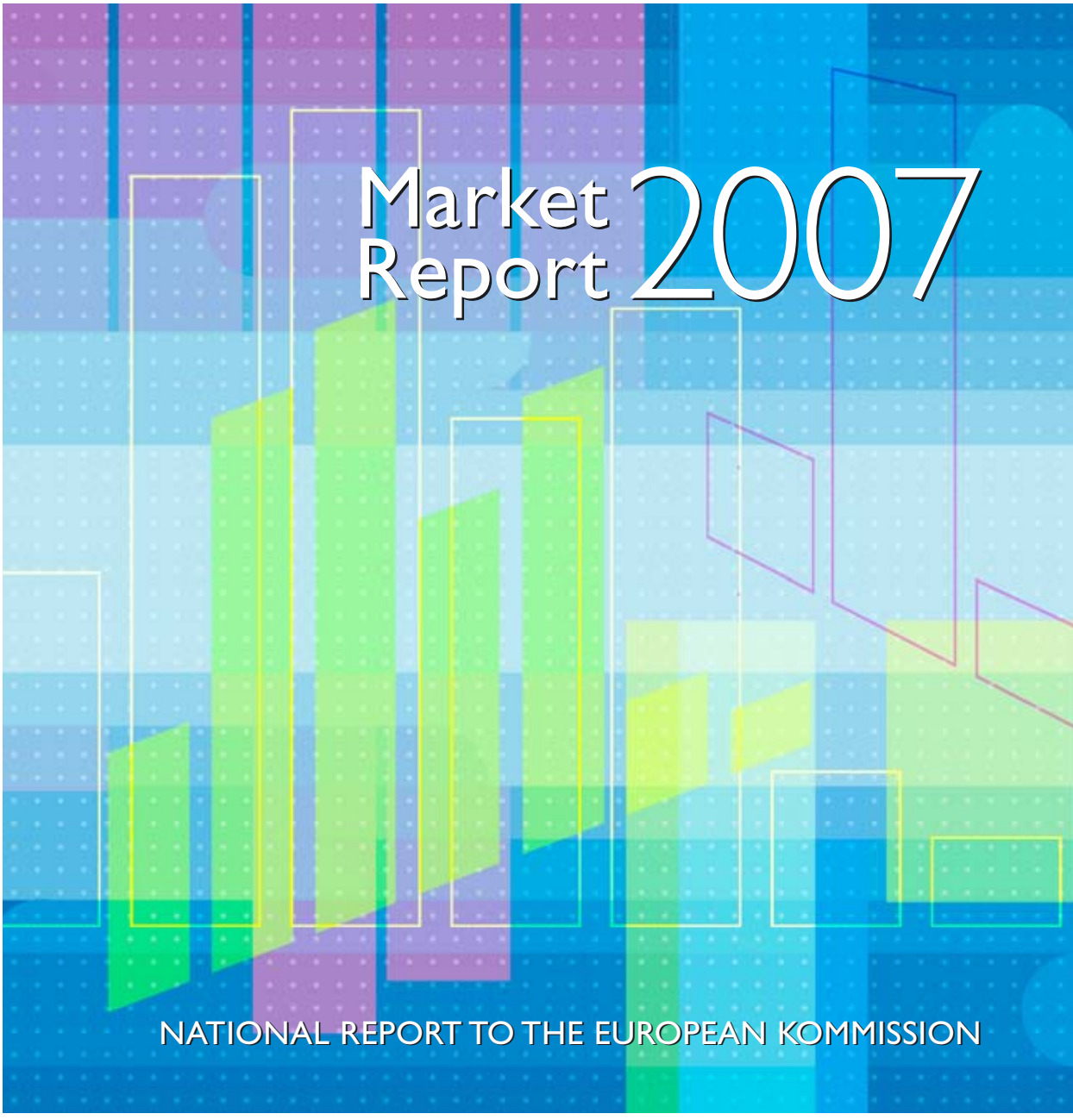
Market
Report 2007
NATIONAL REPORT TO THE EUROPEAN KOMMISSION

Contents

REGULATION AND PERFORMANCE OF THE NATURAL GAS MARKET

→ Editorial

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Executive summary 2007

→ Energie-Control Kommission

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 application to final customers 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 identifies an 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 that arise from 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 as of 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 cooperation between the competition authorities and the regulator.

→ Enforceability of decisions

Neither the E-Control Commission nor E-Control can enforce their decisions themselves. In principle, all the regulatory authorities' decisions 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 a complaint 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. The energy companies normally accept rulings that have been upheld by the appeal courts, and abide by them.

→ 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 from 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 arrangements in place. Nevertheless, E-Control believes that it would be expedient to give the regulators a formal role (e.g. a right to move for in-depth investigations in merger proceedings).

→ Major developments in the electricity market

Six years after liberalisation, the electricity market is still insufficiently transparent for small consumers. However the amended ElWOG (Electricity Industry and Organisation Act) and E-RBG (Energy Regulatory Authorities Act) have strengthened consumers' rights and increased transparency in some important areas. Amendments to the Electricity Industry and Organisation Act now require electricity companies to present prices, information and invoices in a transparent and consumer friendly fashion. Since 1 January 2007 suppliers have been obliged to submit their general terms and conditions to the regulatory authority, which can prohibit unethical or illegal clauses. This process has brought significant improvements for many electricity consumers. It remains to be seen whether, and if so to what extent this will give a much-needed stimulus to competition.

Despite the legal changes made with a view to improving transparency for consumers – particularly with regard to pricing – some suppliers are continuing to present their prices in an opaque fashion (e.g. only stating the energy price as an average rate over the settlement period).

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 also share part of the blame for consumers' continued inability to distinguish between the two functions (because of identical branding and company names, and joint corporate communications, among other factors).

Changes to the market rules have created a more competition friendly environment. For instance, the supplier transfer process has been shortened by two weeks, and steps have been taken to ensure that all suppliers are given equal treatment with regard to the metering data that they receive.

In the renewable electricity area, too, there have been modifications to the legal framework. During the year under review the support payment system was widened and its life extended with the aim of raising the supply contribution of "other" (subsidised) green power (excluding large hydro) to 10% by 2010. In place of consumption based contributions by all end-users, the settlement price for renewable electricity allocated to suppliers was sharply increased and a lump-sum metering point charge introduced. These changes significantly reduced price transparency, and have enabled the incumbents to use the increase in the settlement price as a blanket justification for price increases. If companies have been inflating amounts supposedly charged-on for renewable electricity settlement prices (these should be lower when the energy price is high, and vice versa), this be could be a sign that the incumbents are exploiting dominant positions.

Despite growing overall demand, the contribution of subsidised renewable energy sources (excluding large hydro) has expanded. However, because of the limited potential for expanding renewable generation in Austria in the long run energy saving will play an increasingly important role. Another reason for this is the fact that, as can already be seen, biomass and biogas feedstock prices are set to rise throughout Europe due to higher demand.

Public ownership of Austrian energy companies remains at high levels. Following their pull-out from EnergieAllianz in 2006, Energie AG and Linz AG merged their retail activities in the ENAMO joint venture with effect from 1 July 2007. There is still talk of more joint ventures and mergers in the offing (e.g. Energie Austria, moves by incumbents to join ENAMO, and increases in existing equity stakes), but no firm plans have yet been revealed. These link-ups would further reduce the number of market participants, increase market concentration and diminish the already

low level of competition. As key assumptions about future market development made during the Energie Austria merger proceeding have not been borne out by events, any new plans for a merger of the trading and retail operations of EnergieAllianz and Verbund should be reassessed in the light of current circumstances.

The energy companies' financial performance should be viewed against this backdrop. In 2006 they continued their recent run of revenue and earnings growth. The improvements were particularly marked in the electricity sector. Over the past few years the companies, most of which are integrated, have also expanded into other utility industries and abroad. The generators' windfall profits from allocations of free CO_2 allowances are also contributing to higher earnings. A look at selected suppliers' margins in the electricity sector (small consumer market) reveals a mixed picture. The margin can represent as much as 30% of the energy price in the domestic consumer segment.

The Austrian electricity companies have gone through the motions of unbundling, to the extent demanded by the vague and unambitious legal requirements. However, with one exception, the legally separate system operators are buying the right to use the assets required for network operation and the networks themselves, as well as virtually all their human resources, from related companies. As a result, there are wide-ranging service contracts between system operators and other business units. This means that most of the system costs consist of "other operating expenses" arising from the purchase of services from fellow group companies, leading to a considerable reduction in cost transparency. Certainly, such structures hold out little hope of attaining the independence of system operators demanded by EU law.

The energy prices charged to all customer segments rose sharply at the turn of the year. The reasons for this were higher wholesale prices and the increase in the settlement price for renewable electricity allocations. The suppliers are passing on the cost increases to consumers. At present consumers have no way of checking whether these "additional expenses" are justified. The legal consequences of overcharging for renewable electricity would be severe.

Since most of the incumbents increased their energy prices by more than the cheapest supplier the potential savings to be made by switching have grown. Despite the fact that an average domestic consumer could now save up to 16% by changing suppliers, the churn rates in the small consumer segment (domestic and small business consumers) remain low. While the switching rate for domestic consumers rose compared to the previous period (October 2004 to September 2005: 0.5%),the fact that it was still only 0.9% points to continued de facto foreclosure of the mass market and the existence of significant switching barriers.

→ Major developments in the gas market

Changes in the legal framework through the amendment of the Gaswirtschaftgesetz (Natural Gas Act) by the Energie-Versorgungssicherheitsgesetz 2006 (Energy Security of Supply Act 2006) resulted in improvements in access to transit systems, and – as in the electricity sector – stronger consumer protection.

There was a changeover from negotiated to regulated third-party network access for cross-border natural gas shipments (transits) due to EU legislation. The general terms and conditions of cross-border transportation, and methods for calculating use of system charges now require the approval of the E-Control Commission. A market rules review process led to the introduction of: regulatory approval of gas transit general terms and conditions; network access on a "one-stop shop" basis; a central trading platform for secondary capacity operated by OMV Gas, and an obligation on the part of shippers to trade unused capacity on it; and regulatory approval of the methodology for calculating cost based transportation charges for cross-border shipments. The operators of transit systems failed to comply in full with the transparency requirements imposed by Regulation (EC) No 1775/2005. There are also major shortcomings in the capacity allocation method hitherto used for the TAG system. Moreover, the demand for capacity far exceeds supply, and the owners, ENI and OMV Gas, have not taken sufficient action to expand the system to meet demand.

The introduction of statutory requirements for suppliers to submit their terms and conditions to the E-Control Commission, and to itemise their energy prices is aimed at making it easier for consumers to benefit from the opportunities offered by the liberalised gas market. Prices, information and bills must now be presented in a transparent and consumer friendly manner. The switching process has also been improved and shortened by revisions to the market rules. However some suppliers' compliance with the legal requirements has been unsatisfactory. The inadequate unbundling of the integrated companies continues to make it hard for consumers to differentiate between the functions of system operators and suppliers, and the resultant uncertainty reduces their willingness to switch.

OMV Gas ceased to be a party to the Russian gas import contracts when they were renegotiated in September 2006. It was replaced by EconGas and Gas- und Warenhandelsgesellschaft mbH (GWH), which extended the contracts with Gazexport until 2027. The former provincial gas transmission companies that are not EconGas shareholders receive supply contracts with GWH, in which OMV Gas still has a minority interest (25.1%)[1]. OMV Gas will also withdraw from the contracts with Norwegian and domestic gas producers. These developments are bringing structural changes in the wholesale market. The large distributors have entered the European wholesale market as buyers, and EconGas has now become a first-level wholesaler in place of OMV Gas.

There has been a considerable increase in liquidity and the number of active traders on the Central European Gas Hub (CEGH) market. This positive trend reflects the improvements in the legal framework for third party access to transit systems, as well as the progress towards market integration being made by the ERGEG Gas Regional Initiative South-South East Regional Energy Market. Integration with other national markets and the implementation of projects aimed at access to new supply sources will also be crucial to the continued growth of the wholesale market. If the CEGH is to fulfil a key function of a market – that of a price barometer – the transparency of the products traded on it and their prices will need to be improved.

1 See www.centrex.com.

The amendments to the Natural Gas Act have imposed additional disclosure duties on the storage companies in the interests of market transparency. The storage market is changing rapidly. The number of storage customers has risen sharply since liberalisation in 2002, and the range of products has grown. Apart from seasonal storage products, short-term flexibility and structured products are now being offered, and are in demand. The two storage operators, OMV Gas and RAG, plan to expand their facilities, as there is no longer any free capacity owing to increased demand (e. g. from transit customers and traders on the CEGH).

There are high levels of market concentration at all stages of the supply chain. As with the electricity market – which is largely populated by the same companies – competition is being stifled by high concentration and widespread cross-holdings, intransparent market information and the loopholes for system operators to discriminate in favour of affiliated retailers.

Most gas suppliers increased their prices at the start of the heating season, in September 2006, blaming constantly rising import prices. However import prices fell in autumn 2006, and some suppliers passed on the reductions to domestic and business customers in mid-2007. The 2005/2006 gas year saw a fall in the switching rate for domestic consumers (number of customers changing suppliers) as compared to the previous period, despite the savings to be made. However supplier transfers by demand metered consumers increased slightly.

→ The regulator's powers

E-Control is responsible for the oversight of unbundling in the natural gas sector. Its oversight powers encompass all aspects of unbundling (legal, organisational and accounting). In the electricity sector, E-Control's mandate in this area is limited to accounting unbundling, and other responsibilities lie with the provincial governments in their capacity as the licensing authorities for electricity system operators.

The regulator has no means of taking action against companies that fail to comply with the legal unbundling requirements. However it can report them to the competent administrative enforcement authority which is then obliged to institute proceedings against the companies concerned. E-Control attempts to create and strengthen an awareness among energy companies of the importance of this issue – particularly through its annual unbundling reports.

Similarly, the regulator has no means of sanctioning companies that violate the legal price indication and information regulations. Here, too, it would be necessary to report the matter to the competent administrative enforcement authority. It is conceivable that in future breaches of the consumer side price indication regulations will be dealt with by means of prohibitory injunctions under the Unfair Competition Act. Draft legislation transposing Directive 2005/29/EC on Unfair Commercial Practices provides for cease and desist orders against persons employing any unfair business practice that is contrary to the requirements of professional diligence, and materially distorts or is likely to materially distort the economic behaviour with regard to the product of the average consumer whom it reaches or to whom it is addressed. The Federal Competition Authority, for example, is entitled to apply for such orders.

