancing energy higher than sales. The fact that sales of physical balancing energy from the network to balancing-energy suppliers outweigh purchases from them in most months indicates that the Eastern control area tends to be oversupplied. However, in comparison with 2006 there was a 99% year-on-

year increase in purchases of balancing energy while sales declined by 47%.

Following high balancing-energy price levels in 2006, prices initially fell sharply in 2007 (Chart 51). The average buying price for balancing energy imported into the Eastern control area fell from 3.84 cent/kWh in 2006 to 2.36 cent/kWh in 2007, while the average selling price for balancing gas exported out of the control area decreased from 2.05 cent/kWh to 1.53 cent/kWh. Balancing-energy prices rose during the last quarter of 2007 due to higher natural gas import prices. Volatility in balancing-energy prices often reflects external factors such as expectations of tight supplies if Gazprom announces cutbacks

## → Price movements on the balancing market<sup>57</sup>

Chart 51



Sources: AGCS and E-Control

<sup>57</sup> No purchases of physical balancing energy in April, May, October and November 2006, and hence no prices shown.

in deliveries to countries upstream from Austria or if there are rumours of technical problems on upstream transit systems. Technical problems at the storage facilities used by balancing-energy suppliers can also impact price formation.

→ Description of the retail market

In 2007 the Austrian retail market comprised 1.348 m metering points, and total sales were 88,205 GWh (Chart 52). Sales to final consumers were down by 6.1 % year on year, due to above-average temperatures in the winter of 2006/2007.

Gas import prices rose by 22 % in the course of 2007. The main features of retail price movements in 2007 were increases for industrial consumers, which have contracts indexed to oil prices, and relative price stability for domestic consumers, whose rates are not explicitly linked to petroleum products. Due to the strong state influence on the gas companies, decisions on domestic gas prices are not motivated by commercial considerations alone, but also by political factors such as upcoming elections.

Supplier market and behaviour

Domestic and small-consumer market

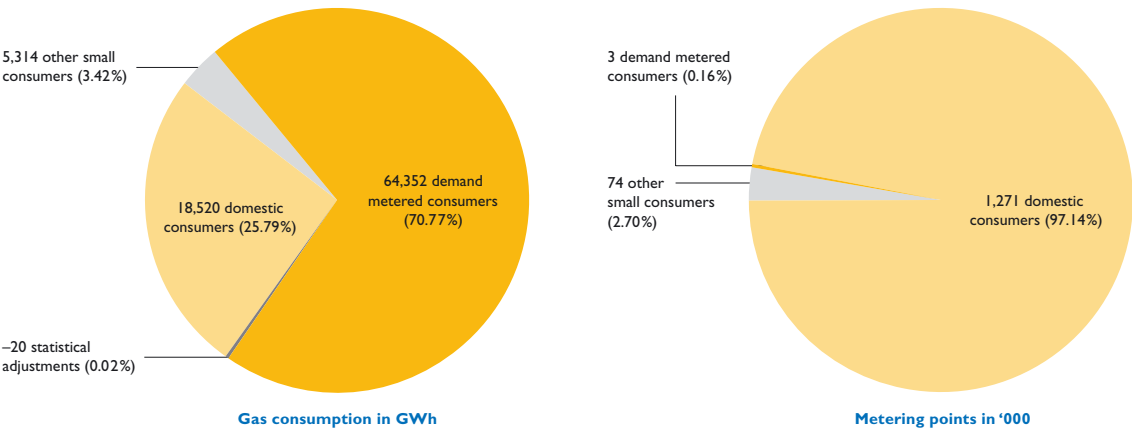
Domestic and other small consumers normally have short-term contracts without minimum offtake obligations, and without explicit escalation clauses tied to oil product prices. Instead, there is step-fixed pricing, such that the gas price is adjusted at irregular intervals determined by the supplier. This 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 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: EnergieAllianz (via Wien Energie, EVN, Begas and Switch), Erdgas Oberösterreich, Steirische Gas Wärme (and Unsere Wasserkraft), Kelag, Linz Gas, Salzburg AG, MyElectric, Tiwag and VEG, as well as municipal

→ Consumption in 2007 by final consumers and metering points

Chart 52



Source: E-Control

utilities (e.g. Stadtwerke Steyr and Stadtwerke Kapfenberg). These suppliers also operate on the electricity retail market through subsidiaries.

EnergieAllianz has the largest market share in this segment, at 60%, through its partner companies – Wien Energie, EVN and Begas.<sup>58</sup>

As can be seen from Chart 71 (see annex, there are also large public sector holdings (by provincial governments) in these suppliers.

#### *Suppliers' product and discount policies*

Product design is largely a matter of offering discounts on standard tariffs.

At year end 2007 there were three low-cost suppliers in the Eastern control area – Kelag, MyElectric und Switch. The withdrawal of regional discounts (Switch dropped its regional promotions for Carinthia, Salzburg and Upper Austria on 18 January 2008) and energy price rises (12.4% net increase by MyElectric on 1 May 2008) left Kelag as the lowest-cost supplier. However, since July 2008 Kelag Gas has limited its supply activities to its own grid area and does not, at the moment, contract new customers from other parts of Austria.

MyElectric and Kelag now offer a tariff with a price guarantee ("Online Fixtarif").

Since 1 February 2008 the local player in Tyrol, Tigas has been offering all its customers a banded, fixed discount in cent/kWh up to the end of the year.

Since 1 April 2008 Salzburg AG has been giving switchers with a demand of less than 100,000 kWh who return to it a "welcome home" discount in the form of 30 days' free gas under the "Erdgas OK" tariff.

Since January 2008 Begas has been awarding both switchers who return to it and new customers a one-time bonus of €45 including VAT, in the form of a credit at the time of their annual settlement.

#### *Medium-sized business market (annual consumption of up to 500,000 cu m)*

Commercial and small industrial consumers with an annual demand of 100,000–500,000 cu m are interval-metered and invoiced on a monthly basis, and are thus supplied under different terms and conditions to those of domestic consumers. The contracts for this market segment have longer durations, and some include price escalation clauses which result in price adjustments at predetermined intervals (every three to six months). The rates are usually tied to heating oil prices. Though standard contracts are offered, parts of them are individually negotiable. The contracts contain minimum offtake clauses.

The suppliers are the same as in the domestic supplier market. No information is available on their pricing and product strategies.

#### *Large consumers (annual consumption of over 500,000 cu m)*

Upwards of an annual consumption of 500,000 cu m the retail market has a different structure. The market leader is EconGas. Apart from EconGas, Steirische Gas Wärme, Terragas, Wingas and Kelag are active in this segment. These companies market across the entire Eastern control area. The three largest suppliers have a combined market share of about 95%.

Centrex, a Gazprom group company, plans to supply large Austrian consumers, including power stations, and has already registered with AGCS as a balancing-group representative.<sup>59</sup>

<sup>58</sup> See information on the EnergieAllianz website ([www.energieallianz.at](http://www.energieallianz.at)).

<sup>59</sup> [www.agcs.at](http://www.agcs.at).

Gazprom also has a foot in the Austrian retail market through its 50 % interest in Wingas.

For strategic reasons, Italy’s ENI S.p.A. plans to enter the Austrian and German markets with a view to claiming an overall market share of 7.3 % by 2010.<sup>60</sup>

Rates for domestic and small consumers

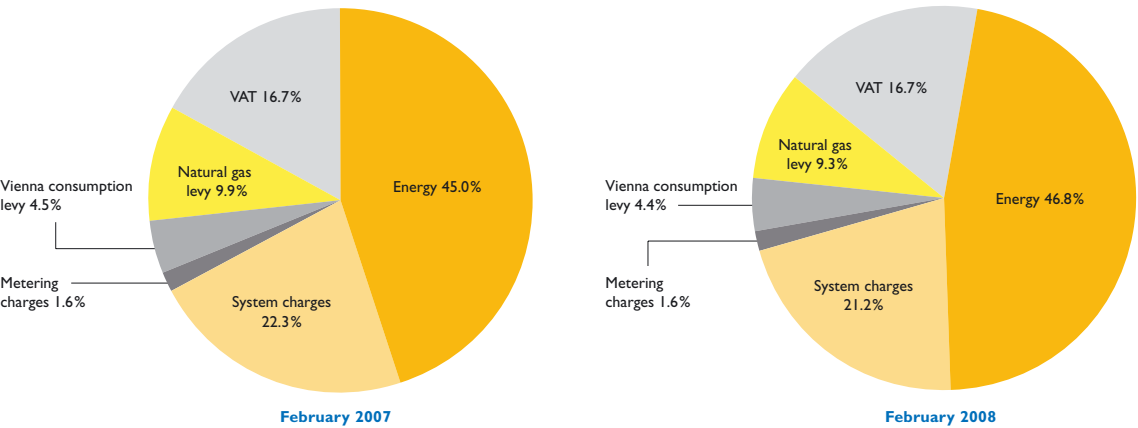
Natural gas prices are composed of the energy price, the system charges, taxes and levies. Under section 23 Natural Gas Act the system charges comprise the use of system charge, the metering charge, the system provision charge (a lump sum charge for prefinanced network expansion works) and the system admission charge (for the initial network connection). The E-Control Commission enacted the Gas System Charges Order 2008 redetermining the system charges in February 2008.

A comparison of the components of gas prices on 1 January 2007 and 1 January 2008, taking a typical domestic consumer in Vienna with an annual consumption of 15,000 kWh, shows a marked shift as a result of the 1.5 % increase in system charges at Grid Level 3 on 1 February 2008, and energy price changes. The energy component increased from 45 % in February 2007 to 46.8 % a year later (Chart 53).

Chart 54 depicts the total expenditure of typical domestic consumers (15,000 kWh/year) supplied by local players in all the grid areas, broken down into components (energy price, system charges, taxes and levies). It also compares the local players’ energy prices (excluding general rebates) with the lowest-cost supplier’s rate (less general and one-time rebates, so as to show the savings from switching) by grid areas. Customers of Energie Graz paid the highest overall price – €969/year – in July 2008, followed by Tigas customers at €964/year.

→ Breakdown of the overall gas price  
Vienna grid area, 15,000 kWh/year, cheapest supplier

Chart 53

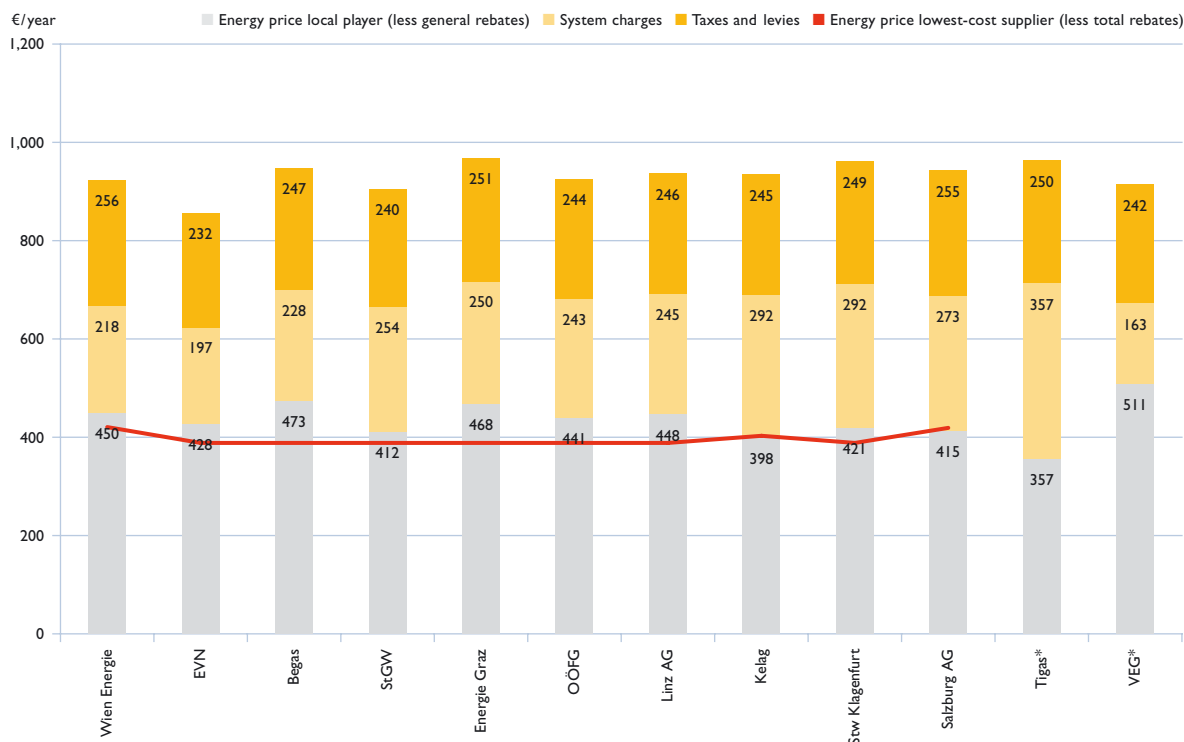


Source: E-Control; Status February 2008

60 www.eni.it, Investor Relations, 2006 Results & Strategies, 13 July 2007.