Improvements and changes in the legal framework are frequently made by means of adjustments to the market rules. For instance, the supplier transfer process was recently shortened, and action was taken in the electricity sector to ensure that system operators provide all market participants with the same consumption data. In order to promote smart metering E-Control is holding talks with market participants and studying the use of innovative metering systems in Austria (cost-benefit analyses) to provide information as a basis for further action.

E-Control is also entitled to make submissions to the Federal Competition Authority in proceedings relating to the energy sectors. E-Control advises and assists the Federal Competition Authority at its request. For example, the regulator carried out the general investigations into the Austrian electricity and gas industries in conjunction with the Authority.

E-Control takes a wide range of measures aimed at educating consumers, providing them with quick, clear, individualised price information, and keeping market participants up to date with current developments on the electricity and gas markets.

A tariff calculator on the E-Control website enables to domestic, and small and medium-sized business consumers to make price comparisons. All that is needed is to input one's postcode and annual consumption. Consumers who do not opt for online calculations can obtain this information via the E-Control hotline. The tariff calculator also provides details such as contract durations, termination notice periods and power labelling, as well as information documents for suppliers. In addition, there is an efficiency calculator that helps consumers work out how to make energy savings in the home. The E-Control website also gives information on the efficient use of electrical appliances, lighting and heating.

Apart from providing consumers with electronic information, brochures and information materials, E-Control joins forces with interest groups (the chambers of labour and economics) to stage consumer information events and advice days. The regulator also meets consumers' increased information needs by attending trade shows.

At international level, E-Control collaborates closely with other European regulators. These efforts are aimed at harmonising national legal frameworks (through the Regional Initiatives), permanently strengthening competition (e.g. by drawing up a Consumer Protection Best Practice Proposition) and extending the geographic markets (e.g. cross-border trade, and the allocation of cross-border transmission capacity).

→ Major issues in the electricity and gas markets

The Austrian electricity and gas markets continue to be characterised by high levels of concentration, by opportunities for discrimination against non-integrated companies due in part to inadequate unbundling, by low competitive intensity, and by low churn rates despite high potential savings from switching, especially for small consumers. The major issues currently facing the Austrian electricity and gas markets are summarised below.

→ Unbundling

The Austrian unbundling rules (the framework legislation and the provinces' implementing legislation) only meet the absolute minimum requirements of the EU directive. The directive's goal of creating independent system operators that are prepared to take objective decisions even when these are against the interests of their shareholders has not been attained. As a result, with the exception of one unbundled company, system operators are buying the right to use the assets required for network operation by way of leasehold and/or operating agreements. Their human resources are restricted to those needed for management and other strategic tasks. Due to the lump-rum purchasing of a large number of services and of rights of use, there are a range of service contracts between the network subsidiaries of integrated companies and the parents. These have hitherto only been awarded to fellow group companies, and it is unlikely that any tenders have been invited from third parties. Due to the service contracts between business units, most of the system operators' costs are reported as "other operating expenses" – the largest cost item in their accounts – without explanatory notes. This significantly detracts from the system operators' cost transparency.

As the system operation subsidiaries of the integrated companies have no separate brand identity (same name, in some cases the same staff members, and joint corporate communications), they are not differentiated from the other areas of activities in which the groups compete in the marketplace. Companies with common branding and marketing activities make it still harder for consumers to distinguish between the functions of system operators and retailers (e.g. regarding responsibility for security of supply). Since consumers are in any case ill informed, these practices add to their confusion. The more nervous consumers are about transferring, the less willing they will be to switch, and the higher the switching costs will be that another supplier must compensate for by charging lower electricity or gas prices. The need to offset switching costs by offering lower energy prices reduces the margins of the alternative suppliers, and thus the attractiveness of entering retail markets.

In addition, the retail subsidiaries of integrated companies (and balancing groups managed by the latter) have information from the affiliated system operators on the current load conditions on the network, the load flows at system interconnection points and injection. The withholding of this information from other suppliers and balancing group representatives is clearly discriminatory, and exposes non-integrated suppliers to greater imbalance risk. The retail subsidiaries of integrated companies also receive preferential treatment in that the system operators do not pass on information on such matters as new customer connections to all suppliers at the same time.

To close the loopholes for discrimination presented by the transmission of customer data by system operators to non-integrated suppliers, it would be necessary to introduce a central customer database (metering point database). Apart from resulting in data format standardisation, this would have the advantage of enabling every supplier to view the customer data at all times.

The electricity and gas companies have fulfilled the legal unbundling requirements under Austrian law, but these are couched in very general terms. The form taken by implementation (e.g. employees' dual roles) is not explicitly prohibited by the current legislation, but is unsatisfactory a regards impartial treatment of all market participants. The goal of the unbundling provisions in the EU directive – namely the creation of independent system operators that are neutral in their choice of suppliers – has not been met in Austria.

Tighter unbundling rules are essential if transparent, non-discriminatory competition between integrated companies' subsidiaries and independents is to become possible. It will also be necessary to create means of enforcing the legal requirements. A study[2] by VaasaEmg and Peace Software shows that switching rates are highest and competition strongest in countries where the ownership of distribution networks has been separated from that of retail businesses. The non-discriminatory provision of all customer information relevant to switching (e.g. on new connections) is thus crucial to creating a level playing field for all market participants. In the balancing market, thought could be given to a changeover to a different balancing group model (division into supplier and generator/producer balancing groups) as a means of achieving this.

→ Market transparency

Not only is the supply side of the market intransparent (e.g. due to asymmetrical information), but there is also little transparency for consumers. This applies to suppliers' failure to show pricing details on their bills, in their advertising materials and on their websites, or if such information is given, to present it in a transparent and consumer friendly fashion. Many of the incumbents are not complying fully with the legal requirement to present their energy prices in a transparent, consumer-friendly manner, and to express them in cent/kWh. For instance, some state their energy prices as average prices over the settlement period, irrespective of price changes during it. In addition, the integrated companies do little to help consumers distinguish between their system operation and retail subsidiaries (e.g. same company name and branding, and common corporate communications).

The opaque presentation of prices and blurring of the boundaries between the functions of the system operator and the supplier mean that making price comparisons and collecting information calls for a considerable effort from consumers. The suppliers' marketing activities add to consumers' uncertainty, and thus actively contribute towards increasing switching costs. Given the potential savings available to an average domestic or small business consumer (in some cases up to 16 % of total costs) and the low churn rates of both consumer groups (switching rate of 0.9 % for domestic consumers between October 2005 and September 2006), it is safe to assume that there are considerable obstacles to switching, and hence high switching costs.

The alteration of the renewable electricity support regime (settlement price and flat metering point charge) to comply with the requirements imposed by DG Comp has also reduced price transparency. Consumers have no way of knowing how suppliers charge on the renewable electricity allocated to suppliers at fixed settlement prices.

To sum up, there is a need for tougher information disclosure rules, sanctions for non-compliance, and a clearer dividing line between the functions of system operators and suppliers (inter alia, through stricter and more specific unbundling rules).

2 Philip Lewis, Is AMR a "switch pill"? in Metering International Issue Edition 2, 2006.

The introduction of smart metering could contribute to increased price transparency and greater energy awareness on the part of consumers. Rapid information on prices, consumption and load profiles would make consumers more conscious of their demand behaviour and of the possibilities of liberalised energy markets, and give a demand side stimulus to competition. On the supply side, smart metering offers the possibility of variable charges, as well as new pricing schemes and services (similarly to the mobile telephony industry). The creation of a central customer database would facilitate rapid handling of the billing process, and direct access to consumption data, permitting monthly billing on the basis of actual energy use.

→ Market concentration

With the exception of the wholesale electricity market, all the relevant electricity and gas product markets are highly concentrated. Another round of mergers and joint ventures are already under discussion, and would further increase concentration. To date, the mergers have largely been confined to companies' retail businesses, though some also extend to their wholesale activities. The remaining business units (system operation and generation) are unaffected. The synergies to be reaped by merging retail companies are naturally limited if they continue to operate independently on the small consumer market. Instead, the result of this form of merger is that the retail subsidiaries cease to compete in each other's territories.

It is not possible to ascertain whether the level of the renewable electricity settlement price charged on to consumers affects profit or loss. Excessive charges to end users for the subsidised renewable energy allocated to suppliers and high margins (gross margins of up to 30 %) may be indicative of the exploitation of dominant positions by incumbents.

Foreign energy groups often criticise the high level of public ownership of Austrian electricity and gas companies, which leads to market and competitive behaviour that is not always motivated by commercial considerations.

The Austrian companies' strong market positions, the high levels of market concentration, and the opportunities for integrated companies to discriminate against other suppliers create barriers to entry to the relevant markets. These could at the least be reduced by more effective unbundling and integration with other national markets. Integrating national markets by means of regional legal harmonisation and cross-border cooperation between regulators (e. g. through the ERGEG Regional Initiatives) can permanently strengthen competition, even on the retail markets. However integrating the wholesale markets alone will not be sufficient to intensify competition on retail markets. This is shown by the example of Germany and Austria. There is still a considerable difference between retail prices in the two countries despite identical wholesale prices.


Major
developments in 2006

→ Developments at European level

In 2006 the key issue at European level was again advancing market integration and opening the way for structural measures at member state level.

At the start of 2007 proposals were made by ERGEG for increasing market integration and security of supply, harmonised cross-border market rules were drawn up, and coordinated regulatory decisions were made. A key element was improved coordination of the activities of transmission system operators.

Thought is being given to separating ownership of the electricity and gas transmission networks from the parts of the supply chain that are exposed to competition (ownership unbundling). This proposal is endorsed by the European Parliament. The debate centres on:

- → The unbundling of electricity and gas undertakings;
- → The legal and regulatory framework;
- → Network regulation (ERGEGPlus);
- → The roles of GIE and ETSO ("GIEplus" and "ETSOplus");
- → The role of national regulators; and
- → Transparency.

There are also plans to tighten up the unbundling rules for distribution networks, so as to remove loopholes for discrimination against non-integrated suppliers. It is believed that more detailed regulations coupled with effective oversight can strengthen competition.

Particularly for a small country like Austria, market integration is extremely important, as it is the only way of creating a market of sufficient size to sustain competition for all customer groups. E-Control therefore supports the European Commission's plans for structural and organisational measures at European level in pursuit of these objectives.

→ Electricity Regional Initiative

European regulators have set out to work towards a single European market via the interim step of establishing regional markets on the basis of consensus with all the stakeholding companies and organisations. To this end, ERGEG unveiled the Electricity Regional Initiative (ERI) in February 2006. The ERI is a Europe-wide process aimed at the systematic development of regional markets. The main objective of the ERI task forces is to identify and implement practical solutions. The starting point of the process was the definition of seven regional energy markets (Chart 1) for the ERI.

Austria forms part of the Central Eastern Europe and Central Southern Europe REMs. The first step for the REMs was to identify barriers to further market integration. Work in the current phase is primarily concerned with wholesale markets. The Central-East (CEE) REM is currently giving priority to cross-border congestion management and market transparency in an effort to promote cross-border trade and increase the geographical size of the markets, most of which are still confined within national borders. These issues mirror the shortcomings identified by the European Commission (DG Competition) in its 2006 Energy Sector Enquiry. Austria has observer status in the Central-West REM.

In the CEE and Central-South (CSE) regions, the target is the introduction of coordinated load flow based capacity calculations and explicit (capacity only) and subsequently implicit (capacity plus energy) auctions, as a means of harmonised, integrated solutions to the problems of capacity allocation and congestion management. In the CEE region, the participating transmission system operators are currently in the process of developing a regionally coordinated, load flow based capacity calculation model. The aim here is to

→ Regional energy markets (REMs)

Chart 1

Sources: ERGEG and E-Control

maximise capacity and ensure reliable network operation. The participating transmission system operators are also working to establish a Munich based joint auction office (in the form of an independent company) to carry out capacity calculations and allocation.

In terms of market transparency, efforts are being directed towards meeting the disclosure requirements of the EGREG Guidelines of Good Practice on Information Management and Transparency(GGP-IMT)[3].

Other priorities in the CEE region are market entry barriers and regulators' powers. An evaluation of the impact of barriers to entry, and means of removing them, is currently under way. Looking ahead to 2008, the CEE region has adopted two further priorities for regional market integration:

1. Regional harmonisation of relevant aspects of market design; and
2. Joint development, and phased adaptation and integration of balancing markets.

3 See www.ergeg.org.

→ Gas Regional Initiative

The Gas Regional Initiative (GRI) was launched on 25 April 2006 with the aim of establishing regional markets as a stepping stone towards the creation of a single gas market. Three gas regional energy markets (REMs) were established:

- → The North-West REM,
- → The South REM; and
- → The South-South East REM.

The GRI has already achieved the following results:

- → Assessment of compliance with Regulation (EC) No 1775/2005 within the region (completed in March 2007);
- → An assessment of transport route viability;
- → Study of the feasibility of integrating the regional gas systems: one-stop shop and regional tarification (regional entry-exit tariff system) (completed in March 2007);
- → The role of hubs as balancing markets (completed in March 2007).

The main objective of the SSE REM's current activities is to progress from developing theoretical principles and collecting information to delivering palpable results. At the request of the European Commission, when establishing the priorities for activities in the REM particular importance was attached to the coherence and convergence of developments across the three regions.

Consequently. the following six priority issues are to be addressed in the SSE Region in 2007:

- → Identification of best practices for the introduction of a standardised bulletin board, i. e. a standardised information platform designed to increase transparency;
- → Identification of planned infrastructure projects and potential investment needs in the region;
- → Removal of trade barriers, in particular at interconnectors (technical and legal barriers), including interconnector point agreements (IPAs) and operational balancing agreements (OBAs);
- → Introduction of a one-stop shop to promote market integration and simplify gas shipments across the region;
- → Introduction of a regional entry-exit tariff system in order to simplify gas shipments across the region;
- → Further development of gas hubs as regional balancing points.

Austria will be affected in that transmission system operators will be asked to take part in the development of concepts for, and implementation of a one-stop shop (OSS), a bulletin board, IPAs and OBAs.

→ Membership of the South-South East REM

Chart 2

Source: ERGEG

→ Energy Security of Supply Act 2006

The Energie-Versorgungssicherheitsgesetz 2006 ([E-VG] Energy Security of Supply Act 2006) amended the Elektrizitätswirtschafts- und -organisationsgesetz ([ElWOG] Electricity Industry and Organisation Act), the Energie-Regulierungsbehördengesetz ([E-RBG] Energy Regulatory Authorities Act) and the Gaswirtschaftsgesetz ([GWG] Natural Gas Act), among other legislation. The provisions entered into force on 28 June 2006 and 1 January 2007. Some amendments were enacted as enabling legislation due to the constitutional division of powers, and require the passage of implementing regulations by the provinces to become binding on market participants. The provinces have largely failed to implement these provisions. The main amendments are discussed below.

Stronger consumer protection

The Act contains a number of measures designed to strengthen the rights of electricity and gas consumers:

- General terms and conditions for the supply for electricity and natural gas must be reported to the regulatory authority before they come into force. The regulator may prohibit unethical or illegal provisions.
- Electricity and gas bills, and information and advertising materials must be informative and easy for consumers to understand. The Electricity Industry and Organisation Act and Natural Gas Act contain requirements to this effect.
- In order to facilitate price comparisons the net energy price payable for a kWh of electricity or gas must be stated on bills, and in the general terms and conditions, and contract forms.
- Domestic consumers must be assigned a supplier of last resort responsible for providing them with a basic electricity supply.

Improved security of supply

While the long-term planning by control area managers already introduced by the Natural Gas Act is placed on an improved information basis, the amended Electricity Industry and Organisation Act introduces this kind of planning for the electricity sector. Better planning information for power line construction will make an important contribution to enhancing supply security.

The Natural Gas Act also contains measures for overcoming short and medium-term capacity bottlenecks, and the Electricity Industry and Organisation Act places congestion management on a new legal footing.

Cross-border electricity exchanges

Regulation (EC) No 1228/2003 of the European Parliament and of the Council of 26 June 2003 on conditions for access to the network for cross-border exchanges in electricity (Electricity Trade Regulation) entered into effect on 1 July 2004, and is directly applicable. As Community law cannot determine the competence of national authorities, this still requires arrangements at national level. These have now been made by the Electricity Industry and Organisation, and Energy Regulatory Authorities Acts.

E-Control is responsible for monitoring compliance with the Electricity Trade Regulation and the guidelines adopted on the basis thereof, and the E-Control Commission for decisions on applications for exemptions from regulated access to new interconnectors. The provinces must set appropriate penalties for infringements of the Regulation and guidelines. Here, too, they have to a large extent failed to transpose the legislation.

Cross-border natural gas trade

Cross-border gas shipments (transits) were previously not subject to regulation by E-Control or the E-Control Commission. However the Gas Directive (2003/55/EC) also provides for regulated network access in this area. These provisions were transposed by the amended Natural Gas Act. The general terms and conditions of cross-border transportation and methods for calculating use of system charges require the approval of the E-Control Commission.

Exemptions for new infrastructure

The Natural Gas Act empowers the E-Control Commission to make exemptions for new gas infrastructure (cross-border transmission pipelines and storage facilities) by notice. To qualify, the new infrastructure must strengthen domestic competition and security of supply.

In the electricity sector, analogous arrangements are made for transposition of the Electricity Trade Regulation. Again, the E-Control Commission is responsible, and this is now expressly governed by the Energy Regulatory Authorities Act.

→ Market rules

After considering ways of streamlining the switching process E-Control proposed the introduction of a common metering point database for all Austrian electricity consumers, which could be used to manage supplier transfers. However the opposition of the system operators and their owners prevented the inclusion of this scheme in the final draft of the bill. Negotiations were therefore held with the system operators on accelerating the switching process by amending the market rules. The talks led to a shortening of the process from eight to six weeks.

Under the previous market rules, system operators were obliged to send suppliers customers' metered consumption data at intervals corresponding to those for meter reading (normally annual). The rules only required system operators to transmit data on the total consumption of customers' installations to new suppliers. This meant that the latter were at a disadvantage against subsidiaries of integrated companies, since they received no information about consumption per tariff period where meters capable of recording demand separately during different rating periods (e.g. high and low rate periods) were in place. The new suppliers were thus unable to quote a different energy price for each tariff period. The market rules were amended to ensure that all suppliers are given impartial treatment with regard to metering data, and since the autumn of 2006 system operators have been required to provide them with separate consumption data in a standardised format for each tariff counter.

Improvements, including a speed-up of the switching process, were also made during the gas market rules review process, completed in October 2006.

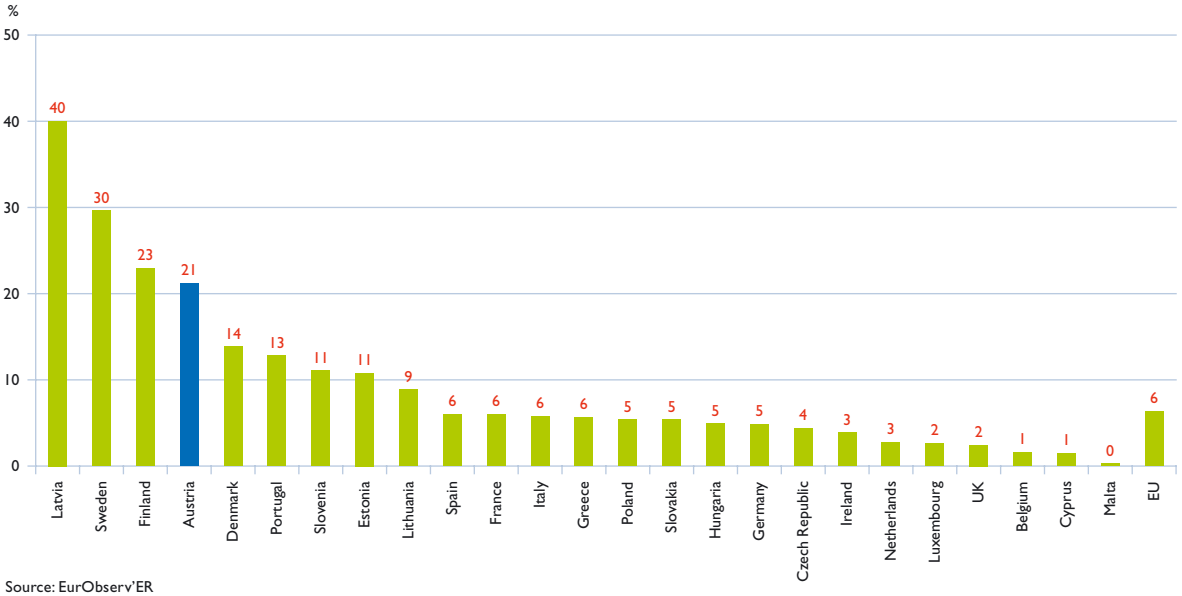
→ Renewable electricity

In 2005 the contribution of renewables to total energy consumption averaged 6.38% EU wide (EU-25), but ranged from 0.31% (Malta) to 40.03% (Latvia). Austria ranked fourth with a 21.22% share (Chart 3).

Austria leads the EU in terms of electricity generated from renewable energy sources, at over 64%, compared to an EU-25 average of just under 14% (Chart 4). The main reason for this high renewable contribution is hydro power.

→ Renewable energy sources as a proportion of primary energy consumption in the EU-25, 2005

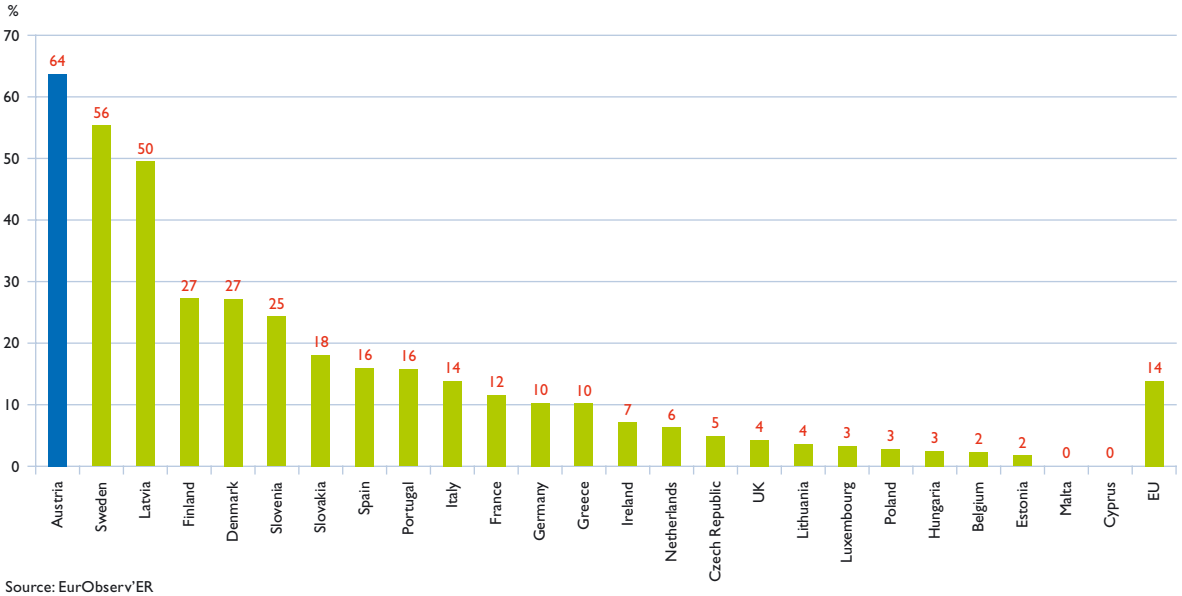
Chart 3



Source: EurObserv'ER

→ Renewable energy sources as a proportion of gross inland electricity consumption in the EU-25

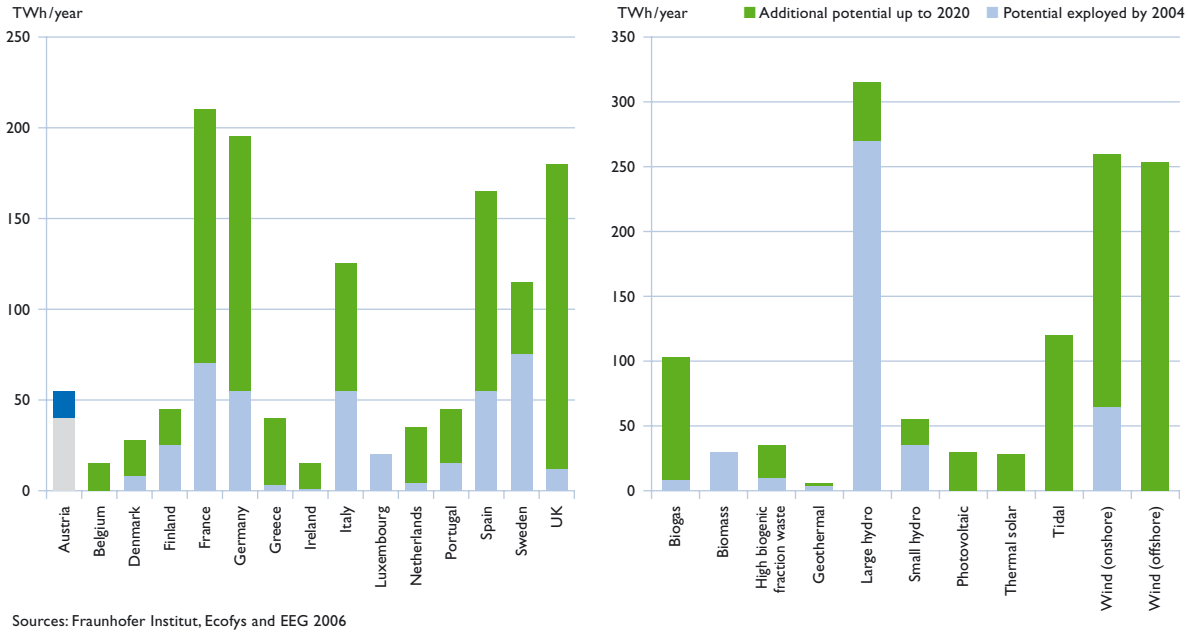
Chart 4



Source: EurObserv'ER

→ Exploited and unused potential for renewable electricity generation in the EU-15

Chart 5



Sources: Fraunhofer Institut, Ecofys and EEG 2006

Due to the differing geographical conditions in member states their renewable potential varies. So, too, does the extent to which this potential is exploited. Chart 5 (drawn from a study by the Fraunhofer Institut et al.) shows the potential of the EU-15 and the status of renewable utilisation in 2004. Austria and Sweden have already tapped over two-thirds of their potential, whereas most of the other countries could more than double exploitation.