### → Costs for typical domestic consumers (15,000 kWh/year) supplied by local players

Chart 54



\* In Tyrol and Vorarlberg (Tigas, VEG) there is no alternative to the incumbent supplier, as these two areas are not connected to the Eastern control area.

Source: E-Control; Status July 2008

The potential savings to be made by switching to the lowest-cost supplier are determined by the differences between its energy price and those of the local players, as well as the policies with regard to one-time rebates for switchers.

Import prices rose at the start of 2006 and fell from September 2006 onwards. Many companies reacted by raising their prices in January 2007, but the increases were cushioned by reductions

### → Price increases to date in 2008

Table 9

Supplier	Energy price increase	Overall price increase	Price increase on
Begas	9.70 %	5.50 %	1. Jan.
E-Werk Wels	1.60 %	1.30 %	1. Jan.
Salzburg AG	5.50 %	2.70 %	1. Feb.
Stadtwerke Leoben	6.80 %	3.80 %	1. Mar.
Unsere Wasserkraft	13.90 %	—	1. Mar.
MyElectric	12.40 %	—	1. May

Source: E-Control

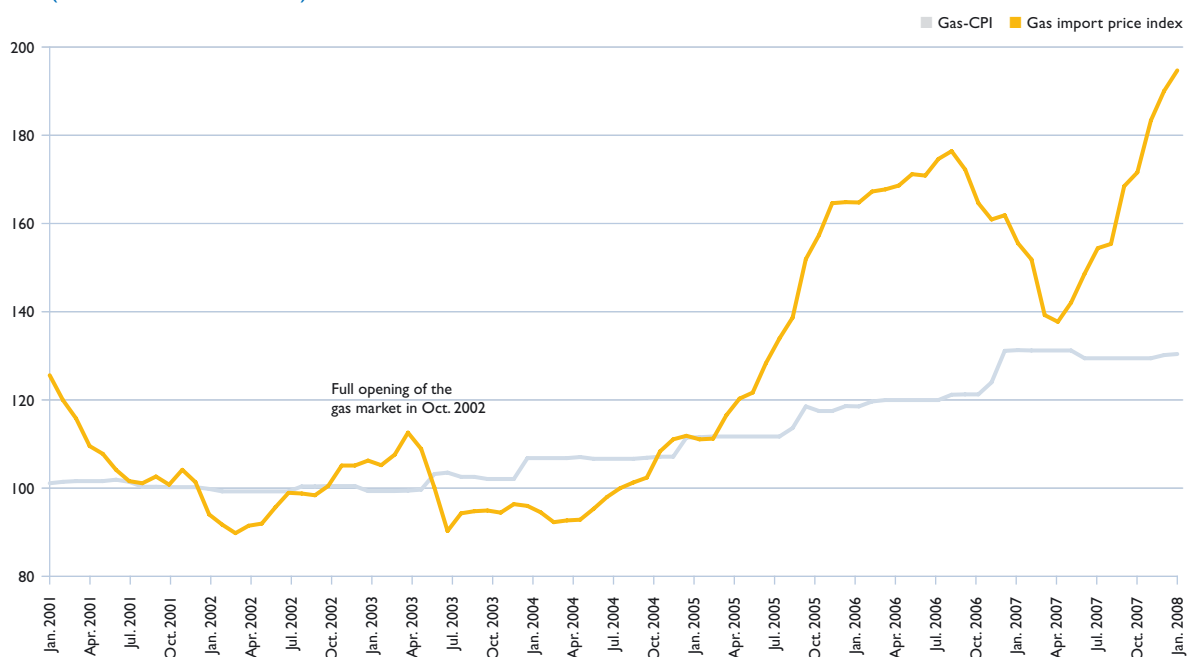
in the system charges. Some suppliers passed the cut in system charges on to their customers without changing their energy prices, resulting in lower overall prices. Some retailers failed to pass on the decline in purchasing prices up to May 2007 to end-users in July 2007. The steady upward trend in import prices (and hence procurement prices) from July on fed through into price increases by some suppliers at the start of 2008 (Table 9). This shows that the gas consumer price index reflects movements in the import price index (Chart 55), but the response is lagged.

A comparison of gas import prices and the local players' energy prices in the three grid zones with the highest demand (Chart 56) demonstrates that the energy price paid by a typical domestic customer with an annual consumption of 15,000 kWh is higher than the import price and is effectively determined by it.

The difference between the energy price and gas import price illustrates the leeway that suppliers have in setting their prices. However, it should be noted that it does not just represent profit margin, since the retailers' storage and balancing-

#### → Comparison of gas import price index and the Gas CPI (Oktober 2002 = 100)

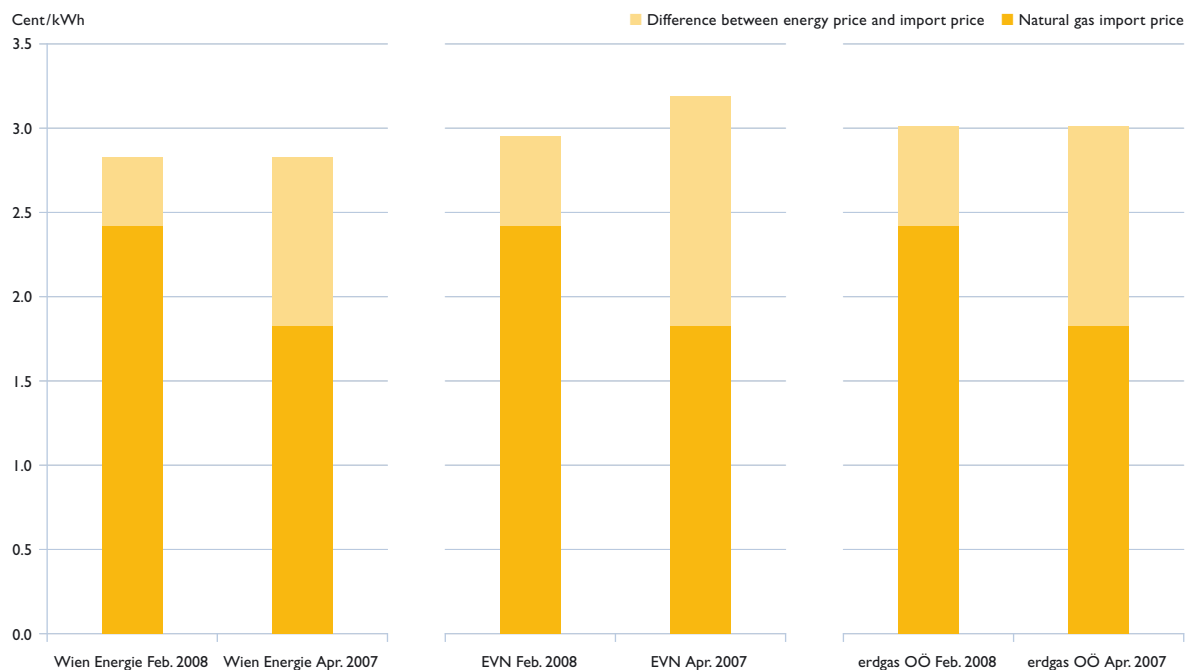
Chart 55



Sources: Statistics Austria and E-Control

### → Comparison of gas import and energy prices, domestic consumer (15,000 kWh/year)

Chart 56



Sources: Statistics Austria and E-Control

energy costs also come out of it. The comparison with the previous year shows that rising import prices cut into Wien Energie's and Erdgas OÖ's margins. As EVN reduced its energy price by 7.6% in July 2007 this further squeezed its margin.

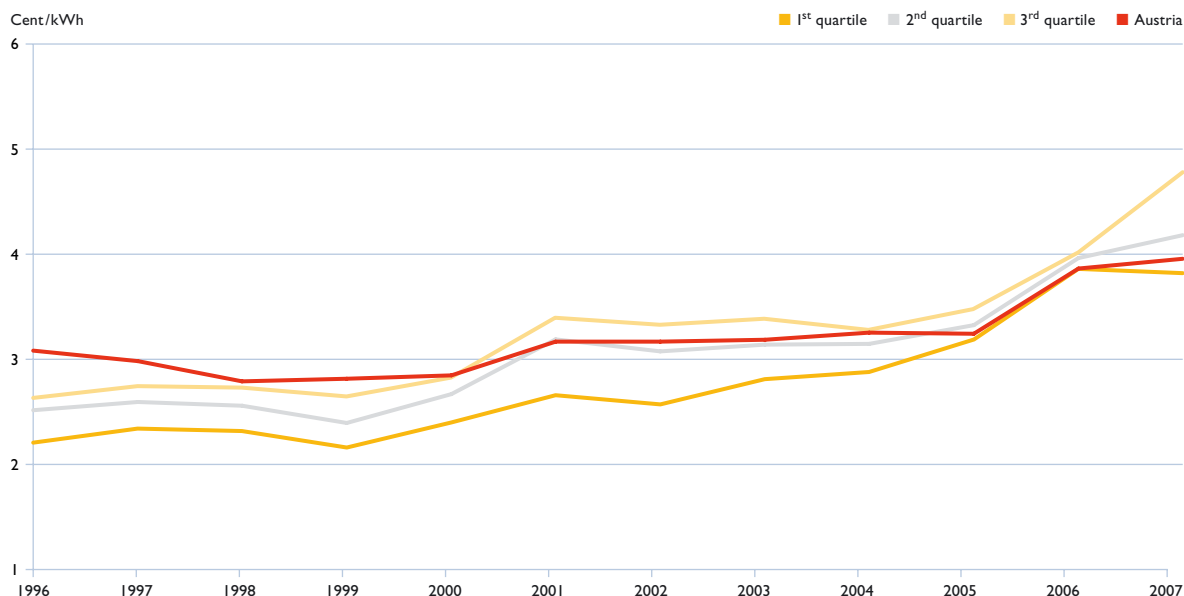
#### *Price trends in comparison with the rest of Europe*

Chart 57 compares the prices paid by domestic customers in Austria and in the rest of Europe. The chart reveals that while the gas prices

charged to Austrian domestic consumers were in the highest quartile in Europe before liberalisation, they became mid-range afterwards and have been even lower since 2004. This relative advantage decreased in 2007. The first quartile curve shows that 25% of the prices in the EU are below this level. A further 25% lie between the first and second quartiles, and 25% between the second and third quartiles. The remaining 25% of prices are above the third quartile.