In Austria electricity generated using small hydro, wind, biomass, biogas, photovoltaic, geothermal, and landfill and sewage gas attract supported injection tariffs under the Ökostromgesetz (Green Electricity Act). This federal support payment system was introduced by the Green Electricity Act 2002, which was amended in 2006. The main elements of the Green Electricity Act[4] are:

- → An increase in the renewable electricity target for 2008 to 10% (excluding supported small hydro power) of total supply to final consumers;
- → Support for uneconomic medium-sized hydro generating stations (10–20 MW installed capacity) by way of investment grants;
- → Capping of support payments to new plants at €17 million (m);
- → Allocation of additional support according to fixed percentages for wind, solid biomass and biogas (30% each) and all other eligible capacity, e.g. photovoltaic (10%);

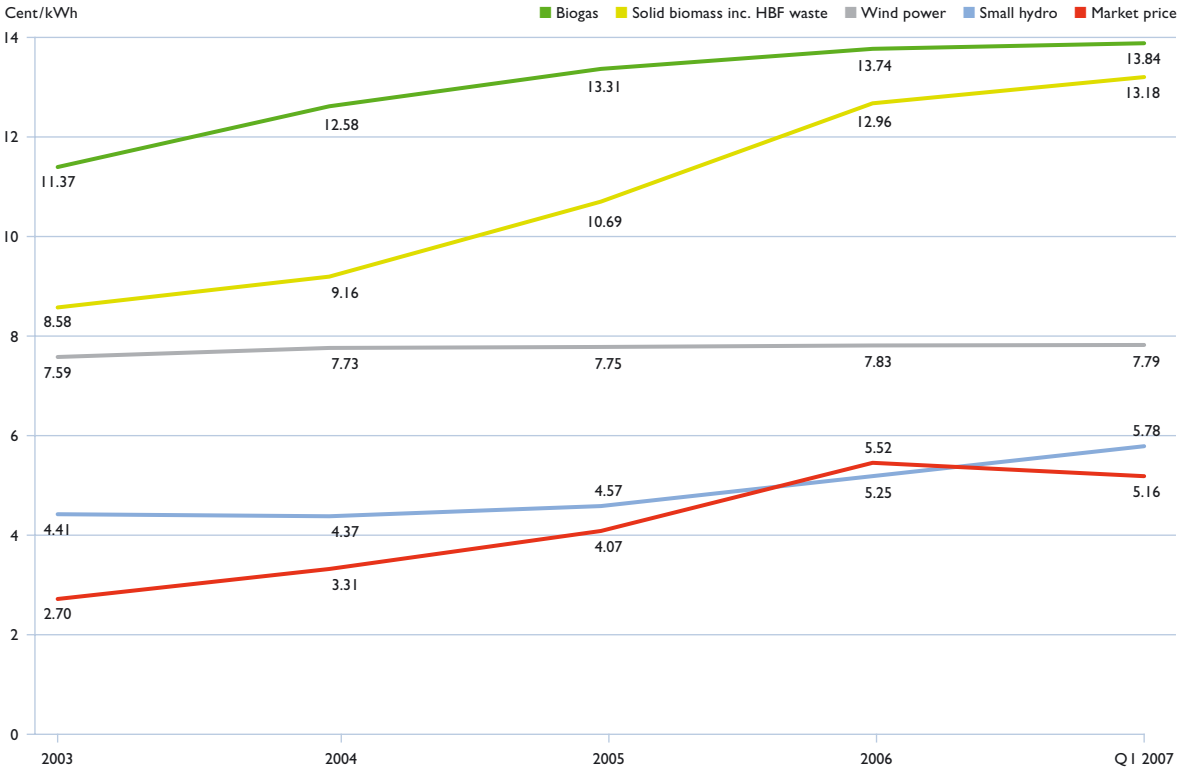
4 BGBl. (Federal Law Gazette) I No. 105/2006.

- As a result of the above, an additional budget of about €1 billion (bn), over and above the €3 bn earmarked for approved renewable generating stations;
- Eligibility for support of biogas and (solid and liquid) biomass plants conditional on a minimum energy efficiency of at least 60 %;
- Reduction in the support period to 12 years;
- Reduction to 75 % of the respective supported injection tariff in the 11th year and to 50 % thereof in the 12th year;
- Obligatory offtake at the market price less balancing costs for a period of 12 years after expiry of the support payments;
- Financing of renewable electricity by means of settlement prices redetermined on an annual basis and the flat metering point charges established by the Act.

The overall cost of funding renewable electricity in Austria (including the market value of the green power generated) in 2007 is forecast at €548 m. After deducting the market value of €264 m this yields a support requirement of €284 m. Most of the latter (82.6 %) will be met by the settlement price that electricity merchants must pay the green power settlement agent. The rest must come from the receipts from the metering

→ Average injection tariff and market price, 2003–2007

Chart 6



Sources: E-Control and green power settlement agents

point charges which all electricity consumers must pay per metering point and year. Chart 6 compares the evolution of the average injection tariff over time with that of the market price.

The relative contribution made by "other" green power (subsidised renewable electricity other than small hydro) has risen steadily as a result of the Green Electricity Act, despite growing overall consumption. Between the first quarter of 2006 and the first quarter of 2007 supported "other" green power advanced from 5.4% to 8.7% of total supply. Higher settlement prices have diminished price transparency for final consumers by enabling suppliers to use the additional expenses occasioned by renewable electricity as an argument for energy price increases. There is no way for consumers to check whether the additional expenses billed on to them are justified. When energy prices are high the additional expenses should be low, and vice versa, but as Chart 32 shows, this is not the case. If suppliers are overcharging for additional expenses, this could be a sign of the abuse of dominant positions by incumbents.

Outlook

The recent trend in the growth of supported renewable electricity reveals a degree of market saturation. Biomass and biogas feedstock are no longer available in unlimited quantities. The effects are being seen in higher raw material prices, increased price volatility, and the inability of biomass and biogas plant operators to conclude long-term feedstock supply contracts.

Further expansion of wind power depends on the wind conditions at the remaining potential sites (the best are already in use), as well as existing network capacity and expansion programmes, and public support. It would also be entirely possible to expand hydro power output; this chiefly depends on approvals and on public opinion.

In future, the main emphasis of carbon reduction policies should be on achieving improvements in energy efficiency, as the potential increases renewable energy output will otherwise be more than cancelled out by demand growth.


Regulation and performance
on the electricity market 2007

→ Transmission and distribution

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 system takes account of overall industry trends, and firms' efficiency performance, output and non-influenceable costs by applying the following parameters:

- → A frontier shift of 1.95%;
- → Maximum productivity offsets 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.

The first adjustment of the system charges under the incentive regulation system came into effect on 1 January 2007. This adjustment was influenced by a number of exceptional factors (e.g. compensation for flood damage). The adjustment of the use of system charges resulted in total cost savings of €50 m for final consumers. However these were offset by a significant increase in the system loss charges, such that the SNT-VO 2006 Novelle 2007 (System Charges Order 2006 [Amendment] Order 2007) left the nominal total of the two charges for Austria as a whole unchanged.

Electricity transmission system operators are still subject to a cost-plus regulatory regime with annual cost audits and tariff reviews. The system charges will be adjusted with effect from 1 January 2008. Heavy investment in the transmission grid will be a major factor in future cost audits and tariff reviews.

→ Unbundling in the electricity sector

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 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.

Resources

According to the European Commission's interpreting notes[5], network operators must have enough human and physical resources at their disposal to carry out their work independently from other parts of integrated companies. They must also have sufficient financial means to maintain and develop the network.

In Austria, only one legally unbundled system operator owns the network assets. 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.

The head counts of the new network companies created by legal unbundling are between ten and 40. Only two integrated companies reported assigning staff to the network company.

Since both the human resources and the right to use networks and operating equipment is 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.

5 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).

Service contracts with related companies

Due to the modest human resources of the network companies there is a multiplicity 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 sector (same person responsible for sales of network services and power). The services are purchased exclusively from fellow group companies, meaning that even in the event of a comparison of prices and services only the affiliates can win the contracts. The interpreting notes to Directive 2003/54/EC require the provision of common services at market terms. In view of the very rudimentary descriptions of services provided under lump-sum price agreements it would appear highly unlikely that any quotations are obtained from third parties. Moreover, system operators would scarcely conclude such contracts with non-group companies.

Leasehold contracts with related companies

With one exception all the system operators buy the right to use networks and operating equipment by concluding leasehold contracts. The network companies calculate the leasing payments in a wide variety of ways. Particularly striking is the application of differing financing interest rates across Austria, which raises questions as to the objective basis of the widely diverging returns expected by the owners of network companies.

Auditing of unbundled accounts

Austrian law requires integrated electricity companies to account separately for their transmission and distribution activities, and to publish unbundled balance sheets and income statements, and their cost and revenue allocation rules. The Austrian Business Code requires the certification of balance sheets and income statements by registered auditors prior to publication, but makes no provision for the separate auditing of unbundled accounts. Due to the varying structures of system operators' cost accounting systems the Austrian regulator has yet to introduce binding rules for the preparation of unbundled accounts. Companies' cost allocation has hitherto been audited as part of the tariff review procedures performed in connection with the determination of the system charges. The only standardised treatment is that of the allowable finance costs to be used to determine the weighted average cost of capital (WACC). Annual audits of companies' costs were replaced by the incentive regulation system introduced on 1 January 2006.

The companies' cost accounting has been transformed by the establishment of network subsidiaries. There are only a few items under which the costs are still stated according to the nature of the expenses. Most are reported as "other operating expenses" – the largest expense item – with no indication as to whether they concern staff, material or other costs. As a result, much of the cost transparency for the regulator has been lost, as compared to the situation prior to the formation of network companies. E-Control has therefore launched a transfer pricing investigation in preparation for the cost audit for the second regulation period. This project is aimed at defining system operators' core processes and assigning uniform costs to them. It has also been found that the costs for which the system operators have sought recognition have risen sharply as compared to those allocated to the system operation function in integrated companies. The reasonableness of these cost increases is to be examined by the transfer pricing project.

Independent corporate identity of system operators

- Company name: The names of the former integrated companies appear in those of all of the system operators. In most cases the word Netz (network) and the initials giving the legal form of the new company are simply tacked on to the parent company's name. It is thus easy to connect the subsidiary with the parent via the name, and this does nothing to emphasise the independence of the system operators. The logos of the system operators are identical to those of the former integrated companies.
- Corporate websites: Almost all of the system operators now have their own websites. However these contain many links with the parent companies' sites. Similar internet addresses blur the lines between the corporate images of parents and system operators.

Compliance programmes

Most of the responsibility for monitoring unbundling compliance in the electricity sector lies with the provinces. The companies concerned are obliged to report to the provincial governments and E-Control. The provincial authorities are required to submit annual reports to E-Control summarising the action taken by system operators under the latter's compliance programmes. E-Control wrote to the provincial governments on 6 June 2007 to request the submission of the reports in question[6].

In spite of this communication two provincial governments failed to send compliance reports to E-Control by 31 July 2007. None of the provincial governments took any action beyond informing E-Control of the contents of the compliance reports and programmes. Table 1 gives an overview of the responses from the provincial governments.

→ Summary of responses from and action taken by provincial governments Table 1

	Compliance report sent to E-Control	Additional oversight by the provincial government
Burgenland	no	n/a
Carinthia	no	n/a
Lower Austria	yes	no
Upper Austria	yes	no
Salzburg	yes	no
Styria	yes	no
Tyrol	yes	no
Vorarlberg	yes	no
Vienna	yes	no

Sources: Provincial governments' compliance reports

Unbundling of transmission system operators

Despite the formation of transmission system operators with the legal form of public limited companies, these entities remain part of the groups of the former integrated companies. A consequence of the group structure is the charging of intragroup service fees by the holding company to the subsidiaries – in this case to the system operators. Since the services rendered in return for these fees are seldom defined it is impossible to determine whether they result in the cross-subsidisation of other group companies. Only mandatory ownership unbundling would help to resolve this problem.

Apart from the general question of transfer pricing between group companies, in the case of the transmission system operators there is the special issue of the provision of system services by third parties. The transmission system operators have a duty to operate the interconnected system safely and reliably, and must therefore provide system services such as secondary and tertiary control power, reactive power control, system loss balancing, black start capability and, where necessary, congestion management.

6 Summaries of these reports are included as an annex.

In order to provide the system services required for operation of the Eastern control area, the transmission system operator concluded service contracts with fellow group companies. It is noticeable that under these contracts the system operator in some cases accepts rates that it would not countenance if the agreements were with non-group companies. This is further evidence that legal unbundling is not sufficient to bring about independent commercial decision-making. It is virtually impossible to assess whether shared services are charged at normal market rates since there is no market for them that would permit price comparison. Because of this, shared services should be kept to a minimum.

Summary

The electricity companies have largely complied with the legal unbundling requirements. However the legal rules leave a great deal of room for interpretation with regard to the form taken by the system operators. 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. The Austrian type of network company is an entity whose freedom of action is effectively limited to negotiating contracts for, and billing for services provided by others under service contracts. Certainly, there is little hope of the independence of system operators demanded by EU law as long as such structures remain in place, and stricter legislation would be the only way to achieve progress on this front.

The oversight of unbundling by the provincial governments is chiefly restricted to ensuring that the companies' compliance programmes are submitted on time and forwarding the compliance reports to E-Control. They largely desist from actually investigating the steps taken by the companies or initiating action themselves.

→ Cross-border capacity and congestion management mechanisms

In 2006 there were certain changes in the situation with regard to congestion on interconnectors on some borders. Congestion is now being managed by means of explicit auctions on the Czech, Hungarian, Italian, Slovenian and Swiss borders. However the overall position with regard to availabilities of cross-border capacity remained broadly the same.

There were alterations to the allocation of access priority rights. Existing long-term reservations on the Czech-Austrian (400 MW) and Austro-Italian (110 MW) borders were no longer accorded priority rights. The derecognition of access priority rights on the Czech-Austrian border was based on separate but essentially compatible rulings by the Czech and Austrian regulators. These have enabled access to the entire free capacity on the interconnector to be offered at the explicit auctions.

The year under review witnessed a further improvement in the coordination of the explicit auctions, but there are still differences between the various borders. Capacity into the Czech Republic, Hungary and Switzerland is allocated by means of bilaterally coordinated, joint annual, monthly and daily explicit auctions. The first yearly auction of 2007 capacity into Switzerland was held; previously there had only been monthly and daily auctions. Normally, congestion is initially identified by the Swiss and German transmission system operators, and then confirmed by the Austrian control area managers. Available capacity is determined on the Swiss side, as there is no congestion from an Austrian point of view.

Coordinated allocation of the entire capacity on the Austro-Italian border began at the start of 2007. Annual, monthly and daily explicit auctions

of capacity in the Austria-Italy direction are being held. There are daily allocations in the other direction, which are performed by the Italian side. As a result of a derogation from Regulation 1228/2003 accorded to Slovenia up to 1 July 2007, in the past only half of the capacity from Austria into that country was auctioned, and the other half was allocated by the Slovenian TSO on a pro rata basis. Since this derogation has expired coordinated auctions of the entire capacity should take place from now on. However the transmission system operators have not yet arrived at a joint solution, and implementation will thus be delayed.

To sum up, the requirements of the Congestion Management Guidelines with regard to regional coordination (capacity calculation and allocation etc.) are not yet being met, but steps in this direction are being developed as part of the ERGEG Electricity Regional Initiatives.

→ Smart metering

Metering plays an important role in energy markets. The acquisition and transmission of metering data is, among other things, the basis of the settlement of accounts with customers, of system operation, of demand and output forecasting, and of the rates charged to end users.

Liberalisation, and efforts to improve energy efficiency and supply security demand high standards of data availability and quality, and as a result metering has grown in importance. Current EU legislation such as Art. 13 Directive 2006/32/EC and Art. 5 Directive 2005/89/EC specifically refers to the part that providing final consumers with innovative metering devices and systems can play in increasing energy efficiency and supply security.

New developments in metering, information and communication technology, and lower equipment costs have led to the widespread introduction of advanced metering systems – chiefly in the electricity sector – in the USA and some European countries. The deployment of remote meter readout and management systems has been prompted by market opening, and the desire to achieve cost savings and optimise system operation, as well as regulatory requirements.

To date thought has mostly been given to innovative metering systems in the electricity sector, and it is in these markets that they have mainly been introduced. However the provision of communication systems will facilitate use of the technology for other utilities (gas, district heating and water). It will therefore be important for the design of advanced metering systems to provide for functionality that will enable them to accommodate other services.

In contrast to Italy, the Netherlands and Sweden, which plan the nationwide introduction of innovative metering systems in their electricity sectors over the next five years, in Austria there are no strong arguments such as high electricity prices, demand or non-technical system losses, to justify such a step. Nevertheless, E-Control would welcome the introduction of smart metering systems for domestic and small business electricity consumers because it would stimulate competition, enhance supply security and have a positive impact on planned energy efficiency programmes.

On the Austrian electricity and gas markets metering services are normally the responsibility of the system operators. They are compensated for the costs incurred in connection with meter installation, operation and reading by the regulated charges for metering services. In the light of information on projects abroad, E-Control believes that investment in innovative metering systems would be economically viable for electricity system operators in Austria at the current maximum rates for metering charges. This expectation has been borne out by the projects already under way in the country.

However, in order to ensure that there are overall benefits for all market participants E-Control plans a cost-benefit analysis of the introduction of advanced metering systems in Austria. This analysis, which is intended to serve as a basis for future decisions, is due for completion by the end of the year.

→ Supply and consumption

In 2006 the contribution of electricity generated from renewable sources to overall generation was roughly unchanged at about 66 %, while some 33 % of the total was derived from fossil fuels. The share of output contributed by supported renewable energy sources (including photovoltaic, wind, biomass, biogas and small hydro) was 9.4 %. Physical imports increased by 4 % in 2006 while physical exports fell by some 19 %. Austrian total final consumption climbed by 1.9 % year on year, to stand at 61.5 TWh. Peak demand on the Austrian electricity grid has risen steadily over the past few years, and reached 9.481 GW in 2006.

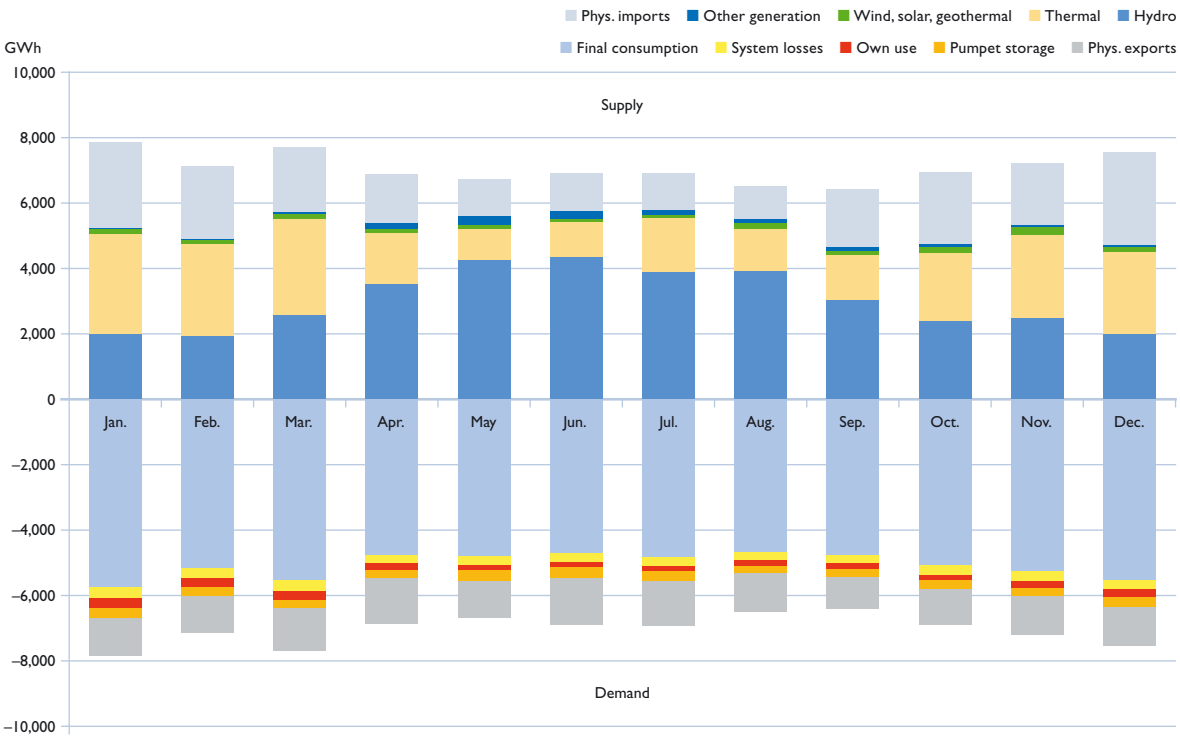
The proportion of capacity owned by the three largest generators has been steady at about 53 % over the past three years (2004–2006), and only five companies hold 5 % or more of the generating capacity in place. The Herfindahl-Hirschman index (HHI) measured by generating output was 2,104 in 2006 – above the 1,800 score that indicates a high level of market concentration. However in capacity terms the HHI was slightly below the threshold at 1,575.

Cross-border exchanges between Austria and neighbouring countries have grown steadily since 1990. 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 2003.

Chart 9 shows the generation mix in 2006. Some 60 % of output came from run-of-river and storage power stations. Natural gas is the second-most important energy source for power

→ Supply and consumption in 2006

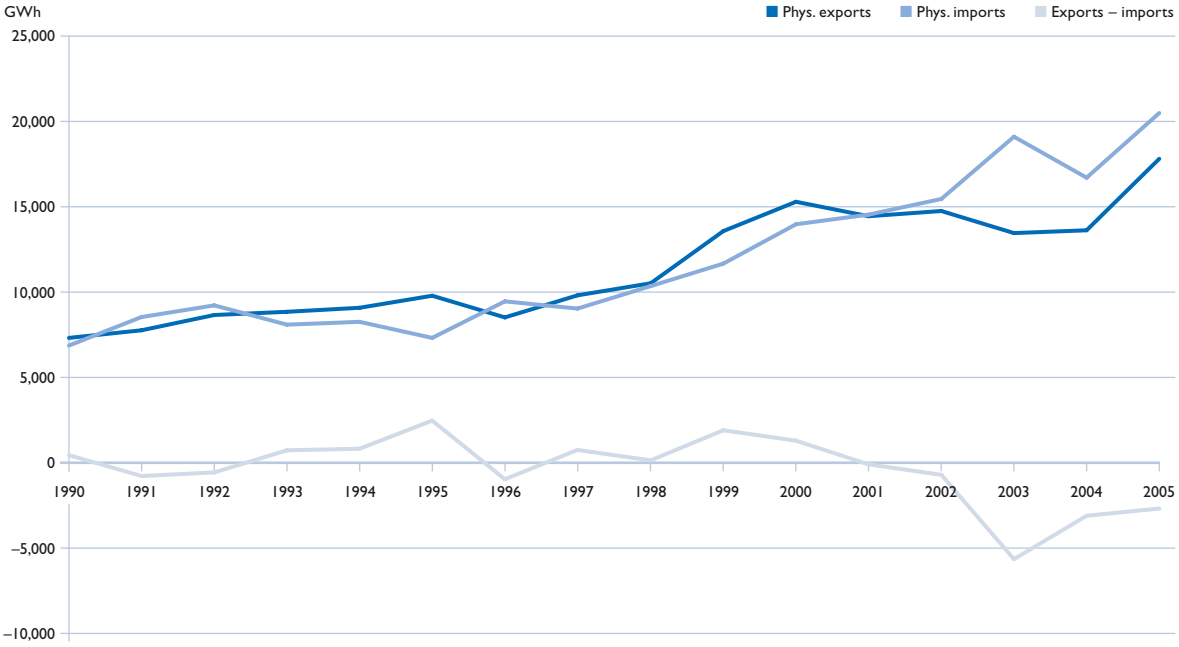
Chart 7



Source: E-Control

→ Exports and imports

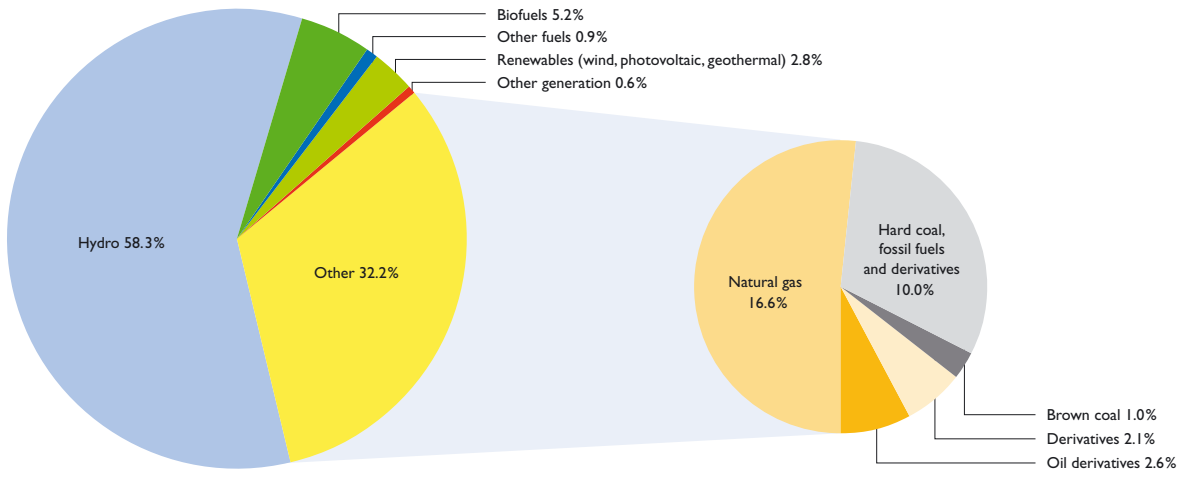
Chart 8



Source: E-Control

→ Austrian generation mix in 2006

Chart 9



Source: E-Control

generation after hydro, at approx. 17%. Hard and brown coal fired generating stations were responsible for approx. 11% of output.

→ Description of the wholesale market

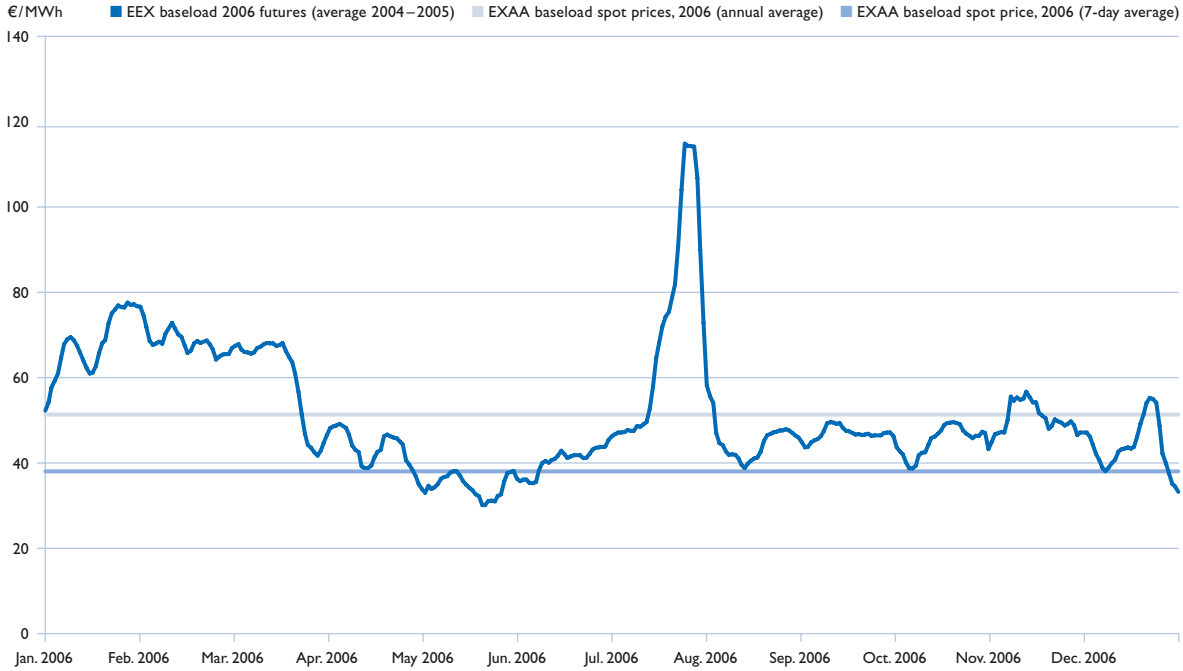
Electricity price trends

Spot prices (baseload) on Austria's Energy Exchange Austria (EXAA) power exchange were relatively firm at the start of 2006, but lost ground in the spring due to mild weather and tumbling CO_2 emission allowance prices. The ensuing period of low prices was interrupted by the July heat wave, which interfered with the cooling systems of thermal generating stations in France, Germany and Poland, causing a power shortage. Prices retreated to a relatively low level in the fourth quarter. The spot price averaged €51.2/MWh over the year.

A comparison of the spot and futures prices (i. e. the spread) offers interesting insights. Taking the average price of the 2006 baseload futures contract on the German EEX power exchange[7] in the 2004–2005 period, which was €37.60/MWh, the spread was €13.60/MWh. It was thus considerably cheaper (in terms of the average price for the year) to meet electricity needs in 2006 by purchasing a year's deliveries during the 2004–2005 period (Chart 10).