### → Domestic gas prices in Austria and the rest of Europe<sup>61</sup> Energy and system charges, 23,260 kWh/year, exclusive of tax and levies

Chart 57



Sources: Eurostat and E-Control calculations

#### Rates for demand-metered (industrial) consumers

The gas prices charged to industrial consumers rose in the course of 2007, as the biannual E-Control gas-price surveys found.<sup>62</sup> Table 10 sets out the energy prices (excluding the system charges, taxes and levies) identified by the industrial price surveys carried out in July 2007 and January 2008. The increases in the individual

categories (A 21.7%; B 15.8%; C 9.6%) as compared to July 2007 are attributable to the fact that in most cases price escalation clauses or mixes of fixed-price and escalation clauses apply, and the oil prices to which the import prices are tied rose by 27.6%.

The evolution of the industrial gas prices identified by the surveys is similar to that of the import prices (Chart 58).

61 Austria, Belgium, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Sweden, United Kingdom.

62 See [www.e-control.at/Gas/Gas prices/Retail prices/Industrial gas prices](http://www.e-control.at/Gas/Gas%20prices/Retail%20prices/Industrial%20gas%20prices).



## → Energy prices and average contract durations

Table 10

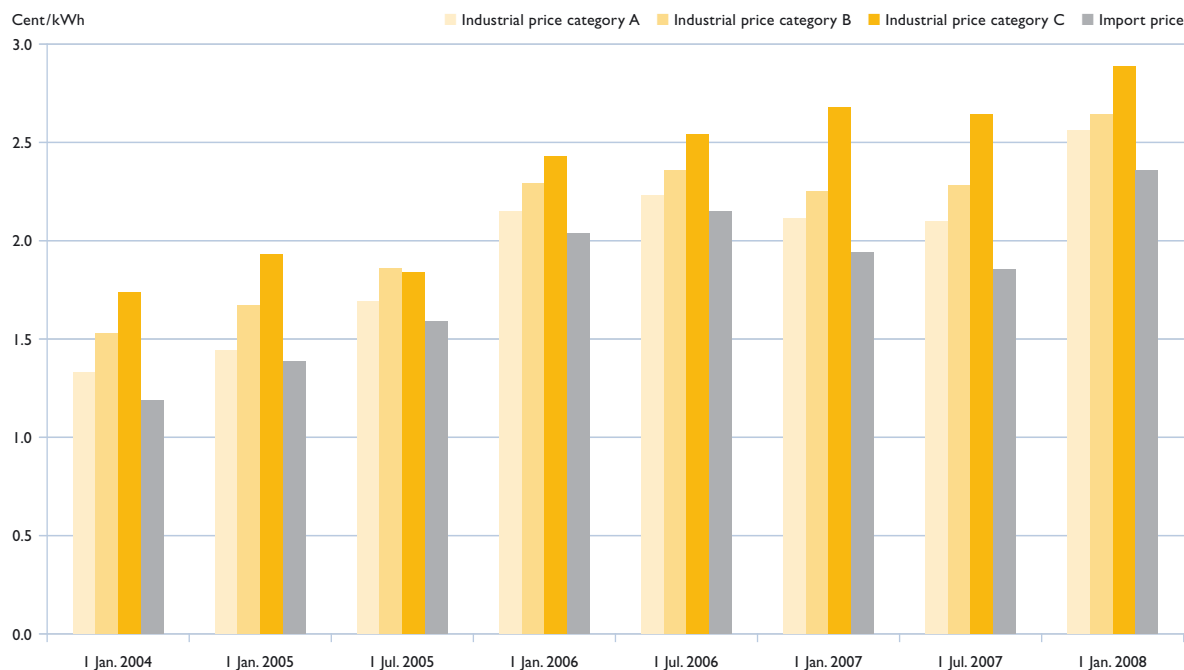
		January 2008 (cent/kWh)	July 2007 (cent/kWh)
<b>Category A</b> Annual demand > 100 GWh	Arithmetical average	2.56	2.10
	No. of companies	32	26
	Average contract duration	23 months*	
<b>Category B</b> Annual demand > 10 GWh < 100 GWh	Arithmetical average	2.64	2.28
	No. of companies	75	62
	Average contract duration	22 months*	
<b>Category C</b> Annual demand < 10 GWh	Arithmetical average	2.89	2.64
	No. of companies	91	80
	Average contract duration	21 months*	
<b>Total</b>	Arithmetical average	2.75	2.42
	No. of companies	198	168
	Average contract duration	22 months*	

\* Contract duration only for fixed-term contracts.

Source: E-Control

## → Import and industrial prices on selected reporting dates

Chart 58



Sources: E-Control and Statistics Austria

### Price trends in comparison with the rest of Europe

Chart 59 compares the prices paid by industrial customers in Austria and the rest of Europe. To illustrate the distribution, prices were sorted by level and the middle 50% shown. The median curve shows the average price, and the lines above and below the 25% of prices above and below the median.

The chart reveals that the gas prices charged to Austrian industrial consumers were in the highest quartile in Europe before liberalisation (part opening of the market), and were in the lowest quartile in its immediate aftermath. Since the full liberalisation of the gas market in 2002 the industrial prices for the demand category concerned have been in the mid range. In 2007 the position of Austrian industrial consumers

as compared to those in other European countries worsened, and the gas prices paid by them returned to the top quartile.

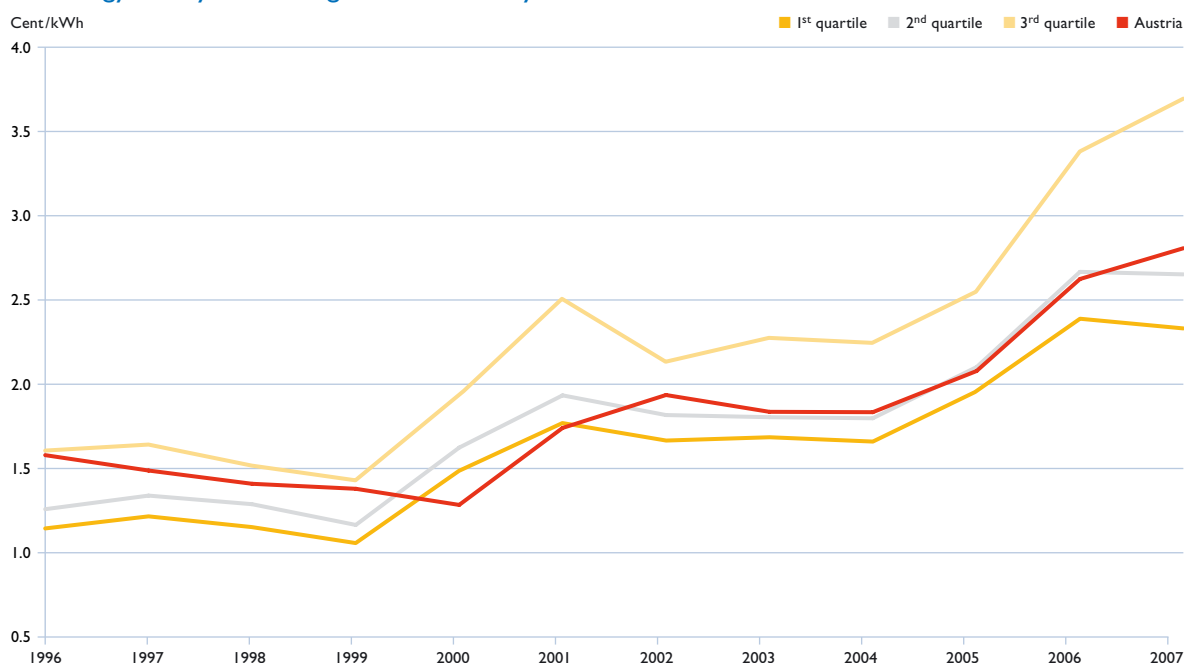
### Demand behaviour and switching

During the 2007 gas year (October 2006 to September 2007) around 7,800 Austrian gas consumers or 0.6% of all end-users changed suppliers. A cumulative total of 3.7% of all final consumers have switched since market opening. However, the churn rate in terms of network capacity is 30%.

This points to the fact the switching rate for industrial (demand-metered consumers) consumers is much higher than that for domestic consumers, which has declined since liberalisation (see Chart 60). During the 2007 gas year

### → Industrial gas prices in Europe<sup>63</sup> Energy and system charges, 11.63 GWh/year, exclusive of tax and levies

Chart 59



Sources: Eurostat and E-Control calculations

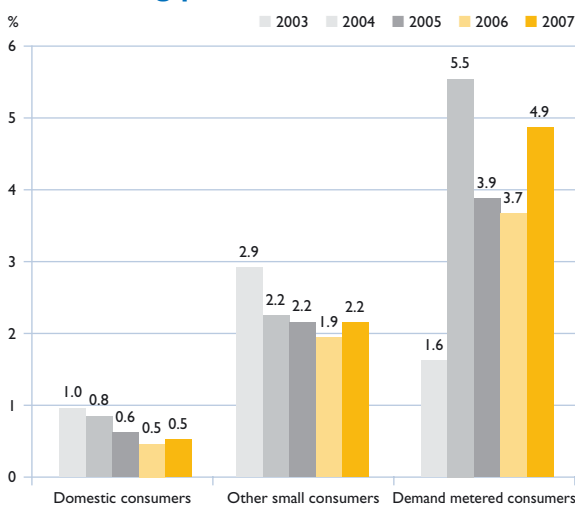
63 Austria, Belgium, Denmark, Finland, France, Germany, Luxembourg, Spain, Sweden, United Kingdom.

4.9% of all demand-metered final consumers changed suppliers, compared with just 0.5% of the domestic consumers and 2.2% of the other small consumers. The low churn rate for domestic consumers may be connected with the modest price increases in 2007.

Chart 61 shows the potential savings from a transfer to the cheapest supplier (as of 1 May 2008). The domestic consumers who stood to make the largest savings were those in the Begas and Energie Graz grid areas, at about €129 and €123, respectively. Since Kelag was the lowest-cost supplier across the entire Eastern control area as of 1 May 2008 Carinthian gas consumers would have gained nothing from switching. Since the Eastern control area grid is not linked with those in the Tyrol and Vorarlberg control areas, switching is not possible in the latter two.

#### → Switching on the gas market: metering-point transfers

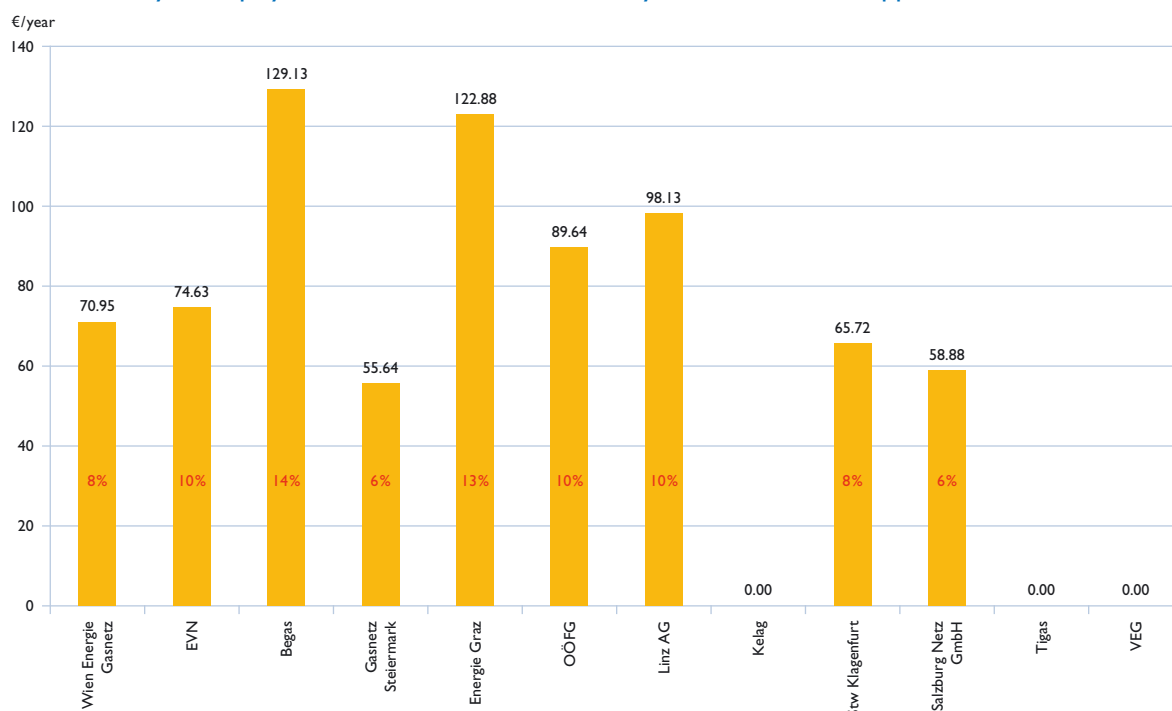
Chart 60



Source: E-Control

#### → Potential annual savings for domestic consumers switching to the cheapest supplier, by grid areas (15.000 kWh) less general rebates offered by local players and total rebates offered by the lowest-cost supplier

Chart 61



Source: E-Control; Status June 2008

## → Measures for the promotion of fair competition in 2007

### General

Under section 10(1)(1) Energy Regulatory Authorities Act E-Control is responsible for competition oversight of all market participants including system operators, particularly with regard to non-discriminatory treatment. If E-Control detects abuse it is required to take all necessary steps to restore compliance with the law without delay.

### Final consumers

During the period under review there were fewer abuse proceedings relating to final consumers than in previous years. This is 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. It was often possible to prevail on market participants to observe the law without initiating proceedings.

Recent amendments to the Gas Industry and Organisation Act have strengthened consumers' rights. Gas companies must now present prices, customer information and invoices in a transparent and consumer-friendly fashion, and itemise certain parameters, such as the price in cent/kWh, on their bills. Therefore invoices are checked for compliance with these legal requirements and abuse proceedings initiated where necessary.

The tariff calculator on the E-Control website is undoubtedly a useful means of achieving greater transparency in the Austrian gas sector. The calculator enables gas consumers to identify the cheapest supplier for their needs and demand category. It makes decisions to switch easier, and thus promotes competition.

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 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.

### Unbundling

Under the Natural Gas Act – in contrast to the Electricity Act – section 10(1)(2) makes E-Control responsible for the oversight of unbundling. Abuse proceedings were initiated in cases of breaches of the unbundling rules.

### Transit regime

In pursuance of its oversight function with regard to gas transits, E-Control has initiated a number of abuse proceedings, and has required some transmission system operators to publish the rules governing connections to their systems in accordance with Art. 6 and Art. 9(1c) in conjunction with Annex 3.1(i) Regulation No (EC) 1775/2005. This included publication<sup>64</sup> of:

64 OBAs/IPAs

- the minimum technical requirements for connection;
- the interruptible capacity at all the relevant points in the system; and
- the total contracted and interruptible capacity.

Another issue of importance to E-Control is achieving the gas network interoperability required by section 3 Ia(2) Natural Gas Act. Since the start of 2007 E-Control has been pressing for the conclusion of interconnection agreements (ICAs), including the establishment of operational balancing accounts (OBAs) for the Baumgarten interconnection point. A number of proposals have already been made, but agreement has not yet been reached on the implementation of such arrangements.

In fulfilment of its oversight function, E-Control has requested the companies which are involved in this process but object to it to explain their concerns and make proposals of their own.

#### Terms and conditions of distribution system operators

One of E-Control's aims is the harmonisation of distribution system operators' general terms and conditions, and to this end negotiations with representatives of the companies concerned take place.





Annex



## → Electricity

Section 20i (1) Energielenkungsgesetz 1982 (Energy Intervention Powers Act 1982) as amended by BGBl. 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 Intervention Powers 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 Authority Act, BGBl. 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. Activities pursuant to section 20i Energy Intervention Powers Act can also be included in this report.

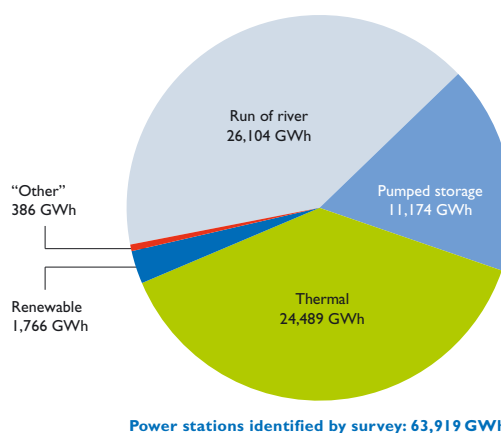
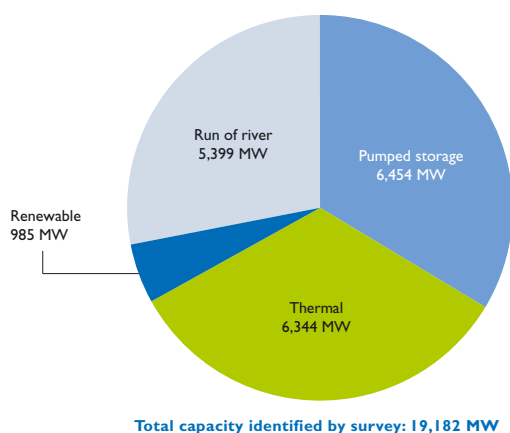
It should be noted that the surveys conducted by E-Control are also to be coordinated at European level and conducted by the various regulatory authorities, so as to enable forecasts of current and longer-term security of supply to be made. These national and European reports could thus lay the groundwork 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 increased by an annual average of 2.8 % in the 1980s, it has dropped to 2.1 % and 1.8 % per year,

## → Installed capacity in Austria: maximum capacity and generation

Chart 62



Source: E-Control; valuation date 31 December 2006



### → Capacity of thermal power stations with/without combined heat and power (CPH)

Table 11

Calendar year	Thermal capacity with CHP	Maximum capacity with CHP	Maximum capacity without CHP
2006	7,328 MW	4,270 MW	2,074 MW

Source: E-Control; Status July 2008

respectively, in the past two decades. In 2006 gross domestic electricity consumption (excluding pumped storage) amounted to 67,432 GWh. This trend is due to the close link between electricity demand and gross domestic product (GDP).

As of the end of 2006 Austria's total installed generating capacity stood at 19.2 GW, 61.8 % of which was accounted for by hydro power, 33.1 % by thermal power stations and 5.1 % by "other"

renewable generating stations such as wind farms and photovoltaic arrays (see Chart 62). As shown in Table 11, around 4,270 MW of the 6,344 MW of thermal generating capacity in place is at combined heat and power plants.

Gross electricity generation at these plants totalled 63,919 GWh (see Chart 62) – down by some 3.9 % on 2005. Explanations for this decrease include reduced precipitation, which led to a fall in hydropower generation.

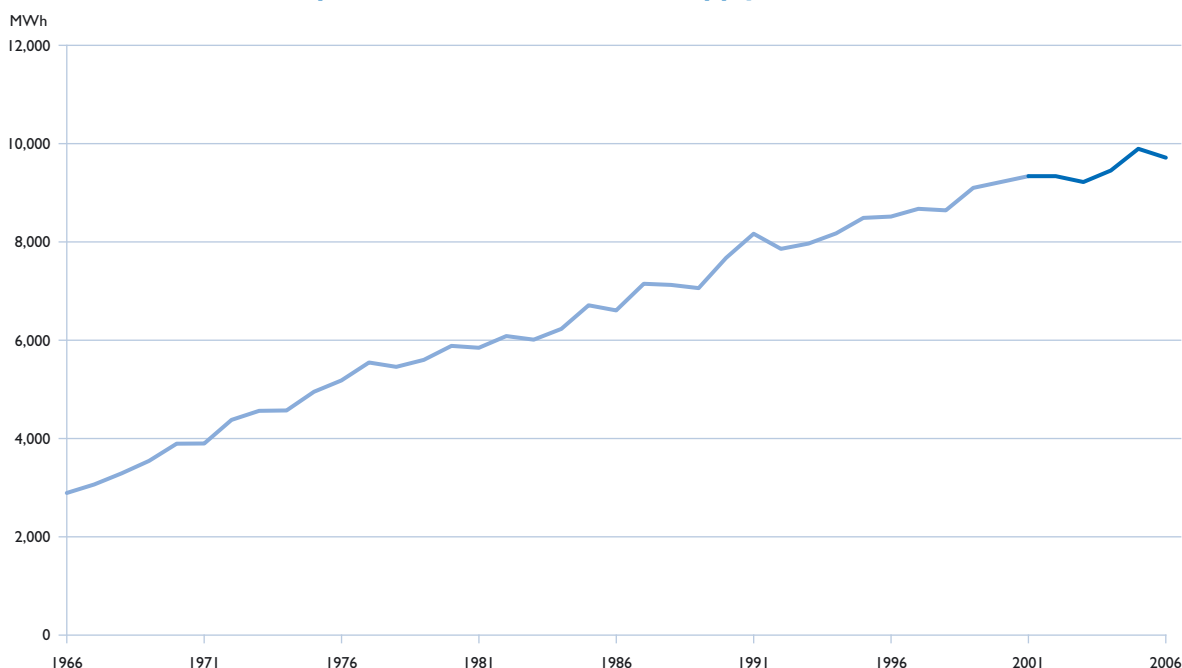
Gross domestic electricity consumption was 67,432 GWh in 2006. The difference between this and the gross output of 63,919 GWh was covered by imports.

Total physical imports amounted to 21,257 GWh – an increase of 4.2 % on 2005 – while exports fell by 18.8 % to 14,407 GWh.<sup>65</sup>

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### → Evolution of annual peak load in Austria: total supply<sup>66</sup>

Chart 63



Source: E-Control

<sup>65</sup> The balance of generation, consumption, imports and exports is influenced by generating efficiency (e.g. pumped storage stations) and system losses.

<sup>66</sup> Domestic consumption without pumped storage.

In 2006 the annual peak load, measured by peak capacity on the third Wednesday of each month, was 9,172 MW. Chart 63 shows the evolution of annual peak load over the past four decades.

Electricity consumption in Austria is expected to grow by an annual average of 1.7% up to 2016, resulting in an increase of around 251 MW in the annual average peak load.

To judge security of supply in Austria up to 2016, it is necessary to compare future available generating capacity and peak loads.