Some possible explanations for electricity price movements have been mentioned above. However gas and coal price trends are another major factor. A comparison of the evolution of the prices of these primary energy sources and CO_2 emission allowances reveals that the decline in electricity prices after the second quarter was mainly driven by lower coal, gas[8] and CO_2 prices (see Chart 11). The reasons for these were the

→ Wholesale prices in 2006 (futures vs. spot prices) Chart 10

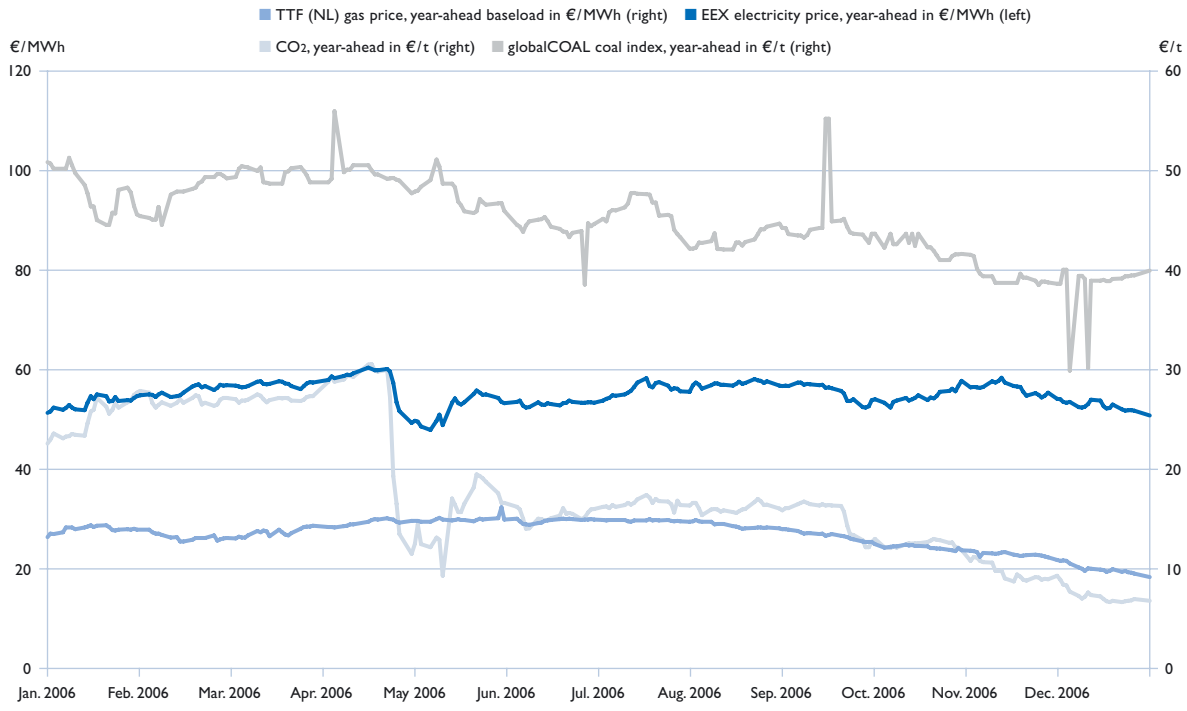


Sources: EEX and EXAA

7 There is no futures market on the EXXA.
8 Gas prices helped drag electricity quotes down because they held steady until the third quarter and declined thereafter, in the same way as coal and CO_2 allowances.

→ Comparison of wholesale electricity and primary energy prices

Chart 11



Sources: EEX, Spectron and Energate

aforementioned mild weather and news of the over-allocation of emission rights for the first trading period (2005–2007) which led to CO_2 prices falling still further after the collapse in April 2006. Because the allocations for the second trading period (2008–2012) have been lower prices for this are higher than for the first period. The national allocation plan proposed by Austria for the second period (NAP II) was rejected by the European Commission, and the country must reduce its CO_2 emissions by an initial 2 million tonnes (m t) to 30.7 m t under NAP II[9].

Volume of electricity traded

Austria's EXAA power exchange currently has 40 members from ten European countries. Many new traders joined in 2006, and membership is expected to continue to grow. 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_2 emission allowances are traded on the EXAA.

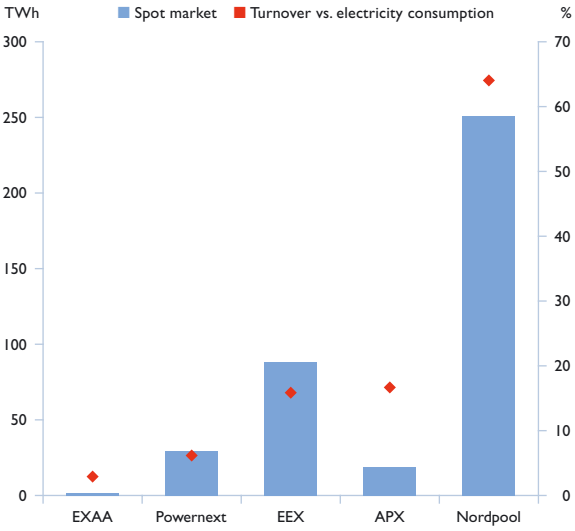
Since its launch on 21 March 2002 a total of over 7 TWh have been traded on the EXAA – equivalent to about 3 % of Austrian annual electricity consumption. Turnover was 1.7 TWh in 2006 – a 7.3 % increase.

Despite this growth liquidity on the EXAA is modest compared to other relevant continental European exchanges. For instance, the Powernext, EEX and APX recorded traded volumes of 29.6 TWh (20 % up), 88.5 TWh (3.1 % up) and 19 TWh (20 % up), respectively, in 2006

9 By way of comparison, during the first trading period (2005–2007) allowances for a total of 32.7 m t of emissions (1.8 % of the EU total) were allocated in Austria.

→ Spot volumes traded and market shares in 2006

Chart 12



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

(Chart 12). The volumes traded on the EXAA as a proportion of electricity supplies to final consumers are also low in comparison to these exchanges. Nordpool boasts the highest ratio (traded spot volume vs. electricity consumption), and is thus the most liquid market. The EEX – the leading power exchange in continental Europe – is currently looking at cooperation with other energy exchanges as a means of underpinning its growth prospects.

Wholesale market integration

A look at electricity prices on the various European power exchanges reveals that Iberian, Nordic, south European and continental European regions have crystallised over the past few years. It is noticeable that wholesale prices have tended to move in step on the continental

Matrix of correlations between daily spot prices in 2006

Table 2

	AUT	CZE	DNK	ESP	FIN	FRA	GER	ITA	LITHU	NL	NOR	POL	ROM
CZE	0.68												
DNK	0.52	0.40											
ESP	0.50	0.23	0.29										
FIN	0.21	0.23	0.71	0.12									
FRA	**0.91**	0.57	0.37	0.53	0.08								
GER	**0.87**	0.60	0.44	0.42	0.17	**0.80**							
ITA	0.74	0.53	0.49	0.30	0.25	0.66	0.60						
LITHU	–0.14	0.05	0.29	–0.19	0.58	–0.27	–0.14	0.02					
NL	**0.83**	0.57	0.40	0.39	0.11	**0.81**	0.74	0.59	–0.24				
NOR	0.07	0.20	0.64	–0.07	**0.89**	–0.09	0.06	0.13	0.71	–0.01			
POL	0.35	0.42	0.45	0.16	0.30	0.25	0.30	0.41	–0.02	0.29	0.27		
ROM	0.23	0.27	0.14	–0.18	0.09	0.15	0.19	0.43	0.25	0.10	0.12	0.14	
SWE	0.15	0.23	0.73	0.01	**0.95**	0.00	0.13	0.22	0.67	0.06	**0.97**	0.30	0.12

Sources: Regulators and E-Control (calculations)

European exchanges. This observation is borne out by the correlation coefficients shown in Table 2. The spot prices exhibit relatively high correlation coefficients irrespective of the exchanges monitored, while the price trends are similar (positive correlations). Apart from a continental European price region, the correlation matrix reveals the emergence of a Nordic region, and shows that price formation is autonomous outside of the two. However it should be noted that this purely descriptive analysis merely gives grounds for suspecting that the wholesale markets in question are linked, and a thorough empirical study would be required to reach a firmer conclusion.

→ Balancing market

Following amendments to the rules for clearing price calculation in the APG control area in 2005, during the summer of 2006 changes were also made to the procurement of one form of balancing power. On 1 August 2006 the programmes for the redelivery of involuntary UCTE exchanges began being dealt with by exchange trading on the EXAA instead of direct invitations to tender issued by the settlement agent, APCS. Very few bidders had taken part in the original tenders. Handling UCTE exchanges via the power exchange is expected to lead to a marked reduction in this cost component.

The green power balancing group is continuing to exercise a decisive influence on the balancing market. The main reason for this is the difficulty of forecasting wind power output. As a result the green power balancing group is usually long when the control area is oversupplied, and vice versa. The current balancing group system permits the consolidation of suppliers and customers in a virtual group, within which supply (procurement schedules and injection) and demand (delivery schedules and withdrawals) are balanced[10]. Generating and consuming plant are thus included in common balancing groups. Chart 13 shows the amount and composition of balancing power costs in the Eastern control area over time.

In practice, it can be seen that the incumbents' balancing groups have regulable generating stations which are used to minimise balancing groups' net imbalances. This is only possible because the system operators constantly send the balancing groups information – usually online – on the current load situation on the network, the load flows at system interconnection points and injection. However this information is not available to other suppliers or balancing group representatives – a clear case of discriminatory treatment. As a result, suppliers that lack this information and do not have regulable generating stations are exposed to an inherently greater imbalance risk.

There are three different means by which impartial treatment could be accorded to all market participants, namely:

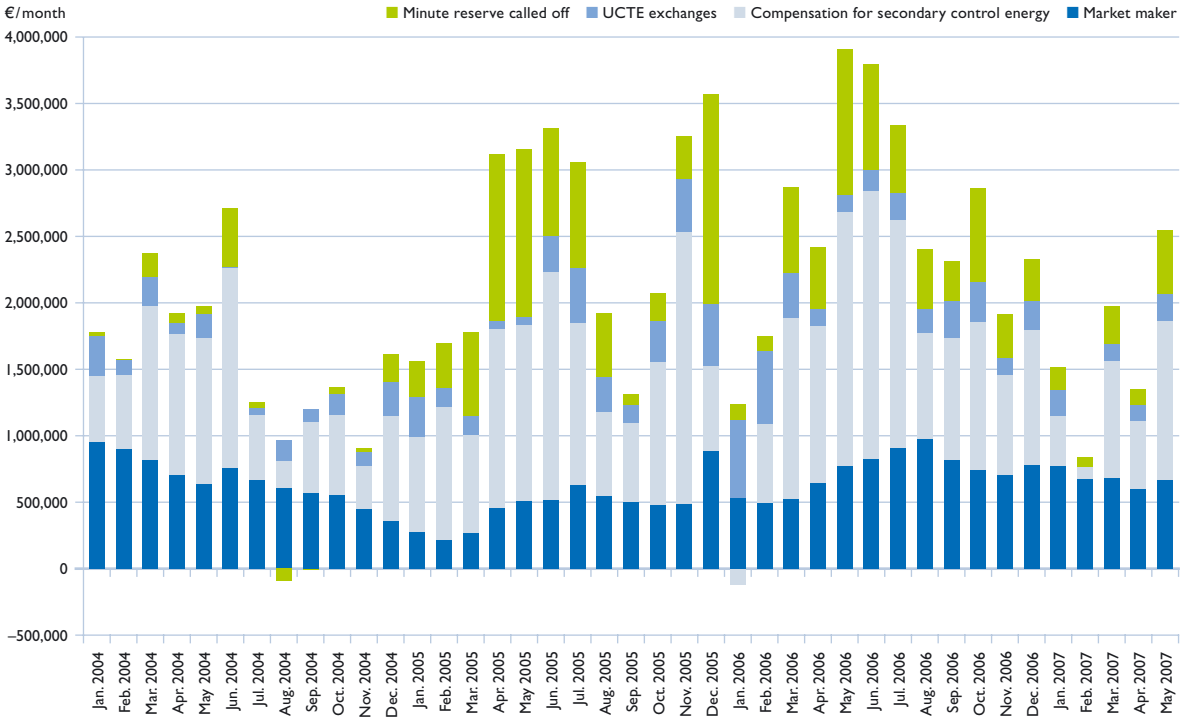
1. Providing all balancing groups with network information;
2. Providing no balancing groups with network information;
3. Modifying the balancing group system in such a way as to prevent balancing groups from using network information.

Option 1: Even if the information were supplied to all balancing groups only those with regulable generating stations would be capable of minimising imbalance risk and costs.

10 See section 7(2) Electricity Industry and Organisation Act.

→ Amount and composition of balancing energy costs in the Eastern control area

Chart 13



Source: APCS

Option 2: Watertight monitoring would be necessary to ensure that information was not passed on. Due to the current policy of keeping the unbundling rules to the bare minimum required by the directive, this would not appear to be expedient. However continuous and more effective oversight of balancing groups' information management by the provincial governments responsible would represent an improvement.

Option 3: This involves both separate balancing groups for generators and suppliers, and the introduction of standardised load profiles for all final consumers, thereby ensuring that even incumbents are obliged to forecast their customers' demand in order to draw up schedules[11].

The third option is the best approach to overcoming discriminatory behaviour, but would call for reorganisation of the balancing group system. This variant would considerably reduce the significance of information provided by system operators at short notice, and would minimise the advantage gained by incumbents from such knowledge.

11 At present standardised load profiles are only assigned to consumers when they switch suppliers. All other consumers are treated differently with regard to balancing.