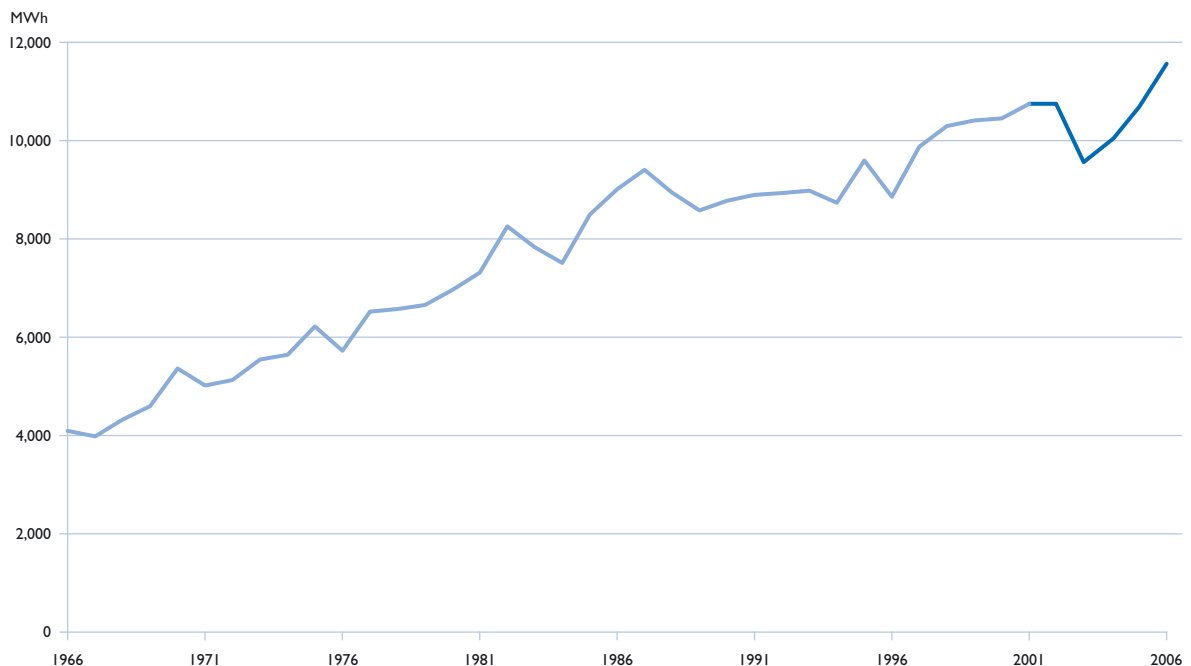
Electricity generation is influenced by a variety of exogenous factors (e.g. temperatures, precipitation and water supply) and the market. This is reflected in inventories of fuel for thermal power stations and stored water at pumped

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, interruptions, outages and storage volumes. In 2006 available (i.e. maximum) generating capacity in Austria amounted to 11,592.9 MW, as shown in Chart 64. This compared with total installed power station capacity of 19,200 MW.

A survey carried out in June 2007 in cooperation with the Association of Austrian Electricity Companies identified more than 22 power station projects with an total installed thermal or hydro power capacity of over 25 MW. New capacity due for commissioning by 2016 amounts to some 6,341 MW, of which hydro generating stations account for 2,078 MW and thermal power stations (mainly gas fired) 4,263 MW.

#### → Evolution of annual peak load in Austria: maximum generating capacity

Chart 64



Source: E-Control

A number of smaller projects with capacities of less than 25 MW – mostly hydro generating stations – are also planned for the period up to 2016, adding a further 100 MW to the total. In addition, several projects have been announced which will increase output at existing facilities; these (e.g. pumped storage hydro power plants) will raise production by about 100 MW.

Consequently, installed capacity is expected to expand by some 6,441 MW (excluding renewable generating stations), over and above the existing 19,200 MW, by 2016. The related investment in power stations is estimated at more than €4 bn.

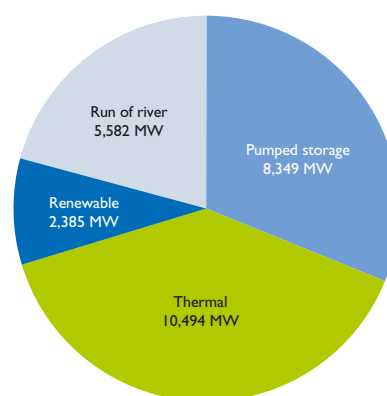
In addition to the projects identified in the survey, renewable generating stations (e.g. wind farms and biomass fired plants) are being built. For the 2006–2016 period relevant to the forecast, E-Control anticipates an increase in capacity of some 1,300 MW. This capacity is counted as “renewable generating stations” irrespective of the generating technology involved.

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 its marginal costs in the long run.<sup>67</sup> Changes in wholesale prices are the key factor here.

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 2016, e.g. due to market developments. This matches the findings of a survey conducted in connection with the Energy Intervention Data Order (excluding renewable generating stations), which only pointed to the closure of two stations with a combined maximum installed capacity of 113 MW over the 2006–2016 period. Hydro

### → Forecast generating capacity in Austria in 2016

Chart 65



Total capacity identified by survey: 26,810 MW

Source: E-Control

power is subject to uncertainties due to the Water Framework Directive (2000/60/EC).

To sum up, it can currently be assumed that 7,628 MW of additional capacity, including planned and forecast expansions minus planned closures and mothballing, will be available in 2016, bringing total installed capacity in Austria to 26,810 MW (see Chart 65).<sup>68</sup>

As Austria is part of the UCTE system, focusing exclusively on domestic capacity is insufficient when assessing security of supply in the country. Generating capacity in the other UTCE countries<sup>69</sup> also has to be taken into account. The UCTE System Adequacy Forecast 2007–2020 indicates that electricity supply in the UTCE area is secure until 2010 as available capacity exceeds the safety margin assumed to be adequate by 23.3 GW under scenario A and by 30.4 GW under scenario B.

<sup>67</sup> Power stations that no longer cover their marginal costs are held as reserve capacity in the short term, and can be brought back into operation if required. Installed standby capacity in Austria currently totals 850 MW.

<sup>68</sup> With regard to the power station projects included in the forecast, it should be noted that the probability of all the projects identified being implemented was assumed to be 100%.

<sup>69</sup> Union for the Co-ordination of Transmission of Electricity (UCTE) System Adequacy Forecast 2007–2020, 2007 covering 23 European countries; [www.ucte.org](http://www.ucte.org).

### → Electricity networks

The interconnected high- (110 kV) and ultra-high-voltage (220/380 kV) networks, to which the large generating stations are linked, is the basis of the national grid. The functions of the 220/380 kV networks include supraregional electricity transmission, national 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.

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.

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 the planning environment.

The detailed description of the 116 current network development projects (as of June 2007) was organised by the Association of Austrian Electricity Companies (VEÖ). 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.

To sum up, the Austrian electricity grid exhibits high levels of available capacity, and is well integrated with the European interconnected system, but further expansion is needed within the country (e.g. the "Styria and Salzburg line"). The surveys also reveal that 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 the planned infrastructure projects (generating stations and transmission networks), security of supply will be assured during the period under review (up to 2016).



## → Legal basis

This report has been drawn up in accordance with the requirements of Directive 2003/55/EC. Another source of law that determines the scope of the report is Article 5 Directive 2004/67/EC.

## → Monitoring

The above legislation requires monitoring of the following issues:

- The supply/demand balance;
- The level of expected future demand and available supplies;
- Additional capacity being planned or under construction;
- The quality and level of network maintenance;
- Measures to cover peak demand and to deal with shortfalls of one or more suppliers;
- The competitive impact of the measures taken on all gas market players;

- The levels of storage capacity;
- The extent of long-term gas supply contracts;
- Regulatory frameworks designed to provide adequate incentives for new investment.

### The supply/demand balance on the national market

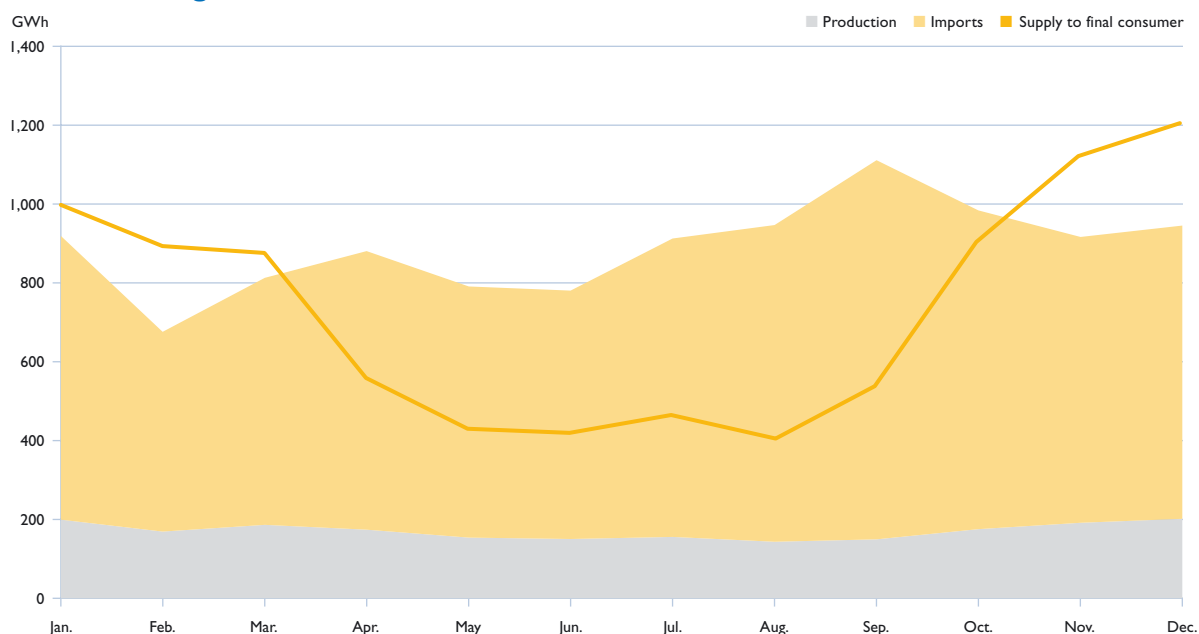
Gas supplies come from three sources: imports, storage and domestic production.

Production is mainly infed to the Eastern control area by Rohöl-Aufsuchungs AG (RAG) in Upper Austria and OMV Exploration & Production GmbH in Lower Austria, and accounts for around 19 % of total supply.

With the exception of maintenance related declines in the summer months, production is normally fairly constant.

## → E-Control gas balance, 2007

Chart 66



Source: E-Control

Around 81 % of supply comes from imports. Previously, relatively stable import levels were usually comparatively constant, except in summer when additional volumes were required to refill the storage facilities. This pattern has now given way to more variations throughout the year, though there is still a tendency for imports to fall in winter and rise in summer. The imports pass through the Baumgarten and Oberkappel entry points, with the former handling around 80 % of the total.

Reduced imports in winter are compensated for by additional withdrawals from storage. Exports of gas from storage are also on the increase.

Gas demand is mainly driven by outdoor temperatures and power station use, while industrial demand provides a relatively steady baseload. In principle, all consumers have equal priority,

but it is safe to assume that at peak times there would not be enough gas and transportation capacity to supply all customers simultaneously – especially when all the gas-fired power stations are operating at full load. As the supply options are limited, congestion management is performed by adjusting shipments to power stations.

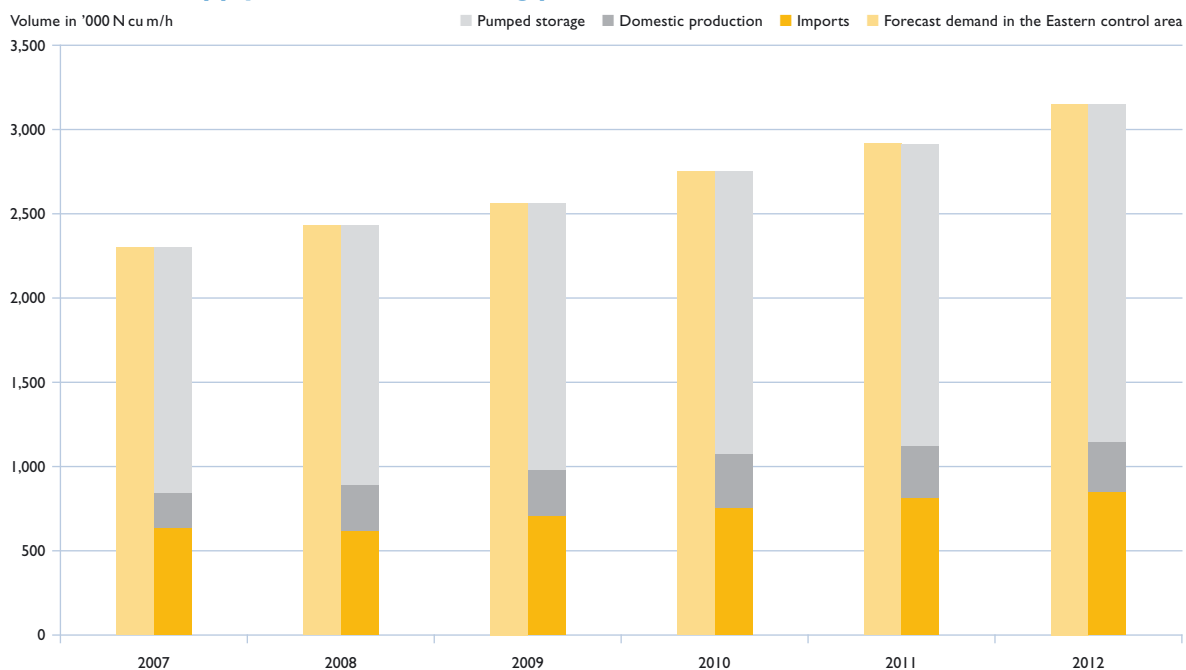
Supplies to domestic, medium-sized business and large industrial consumers are always sufficient, so all in all supply and demand are well balanced (see Chart 66).

#### The level of expected future demand and available supplies

Expected future demand is shown in Chart 67. The data is derived from a survey carried out in cooperation with distribution system operators. The estimates are based on demand forecasts

### → Forecast supply and demand during peak load hours

Chart 67



Source: AGGM

for small consumers, and on specific projects. The results of a survey of balancing-group representatives suggest that in the long run, supply will not be sufficient to meet demand growth. However, it can be taken that supply will be expanded as soon as the size of the shortfall has been determined. New suppliers or sources of supply may be called on, so network flexibility, especially regarding entry points, will need to be borne in mind when planning infrastructure developments.

#### Additional capacity being planned or under construction

The legal basis for the construction of infrastructure is a long-term plan aimed at:

- Coverage of the demand for transportation capacity to supply end-users, and preparedness for emergency scenarios;
- A high level of transportation capacity availability (adequate infrastructure to maintain security of supply);
- Coverage of transportation requirements for “other shipments”.

The same model was used to prepare the 2007 long-term plan as in previous years. However the Feasibility Study 07 and the Natural Gas (Amendment) Act 2006 led to both temporary and lasting changes in the planning process. Account was also taken of the procedural rules established by section 19a (2a) Natural Gas Act and the related market rules for the treatment of system access applications in the form of capacity expansion applications.

The forecast congestion in the Eastern control area can only be overcome if the projects listed in the long-term plan are implemented. Implementation of the findings of the Feasibility Study 07 depends on network customers which have notified capacity requirements providing the necessary contractual safeguards for network

development by signing capacity expansion agreements with the system operators concerned.

The parameter used as a basis for dimensioning network infrastructure is the maximum hourly load (average of maximum hourly sales volume in 2004, 2005 and 2006) of each grid area (WINTER/NB\_Max sales scenario). Future demand notified up to the start of 2007 was measured in the same way. Capacity growth will mainly be driven by the power generation sector.

The findings of the Feasibility Study 07 laid the groundwork for the selection of the projects incorporated in the 2007 long-term plan.

#### *Feasibility Study 07*

The Feasibility Study 07 was prepared between September 2006 and May 2007. It summarises the project development work and project outcomes from the perspective of the control area manager as the body responsible for long-term transmission network planning.

The main objective of the Feasibility Study 07 was:

- To determine the most efficient solution, capable of timely implementation, for meeting estimated capacity requirements in the Eastern control area, taking account of the growth in demand over time.

The option selected is intended to meet the following subgoals:

- Lower costs for the control area;
- Assured feasibility;
- Sufficient capacity expansion to meet demand;
- Opportunities for additional expansion in response to future demand growth.

On the basis of the final evaluation the project team recommended the implementation of the “V3 + West” option, as the best long-term solution to the current capacity bottlenecks

(Chart 68). Project execution is due to commence as soon as the network expansion contracts have been concluded.

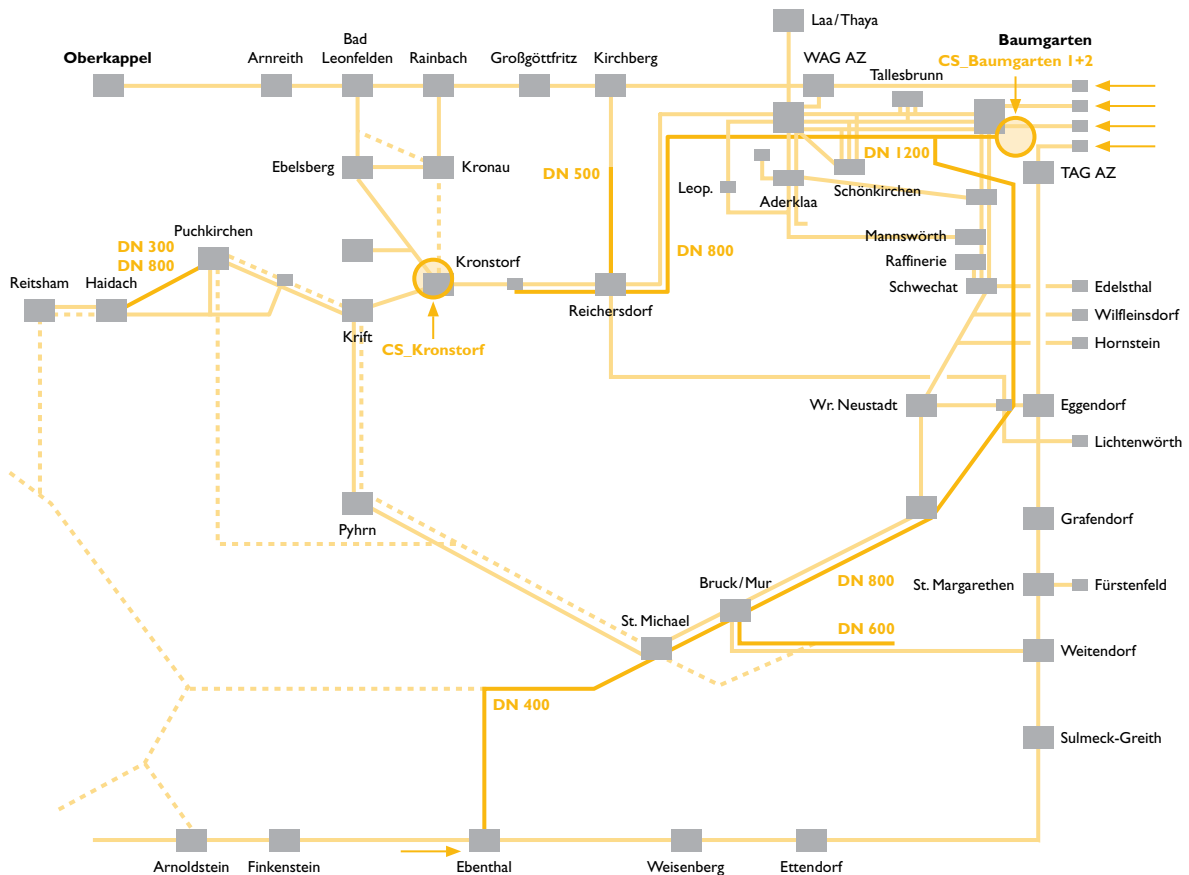
After a planning phase lasting several years, during which various options were investigated, expansion of the national grid is now assured following the conclusion of multilateral contracts. OMV Gas will be expanding capacity at the Baumgarten gas hub. In addition, EVN Netz GmbH is adding to the capacity of its pipeline systems running southwards and westwards, and Gasnetz Steiermark GmbH is expanding

the capacity of the line that travels southwards from the Semmering mountain.

Under the supervision of Austrian Gas Grid Management AG (AGGM), the supraregional system manager, a number of options were planned and evaluated in conjunction with the market participants concerned. After submission of the long-term plan by AGGM and approval of the development schemes by the regulator, intensive negotiations were held to determine the parties' contractual rights and obligations; the resulting contract is already in effect.

#### → "V3 + West" option

Chart 68



Source: AGGM/NK-K/2007



### *West-Austria Gasleitung (WAG) expansion open season*

The WAG connects Baumgarten an der March on the Austrian-Slovak border with the Oberkappel hub on Austria's border with Germany. The WAG has two compressor stations, at Rainbach and Baumgarten. The former can operate bidirectionally. The 245 km pipeline has a rated capacity of up to 0.8 m N cu m/h.

The pipeline's operator, Baumgarten-Oberkappel Gasleitungsgesellschaft mbH (BOG) undertook an initial capacity expansion in 2006–2007, commissioning new compressor stations in Rainbach and Kirchberg. The company is currently increasing capacity further by building two partial loops.

In order to maintain adequate supply via this transit system, BOG has now launched a new decision-making process which will determine whether another expansion is required.

The additional transport capacity required by the market was determined by means of an open season in June 2008. BOG will examine potential demand before reaching a conclusion on the economic logic and feasibility of any future expansion of the WAG. If it comes down in favour of the plan, the process will be continued and another development project will be carried out, resulting in a sizeable increase in capacity.

### *Additional capacity under construction*

→ WAG Kirchberg metering station expansion: The Kirchberg interconnection station, which serves as a link to the EVN system and also supplies the Theiss power station, is ready to start up following installation of the necessary control and measurement equipment. OMV Gas GmbH and EVN Netz GmbH are still to conclude a corresponding network interconnection agreement.

- In June 2007 OMV Gas GmbH participated in the auction of short-term capacity on the Trans-Austria-Gasleitung (TAG) for the Eastern control area. The company purchased 30,000 N cu m/h of capacity for the Weitendorf compressor station. OMV Gas pulled out of the auction of capacity for Arnoldstein because the price had reached an unacceptable level. It therefore purchased 6,500 N cu m/h of capacity to supply Carinthia during the winter of 2007/08, pursuant to section 12g Natural Gas Act.
- Additional capacity on the WAG, for use by the Eastern control area between Oberkappel and Kirchberg, was purchased to meet demand.

The level of network maintenance is surveyed by a study commissioned and published by E-Control which sets out the general minimum requirements for safe and reliable gas network operation under the applicable legislation and technical rules in Austria.

The general minimum requirements for safe and reliable gas network operation are derived from the relevant rules of good technical practice. Under the Natural Gas Act, conformity with good technical practice is presumed if construction, expansion, modification, operation and maintenance comply with the ÖVGW (Austrian Association for the Gas and Water Industry) regulations and the Ö-Norm (Austrian Standards Institute) standards.

The survey of the general minimum requirements for safe and reliable gas network operation takes a novel approach in that it considers not just the design requirements for gas pipeline systems but also the operational and organisational measures that system operators should take. The design standards concern the technical safety and reliability of pipelines, whereas the operational and organisational measures extend

to the safe and reliable distribution of natural gas to consumers.

The study also summarises the quality and quality assurance standards governing the planning, construction, expansion, modification, maintenance and operation of gas pipelines.

Gas system operators can obtain certification under ÖVGW quality audit standard PV 200 which establishes requirements for the competence and organisation of gas system operators' technical departments. To qualify for certification, gas system operators must have sufficient human, technical and financial resources to plan, construct, operate and maintain gas pipeline systems and related operating equipment. ÖVGW PV 200 certification ensures that the tasks and activities entailed by gas network operation – which include network maintenance – are carried out in accordance with the statutory and subordinate regulations, the accident prevention regulations and the generally accepted rules of good technical practice, especially the ÖVGW technical standards.

To date half of the 20 Austrian gas distribution system operators have successfully completed the ÖVGW certification procedure.