→ Description of the retail market

Supplier market structure

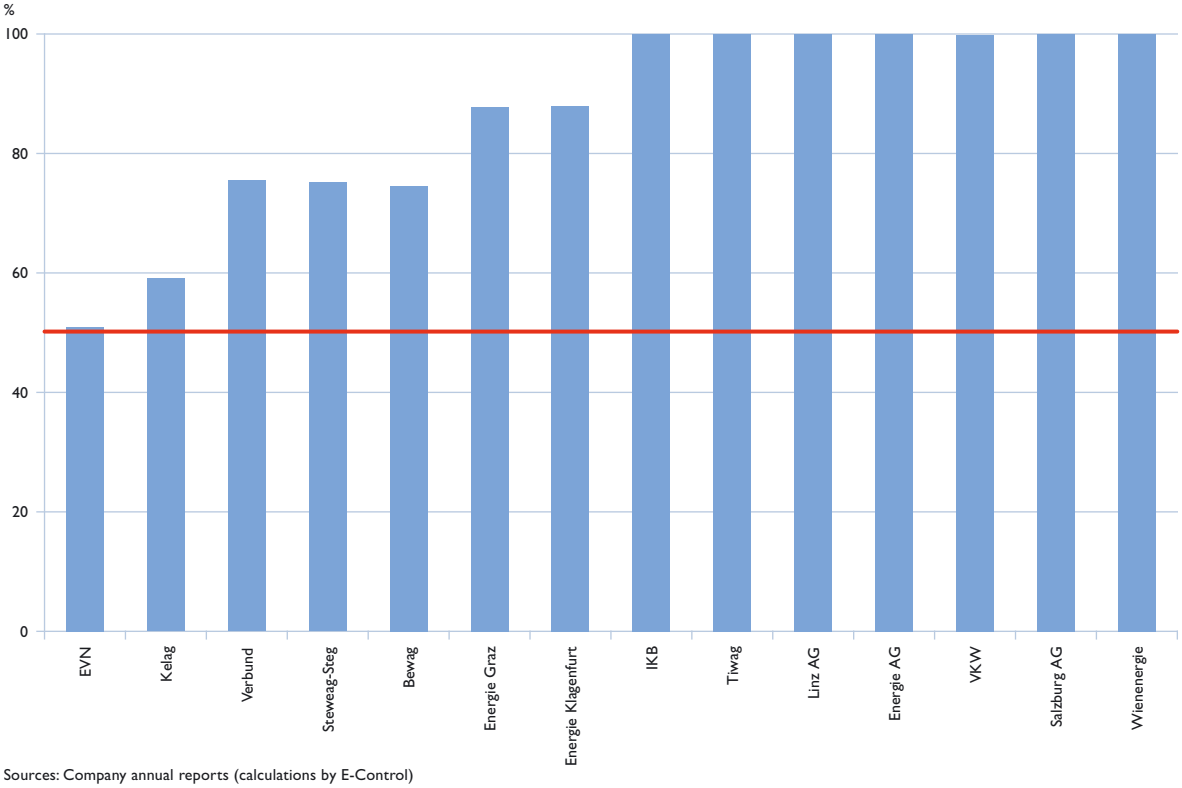
The structure of the Austrian electricity supplier market is hallmarked by a high level of provincial and local government ownership (Chart 14), which is required by law[12]. Amendment of the 1998 Act requires a two-thirds parliamentary majority which is unlikely to be forthcoming in the short to medium term.

There were no significant mergers in 2006. Energie AG Oberösterreich (Energie AG) and Linz AG pulled out of the EnergieAllianz joint venture on 1 May 2006. This led to a retransfer of EnergieAllianz's interest in Energie AG to the Upper Austrian provincial government, meaning that the latter now holds 93.75% of Energie AG. The withdrawal of the two Upper Austrian electricity companies reduced the market concentration ratios as compared to previous years. On 1 July 2007 it was announced that Energie AG and Linz AG would be merging their retail subsidiaries, and this has resulted in a rise in the concentration ratios.

It is still unclear whether the EnergieAllianz partners and Verbund will implement the Energie Austria part-merger, which would bring a further, sharp increase in the concentration scores. The transaction would raise competition concerns – above all, because Verbund is currently one of the few suppliers with a nationwide presence, and offers both domestic, and small and medium-sized business consumers energy prices that are

→ Public ownership of Austrian electricity companies

Chart 14



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

12 BVG-Eigentum (Federal Constitution Act on Property), BGBl. I No. 143/1998.

sometimes well below those of the incumbents. If the Energie Austria part-merger were implemented and the parties' retail operations were integrated this would take an active competitor, Verbund APS off the market.

However it should be noted that the assumptions[13] about to the future development of the Austrian electricity market made at the time of the merger proceeding (e.g. extension of the relevant geographic market, and potential competition through the market entry of foreign suppliers) have not been borne out by events. This is demonstrated by the findings of the EU sector inquiry which identified shortcomings as regards lack of transparency, market concentration, lack of market integration and vertical foreclosure as key issues. The problems referred to by the European Commission also apply to Austria. The retail markets still extend no further than the country's borders. Due to the planned coordination of the parties' generation operations, the Energie Austria part-merger would lead to an increase in vertical integration. There is also a noticeable lack of transparency with regard to the information available to final consumers and non-integrated suppliers. Since the Commission's prognoses with respect to the Energie Austria part-merger have not been fulfilled, the merger of the parties' retail and wholesale operations should be reassessed.

→ **Concentration in the Austrian electricity market:** total sales to final consumers in Austria, 2006 Table 3

	Energie Allianz	Energie Austria (Verbund and Energie Allianz)
Energie Allianz	29.9%	32.7%
Verbund	2.9%	
ENAMO[14]	14.5%	14.5%
Steweag-Steg	10.0%	10.0%
Kelag	7.2%	7.2%
Salzburg AG	5.9%	5.9%
APC	5.6%	5.6%
Tiwag	5.5%	5.5%
VKW	4.2%	4.2%
Energie Graz	1.4%	1.4%
IKB	1.3%	1.3%
Energie Klagenfurt	1.0%	1.0%
Wels Strom	0.7%	0.7%

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

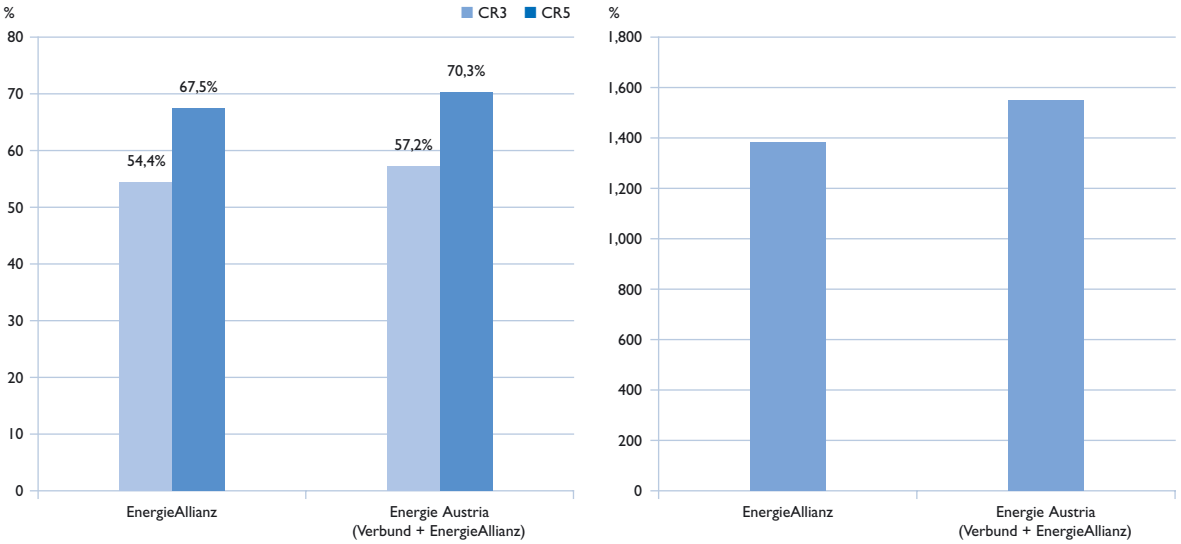
The market shares and HHI scores of the three largest suppliers are below the threshold levels that indicate a highly concentrated market (66.7% and 1,800, respectively). Nevertheless, competition on the various retail markets is not intense – an observation confirmed by the advertising budgets (see section on electricity companies' advertising expenditure). An examination of the degree of concentration exhibited by the individual retail markets is not possible due to lack of data. However the amendments to the Statistics Order should improve the position with regard to data availability.

Neither market structures nor the activities of foreign companies in Austria indicate 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 upwards of 10 GWh. Moreover, this is generally on a site-specific basis. No foreign suppliers are active in the small consumer segment. Likewise, Austrian suppliers' export activities are limited (supply of distributors and large consumers). Even within Austria, only some of the suppliers operate on a nationwide basis in the large and small consumer segments, though the legal environment is the same for all of them. The control area boundaries represent an entry barrier for the smaller retailers. It is thus not possible to speak of a regional market extending beyond Austria's frontiers. The aim should be to make market access as easy as possible, and to harmonise the legal frameworks in today's largely national markets, and the rules under which the Austrian control areas operate.

13 COMP/M2947. Verbund/EnergieAllianz (2003).
14 Retail activities of Linz AG and Energie AG.

→ **Concentration in the Austrian electricity market:**
CR 3 and CR 5[15] (left) and HHI[16] (right)

Chart 15



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

Strategic behaviour

Energie AG (Energie AG) has been looking at a number of strategic options following its pull-out from EnergieAllianz. The company held talks with TIWAG an offer by the latter for 25% of its capital. Since the negotiating parties were unable to reach agreement, due to weak synergy effects and TIWAG's dissatisfaction with the amount of influence being offered, an initial public offering (IPO) is being mooted, and was approved by the provincial diet at the start of July 2007. According to these proposals the provincial government would continue to hold a majority in Energie AG, and Linz AG would own 6.5% while about 40% of the shares would be floated. However the question as to whether parts of the company (water supply) should be excluded from the offer is still being debated. A proposal for the flotation of Energie AG was drawn up in mid-June, and was sent to the finance committee of the Upper Austrian provincial government. Under the part-privatisation a maximum of 49% of Energie AG would be disposed of, and both TIWAG (a single-digit percentage) and Verbund have expressed interest in investing in the company.

Separately from these moves, the retail activities of Energie AG and Linz AG were merged on 1 July 2007. However, as would have been the case with EnergieAllianz, the parties' retail subsidiaries will maintain their separate identities in the small consumer segment, and only the large consumer business will be transferred to the new parent company. There will thus be a further merger of several retail companies, though there will be no outward change for small consumers. The result will be that the parties cease to compete in each other's incumbent supply areas. The merger of the retail businesses is likely to bring little in the way of synergies, as they will continue to operate independently, under the same names as before. The parties' system operation, generation and wholesale functions are

15 Aggregate market shares of the three and five largest suppliers.
16 HHI Aggregate squared market shares of all firms.

unaffected by the merger. Apart from the home market, the new joint venture company is to operate in the Czech Republic, Germany, Hungary and Slovakia.

It remains unclear whether, and if so in what form the planned Energie Austria part-merger will come about. According to media coverage there has been a rapprochement between Verbund and EVN AG, with the Verbund side raising the possibility of a merger. In the event of a full merger Verbund would be the larger of the parties, and would thus hold the most shares, thus reducing the provincial governments' ability to influence the respective provincial utilities.

EVN is stepping up its activities in Central and South-Eastern Europe. Apart from the energy sector, it plans to expand its activities in other areas of utility services, including water supply, wastewater and waste disposal. EVN has acquired majority stakes in companies in Bulgaria (1.4 m electricity customers) and Macedonia, and intends to consolidate its position in South-Eastern Europe by means of acquisitions, joint ventures and direct investments, as well as the purchase and construction of power stations, with a view to boosting self-generated electricity from a current group-wide level of 40 % to 60 %. A 790 MW coal-fired generating station in Germany, to be operated in conjunction with STEAG, is due to come online in 2010[17]. At the start of July 2007 the Albanian government declared EVN's proposals for the construction of three storage power stations (total capacity approx. 400 MW) to be in the public interest. EVN has acquired the second-largest district heating station in Bulgaria, meaning that it has also become a multi-utility operator in that country.

Verbund is still active on the retail market via its APS subsidiary, and is one of the cheapest suppliers in the small consumer segment. Apart from some provincial utilities and incumbents' subsidiaries, a number of small municipal utilities (e. g. Welsstrom) are marketing electricity to small consumers on a supra-regional basis. However this is largely restricted to the Eastern control area, as the smaller retailers regard serving consumers in other control areas as an additional expense.

Tyrol currently has a right to procure electricity from generating stations operated by Illwerke AG in its territory; the ownership of these plants will pass to the province in 2040. During the spring of 2007 negotiations were held on the acquisition by TIWAG of an interest of 7–10 % in Illwerke, resulting in annual payments of about € 1.9 m to the Tyrol provincial government. This would mean that some of the Illwerke power stations would not be transferred to Tyrol in 2040 but would remain the property of the province of Vorarlberg[18].

TIWAG plans to spend about € 1.7 bn on expanding its hydro power capacity over the next ten to 15 years, as well as increasing existing investments in SelGas, SelTrad and Bayern Gas and other companies.

Kelag and RWE – which has an indirect interest of about 31 % in Kelag via Kärntner Energieholding – mean to expand their activities in Central and South-Eastern Europe. These include renewable energy interests (biomass and biogas) and investments in generating stations in South-Eastern Europe, northern Italy and Switzerland. Kelag and RWE also have plans for additional investments in hydro power capacity. These focus on expanding and upgrading existing generating stations. According to Kelag's owners it will also be looking to expand in Austria, e. g. by making additional equity investments.

17 EVN Annual Report 2005/06.
18 Tiroler Tageszeitung, 15 April 2007.

In June 2007 the owners of Energie Steiermark Holding (EStAG) announced that a further 24 % of the company were to be sold to EdF which offered some € 400 m. This would have given EdF an interest of 49 % plus one share in EStAG, cutting the Styrian provincial government's indirect holding in Steweag-Steg to about 33 %. The transaction would nonetheless have met the legal requirement for at least 51 % of the shares to be publicly owned[19] as Verbund (which holds approx. 34.5 % of Steweag-Steg) is under majority state ownership (see Chart 14). According to the owner there are no plans for an IPO. In July the provincial diet blocked the sale of an additional 24 % of EStAG to EdF and allowed the offer period to expire. It is currently unclear whether, and if so to whom, further interests in the company will be sold.