The Natural Gas (Amendment) Act 2006 creates the legal basis for the setting of safety, reliability and quality standards for services rendered to system users and other market participants by gas distribution system operators under their general terms and conditions.

The general terms and conditions of distribution system operation approved by the E-Control Commission establish the following quality standards which distribution system operators must conform to when providing network services:

- a) Compliance with the specified turnaround times for responses to applications for system admission and access, and requests for cost estimates;
- b) Compliance with the specified turnaround times for the reconnection of inactive supplies;
- c) Compliance with the specified turnaround time for final settlement after contract termination;
- d) Compliance with the specified turnaround time for the restoration of supplies after interruption due to payment default upon furnishing of proof of payment of the outstanding amount;
- e) Compliance with deadlines agreed with system users (time windows);
- f) Compliance with the specified notice periods for the notification of planned supply interruptions for operational reasons;
- g) Reasonable notice of meter readings;
- h) Immediate initiation of action to rectify faults and timely completion of work necessitated by malfunctions of the distribution system operator's pipeline systems;
- i) Immediate rectification of defects in the distribution system operator's gas pipeline systems;
- j) Appropriate action to publicise the nationwide gas emergency telephone number, 128.

Gas distribution system operators are obliged under the Natural Gas Act, and their general terms and conditions to provide E-Control with the data and indicators required to assess their compliance with these quality standards, and to publish the results of such assessments once a year. Alternatively, the general terms and conditions may provide for proof of compliance with the quality standards by means of recognised certification. In the latter case, the distribution system operator's duty of publication may devolve upon the certifying body if the latter assumes full responsibility for publication.<sup>70</sup>

<sup>70</sup> See [www.ovgw.at](http://www.ovgw.at)

E-Control will prepare its first report on the results of its network service quality survey for the 2007 calendar year in 2008.

The ÖVGW has responded to the inclusion of network service quality standards in the general terms and conditions of distribution system operation by extending the PV 200 quality audit standard to cover this aspect of quality in the certification process. The revised version of PV 200 is to enter into effect in June 2008.

#### Measures to cover peak demand and to deal with shortfalls of one or more suppliers

Due to the hourly schedule processing system in Austria every supplier is obliged to meet its end-users' hourly peak demand precisely. There is also a well functioning balancing system which is capable of correcting any imbalances – which are nevertheless possible – efficiently.

The routine balancing system is only capable of compensating for a small part of shortfalls caused by supplier outages, and in such cases there is provision for a range of congestion management measures, according to the extent and duration of under-supply.

Section 12g Natural Gas Act requires the control area manager to prepare and implement an action plan in consultation with the affected transmission system operators, transportation rights holders, balancing-group representatives, suppliers, balancing-group coordinators, and operators of storage facilities and production systems in the event of a short or medium-term supply shortfall.

AGCS Gas Clearing & Settlement AG has included supply security measures, presupposing a functioning balancing-group model and balancing market, in the market rules.

At present the following congestion management measures can be taken:

- Reopening of the balancing market is possible at any time during office hours.
- Since 2005 a storage operator, OMV Gas GmbH, has been offering a “Day-Ahead Rate” product which makes free capacity available to storage customers at times of congestion.
- In addition, the option of offering structured or unstructured blocks of hours on the balancing market by fax in the event of congestion has been created. This enables balancing energy from foreign storage facilities, as well as flexibility in Austria or abroad through consumer cut-offs, and possibly also linepack, to be offered on the balancing market.
- The control area manager is entitled to take the following action if normal system control and balancing-energy management methods are insufficient to maintain system stability:
  - a) Suspension of merit order balancing-energy call-off, and call-off according to the geographical location of injection points;
  - b) simultaneous call-off of balancing-energy injection offers and withdrawal bids.

#### Emergency intervention responsibilities

Provision is made for statutory intervention measures if it is not possible to overcome a supply shortfall by means of market-based measures. To permit ongoing assessment of the supply situation and plan emergency intervention measures, since 2007 E-Control has been carrying out comprehensive periodical data surveys; the data is processed by ourselves and the control area manager.

The Energy Intervention Powers Act 1982 gives E-Control a key role in the coordination of activities related to emergency intervention measures.

In 2007 our main priorities with regard to data collection were implementation of the Erdgas-Energielenkungsdaten-Verordnung 2006 (Natural Gas Intervention Data Order 2006) and of the related database, as well as the establishment of a reporting system.

The administrative duties centred on preparing an emergency response manual for the gas industry, formulating intervention measures and the related order, and creating mechanisms for the implementation of emergency measures in the event of a crisis.

The various activities were carried out in close cooperation with the control area managers. Separate mechanisms were developed for the Tyrol and Vorarlberg control areas, where conditions are different.

The emergency mechanisms and processes are coordinated with the Ministry of Economic Affairs and Labour on an ongoing basis.

#### The competitive impact of the measures taken on all gas-market players

In principle, it is safe to assume that the measures have been designed to be competition neutral. However this will have to be looked at as and when they are implemented.

Section 20d Energy Intervention Powers Act states that deliveries of available natural gas to final consumers are to be determined by the degree of urgency, substitutability by other energy forms and economic impact, while having regard to supplies for domestic heating. In particular, the Minister of Economic Affairs and Labour can order the temporary suspension or limitation of deliveries to final consumers without additional procedures.

If necessary, final consumers with contractually agreed consumption of over 100,000 kWh/h may be subjected to separate regulation by E-Control.

#### Levels of storage capacity (gas storage)

See section Storage market in the main report (as from page 81).

#### The extent of long-term gas supply contracts

Austria became the first West European country to conclude a Russian natural gas supply agreement in 1968. The Austrian party to the agreement was OMV AG (today OMV Gas GmbH and OMV Gas International GmbH). A total of five such agreements have since been made, and the annual volumes total about 7 bn cu m.

In addition, around 1 bn cu m are procured under long-term contracts with Norwegian gas producers. These contracts, for deliveries from the Troll field, were made with the Norwegian GFU (Gas Negotiation Committee) in the late 1970s. In 2002 the GFU was dissolved under pressure from the European Commission, and as a result the Norwegian producers, Statoil, Norsk Hydro, Shell and TFE independently negotiated agreements with OMV Gas. At the end of September 2006 OMV announced the renegotiation of its long-term gas import and domestic supply contracts. EconGas concluded direct contracts with Gazexport on the basis of a guarantee from OMV AG, removing a stage in its supply chain. EconGas is in a position to purchase gas directly from Gazexport because of the large quantities involved (in comparison with the non-EconGas provincial gas transmission companies) – an annual 5 bn cu m – and the fact that it is a subsidiary of OMV Gas. The latter has a longstanding relationship with Gazexport, which pursues its own strategic interests when selecting its business partners.

Steirische Gas-Wärme GmbH (STGW), Salzburg AG (EIS) and Kelag have concluded contracts with Gas- und Warenhandels-gesellschaft mbH (GWH) for the supply of Russian gas up to 2027. GWH – a joint venture between Gazprom (50%), Centrex (24.9 %) and OMV Gas (25.1 %) – has likewise signed a long-term supply contract with Gazexport, running until 2027. GWH sells this gas on to STGW, Salzburg AG (EIS) and Kelag.

At the same time as the import arrangements were reordered the contractual quantities of domestically produced gas were increased. EconGas, STGW, Salzburg AG and Kelag made long-term direct contracts with OMV Exploration and Production. The price escalation clauses in these contracts were brought into line with the new import contracts. OMV Gas has thus also ceased to be a party to the domestic gas supply contracts (see Chart 69).

#### *Wholesaling at the Baumgarten hub*

See section Development of short-term gas trading in the main report (page 77).

#### **The regulatory frameworks to provide adequate incentives for new investment**

Section 19a(2) Natural Gas Act creates an incentive to invest in transportation infrastructure by providing for network development contracts. These result in reciprocal obligations on the part of system users and operators in the interests of increased planning certainty for transmission pipelines and other investments (see Chart 35).

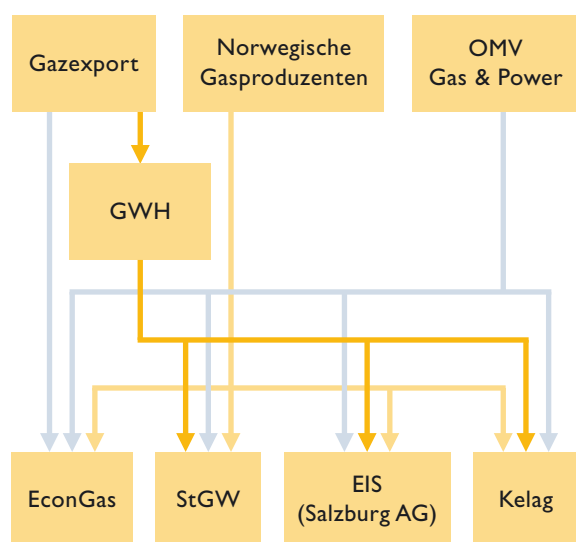
Investment security also depends on the approval of the projects concerned by the E-Control Commission as part of the long-term plan which section 12b Natural Gas Act requires the control area manager to compile.

This procedure assures system operators of regulated tariffs adequate to finance the investments, while system operators and end-users can rely on the implementation of planned projects.

The expenditure is taken into account on the basis of the planned commissioning of the assets, thereby ensuring that all the system operators concerned can invest and will receive an adequate return on the capital employed. Because of the exceptional importance of the projects set out in the long-term plan, the E-Control Commission has also decided to recognise reasonable additional operating costs that are clearly attributable to these schemes during the five-year regulation period. These financial arrangements give the system operators a sufficient incentive to conclude network development agreements with the control area manager. The regulatory framework thus promotes both long-term security of supply and cost-effective network development.

#### **→ Current gas supply structure**

Chart 69



Source: E-Control

The first scheme for which such network development agreements are in place is the “V3 + West” option in the 2007 feasibility study, necessitated by the implementation the Mellach power station project, which was approved as part of the 2007 long-term plan (see Chart 68).

Each of the subprojects named in the plan is being assigned to a system operator for implementation. During the second quarter of 2008 network development agreements were signed by system users and operators, opening the way for the “V3 + West” planning variant.

In the case of transit pipelines the incentive to invest consists in compensation for a reasonable level of risk and a reasonable return on capital in international terms. Baumgarten-Oberkappel Gasleitungsgesellschaft mbH, which markets the capacity of the WAG, is holding an open-season tender in June 2008. If demand is found to justify additional transmission capacity the tariff based on the approved calculation method will be applied. This shows that the tariff calculation method approved by the E-Control Commission encourages investment in additional capacity.

*TAG expansion scheme (TAG EXP 04 project, 26 May 2008)*

On 21 July 2008 TAG GmbH allocated 3.3 bn cu m/year of additional capacity at the Austro-Italian border exit point and 1.5 bn cu m/year at the Weitendorf exit point. The additional capacity, allocated for 20 years, will be created by the construction of a new compressor station near Weitendorf, Styria, which has recently commenced. Provision of the transportation services concerned is due to begin in the fourth quarter of 2009.

As a further means of promoting investment in major infrastructure projects (cross-border transmission pipelines and storage facilities), section 20a Natural Gas Act includes provisions exempting infrastructure or parts thereof from

regulation for a specified period. Section 20a Natural Gas Act transposes Article 22 Directive 2003/55/EC into national law.

#### *Nabucco pipeline*

On 9 April 2008 E-Control approved the application from Nabucco Gas Pipeline International GmbH for a uniform system access regime, making it the first of the five regulatory authorities concerned to take a decision on the matter.

The company was given a long-term guarantee of a stable regulatory framework for this new pipeline from eastern Turkey to Baumgarten in Austria, in order to ensure that it is able to raise the €8 bn required to finance the project.

Commissioning of the first phase of the project, scheduled for 2013, will link the large natural gas reserves in the Caspian, the Middle East and North Africa with European markets. The new pipeline, with an annual capacity rising to 30 bn cu m on completion, would pass through the territory of the five Nabucco partner countries – Turkey, Bulgaria, Romania, Hungary and Austria – on its way to the Baumgarten gas hub. The entire capacity of the pipeline is to be marketed by Vienna-based Nabucco Gas Pipeline International GmbH, in which Turkey's Botaş Petroleum Pipeline Corporation, Sofia-based Bulgarian pipeline operator Bulgargaz-Holding EAD, the Hungarian Oil and Gas Company (MOL Plc.), Romanian pipeline operator Transgaz S.A., and Austria's OMV Gas International GmbH (OGI) are equal partners.

Approval of the application was conditional on:

- A “one-stop shop” for system access from eastern Turkey through to Baumgarten, enabling shippers to carry gas across the five Nabucco countries under single contracts;
- An open-season tender for the capacity in order to ascertain actual capacity needs, and an undertaking to develop sufficient capacity to meet the notified requirements;

- An undertaking to offer at least 10 % of the capacity of the pipeline under short-term transportation contracts;
- Arrangements for the reallocation of unused capacity, and the creation of a trading platform for the secondary market;
- Approval of the general terms and conditions of transportation by the regulator;
- Revision of the tariff setting methods approved under the E-Control Commission notice 20 years after commissioning if rates are 10 % higher than those of comparable systems; and
- An undertaking from the management of Nabucco Gas Pipeline International GmbH not to be influenced by its owners' interests in its decision making.

#### *Impact on competition and security of supply*

The competition analysis performed by the regulatory authority yielded the conclusion that even if the supplier with the highest market share were able to use its capacity over the long term, it would be possible to take effective measures to increase market liquidity. These would be: the release of capacity, the offer of short-term capacity rights and an obligation to expand

capacity sufficiently to meet demand. Such actions would have a positive impact on competition in all markets along the supply chain.

Acquiring new supply sources is crucial to Europe's long-term gas supply security, as the focus of gas production and the remaining reserves will increasingly shift to regions outside the EU over the next few decades. Opening up new gas supply sources in the Caspian, the Middle East and North Africa by developing transportation infrastructure based on the Nabucco pipeline could thus be crucial to Europe's long-term security of supply. Access to a gas transit pipeline running through countries with a uniform legal framework, and the possibility of using Nabucco as an alternative transport route for deliveries made under existing supply contracts would increase security of supply in Europe, as well as creating a sound basis for financing the project and ensuring that it pays its way.

In order to harmonise its ruling with those of the other regulators along the route of the Nabucco pipeline, E-Control made its decision in close consultation with the regulatory authorities in Bulgaria, Hungary, Romania and Turkey.





The Energy Security of Supply Act 2006 introduced statutory measures that have significantly strengthened the rights of electricity and gas consumers.

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

The energy price payable for a kWh unit of electricity or gas must be stated on bills, in suppliers' general terms and conditions, and on contract forms.

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 consumers have enough time to look for a new supplier and are served at the previous prices until the transfer 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 service quality offered, as well as the expected time of the commencement of deliveries;
- 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, and 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.

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

Billing must be transparent: all invoices must contain the following information:

- 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 code;
- The grid level to which the customer installations are assigned;
- The agreed or acquired extent of system use, stated in kW (electricity) or kWh (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 domestic consumers receive a basic electricity supply. A noteworthy aspect of the Act is the fact that every electricity retailer or other supplier whose activities include supplying domestic consumers 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 charges must be established by implementing legislation at provincial level.

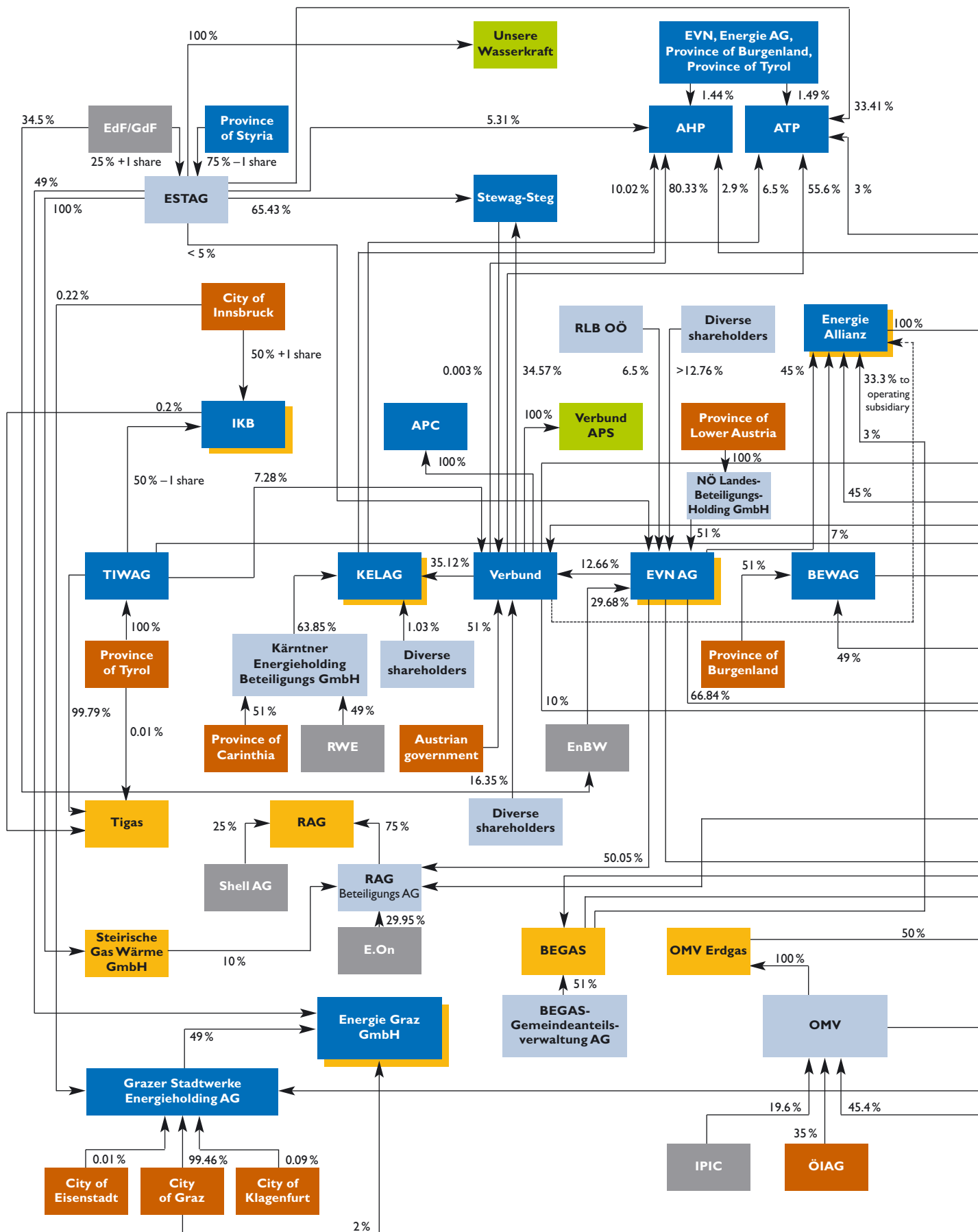
To date more than half of the provinces have implemented this provision of the Electricity Industry and Organisation Act. Some of the

subordinate legislation permits surcharges on the energy price as compensation for the “increased administrative workload” connected to these customers. However 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 suspend supplies if, for instance, the customer is in default of payment despite reminders.

Although the implementation period expired at the end of 2006, some provinces have yet to pass subordinate legislation.

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.

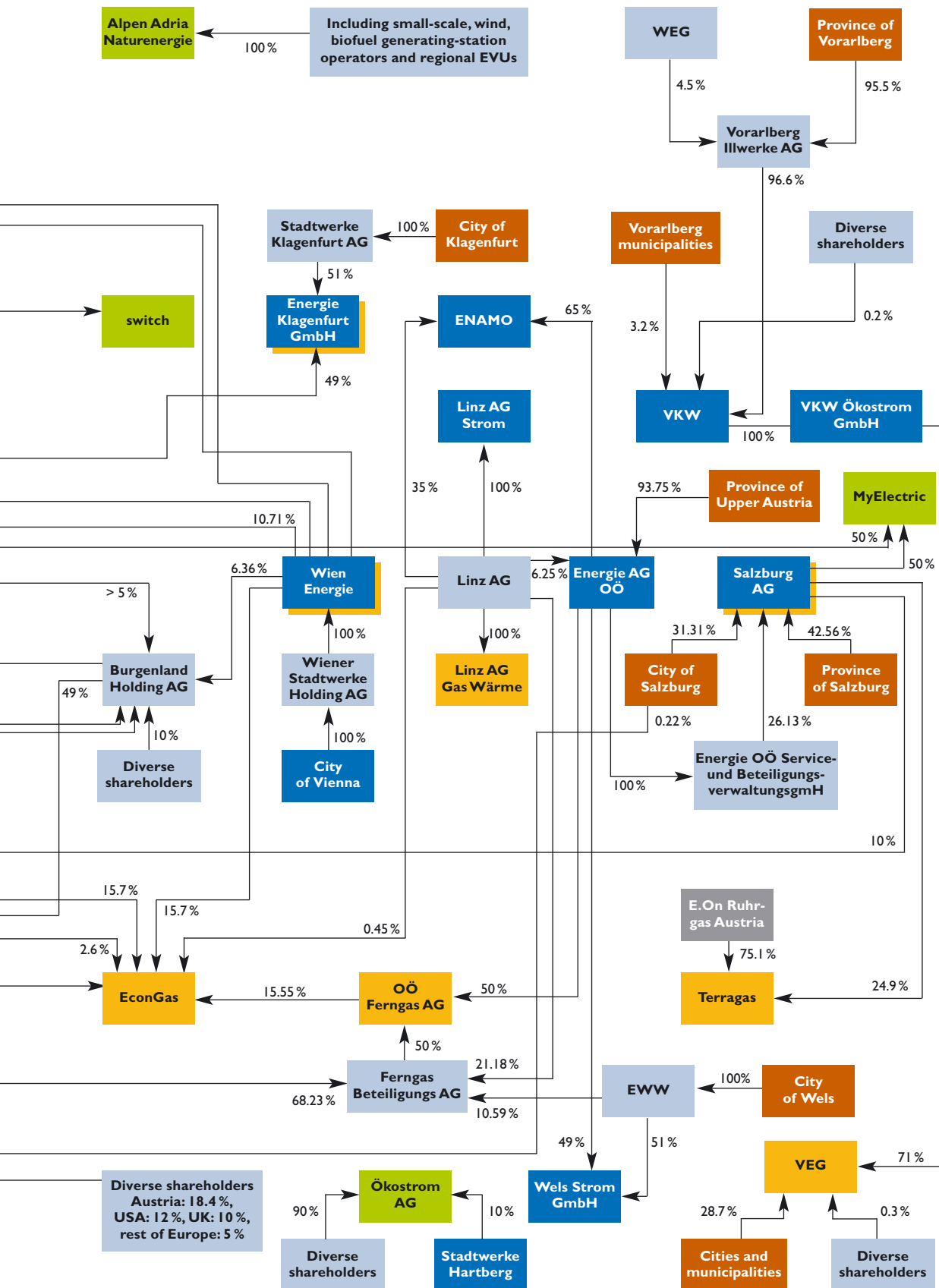
## → Ownership structures in the Austrian electricity and gas industries



Source: E-Control; Status June 2008

Chart 70

■ Operating companies/New suppliers ■ Public holdings ■ Austrian holdings ■ Foreign holdings ■ Electricity ■ Gas ■ Electricity & gas





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