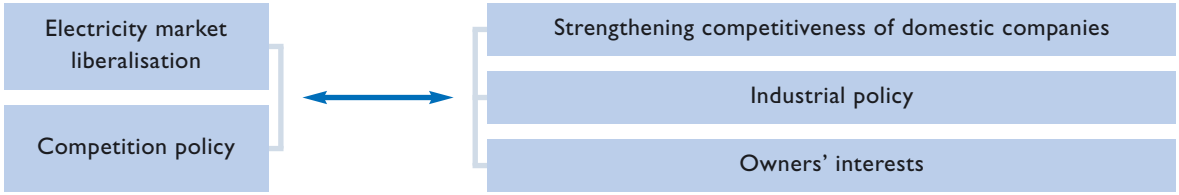
Impact of recent mergers

Apart from the recent merger notification by Energie AG and Linz AG, other joint ventures, equity investments and mergers are currently being mooted. For instance, Energie AG and Linz AG have announced that Salzburg AG and TIWAG may join the new retail venture. Implementation of the merger of the retail and wholesale operations of EnergieAllianz and Verbund requires reassessment by the competition authorities. Verbund has also expressed interest in raising its holdings in Kelag and Steweag-Steg, and investing in Energie AG. TIWAG has likewise shown an appetite for a single-digit stake in Energie AG.

If the mergers and joint ventures currently planned or under discussion are implemented this will add to the extensive cross-holdings in the Austrian electricity industry and increase market concentration. This would probably, in turn, lead to a further reduction in supply side competitive intensity on the Austrian retail market. A reduction in the number of competitors without any change in boundaries of the geographic market would facilitate collective market control (concentration of economic power), thereby limiting price competition (higher prices, profits and costs). The planned business combinations thus conflict with overall economic and social policy objectives, but have nevertheless received political support. This is understandable from an industrial policy perspective (creation of a national champion), but is nevertheless harmful in overall economic terms (higher energy prices, resulting in lower growth in other sectors). A WIFO (Austrian Institute of Economic Research) report discusses the positive economic effects of the lower prices brought about by liberalisation[20]. Where horizontal combinations at the distribution level also lead to vertical mergers, non-integrated suppliers are faced with additional entry barriers.

→ Trade-off

Chart 16



Source: E-Control

19 BVG-Eigentum (Federal Constitution Act on Property), BGBl. I No. 143/1998.
20 Austrian Institute of Economic Research, Evaluierung der Liberalisierung des österreichischen Energiemarktes aus makroökonomischer Sicht (Evaluation of liberalisation of the Austrian energy market from a macroeconomic perspective), in WIFO-Monatsberichte No. 11, 2004.

The mergers in the Austrian electricity market have mainly been in the retail area, while the system operation and generation functions have hitherto remained with the respective parent companies. Following the formation of a joint venture (e.g. EnergieAllianz or ENAMO), retail companies with the same names as the parents are founded (e.g. EnergieAllianz, operating through Wien Energie Vertrieb GmbH & Co KG and other companies, or ENAMO working through Energie AG Vertrieb GmbH & Co KG and others). The new distribution subsidiaries operate independently of each other on the retail markets, but their activities are largely confined to their home grid zones. Even electricity procurement is mainly performed separately from the retailers concerned. The modus operandi to date invites suspicion that the real purpose of the mergers has not been to leverage potential synergies in the distribution area – no visible action has been taken to this end (e.g. separate branding or sales personnel) – but to reduce competition on retail markets.

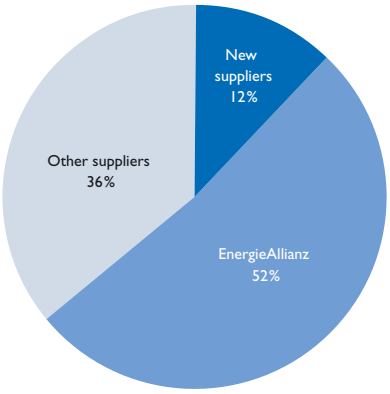
Companies notifying mergers generally base their cases for clearance on the presumed rapid opening of European electricity markets and a consequent broadening of the geographic scope of the relevant product markets (see the Energie Austria and ENAMO merger notifications). However it is noticeable that foreign suppliers have been leaving the Austrian market or confining themselves exclusively to the large consumer segment (upwards of 10 GWh). Given existing entry barriers and the reluctance of small consumers to switch it would be unrealistic to expect supraregional markets to emerge in the short to medium term. Other potential mergers between Austrian electricity companies would result in a further reduction in competitive intensity and should be viewed in the light of the above developments.

Electricity companies' advertising expenditure

Advertising expenditure in 2006 shows similar trends to previous years. The EnergieAllianz partners remained the highest spending market participants (Charts 17 and 18). The rise in the share of total advertising expenditure accounted for by the remaining suppliers (incumbents other than EnergieAllianz) reflects the withdrawal of Energie AG and Linz AG from EnergieAllianz.

Advertising is still primarily aimed at image maintenance. The heavy advertising expenditure of the EnergieAllianz partners is particularly interesting in the light of the low level of activity on the Austrian electricity market as a whole. Though EnergieAllianz operates across Austria under its own name and through its subsidiary, switch, the advertising spend of both suppliers is negligible in comparison with that of the parent companies and their sales companies. While advertising expenditure by the various sales

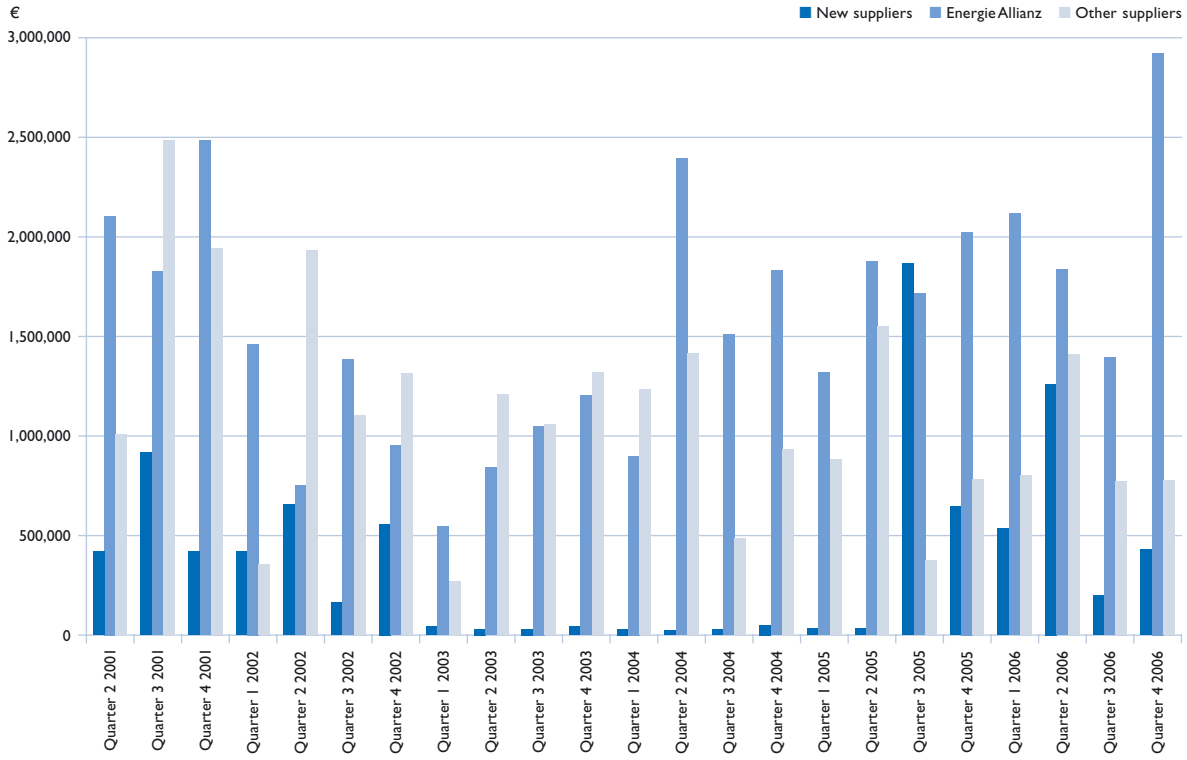
→ **Proportions of total advertising expenditure,** April 2001 to December 2006 — Chart 17



Sources: Media Focus and E-Control

→ **Advertising expenditure by EnergieAllianz partners, other provincial utilities and new suppliers**

Chart 18



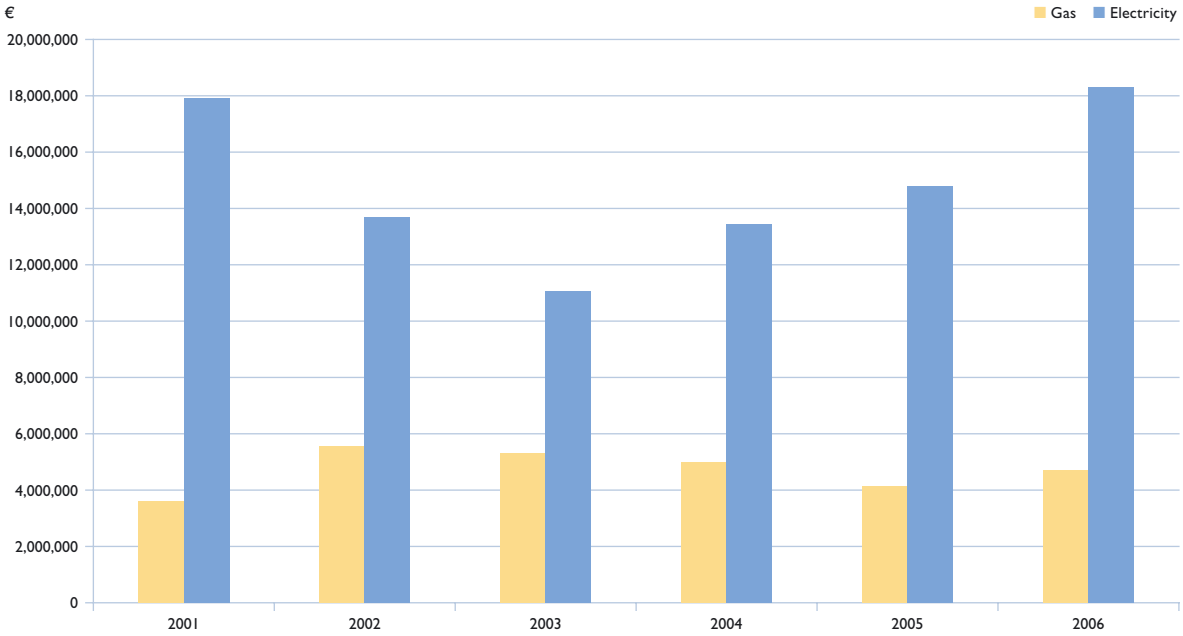
Sources: Media Focus and E-Control

companies is high, none of the three suppliers has customers outside its traditional supply area. From this it can be deduced that the advertising activities are employed purely for the purposes of image maintenance, market foreclosure, deterring potential competitors or preserving the existing customer base.

With the exception of Verbund, no suppliers publicise their prices or products, or the potential savings from switching. True, the aim of the advertising is not just to raise brand awareness, but also to cut consumers' search costs, thereby increasing the incentive to make price comparisons and switch. However the main focus is usually on the company name (image advertising). Due to the fact that energy efficiency is a major talking point at national and international levels, many incumbents advertise energy consultancy – though it is often hard to tell which business unit is offering these services.

→ Comparison of annual advertising expenditure by electricity and gas companies

Chart 19



Sources: Media Focus and E-Control

The advertising expenditure of electricity suppliers was well above that of gas companies in the second half of 2006 (see Chart 19). There was another sharp year-on-year increase in overall advertising expenditure by electricity companies in 2006. This is explained by new entrants to the market and by advertising related to planned mergers, among other factors. Meanwhile, advertising spending in the gas sector edged up.

Energy companies' financial performance

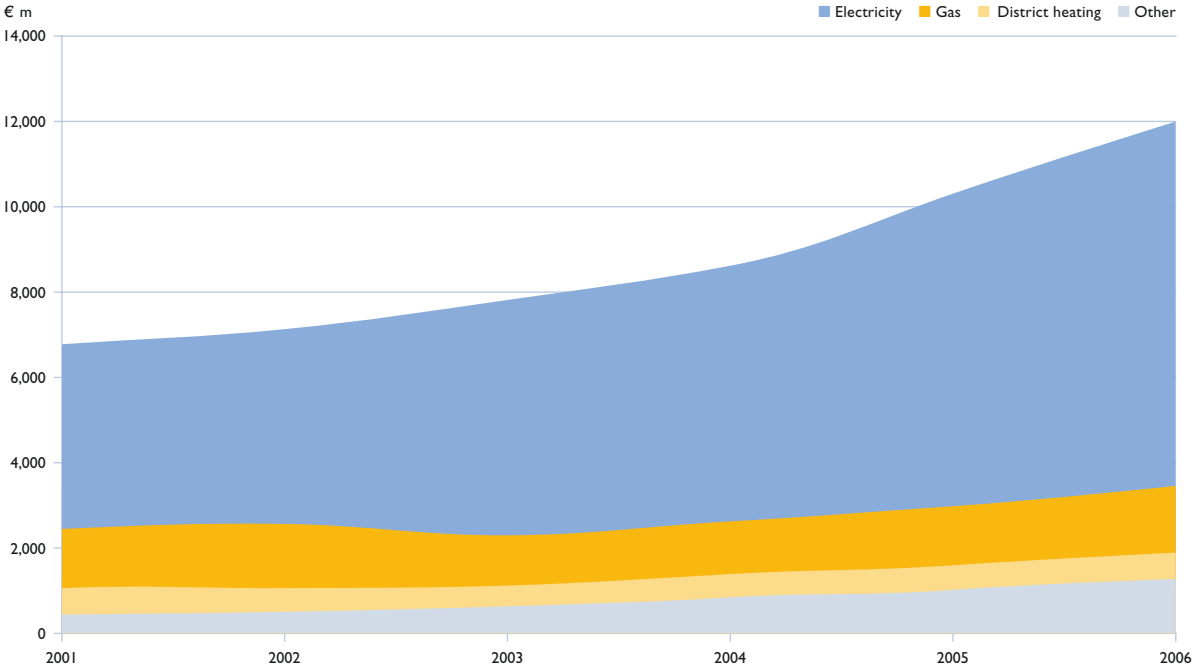
As can be seen from Chart 20, the total revenue returned by Austrian energy companies[21] has risen considerably since 2001. Total revenue advanced by about 120% between 2001 and 2006. Growth was largely been driven by the rapid increase in the contributions of the companies' electricity businesses (up by 96%), while gas revenue only gained about 9% over the period. The revenue generated by "other" services (including water supply, and wastewater and waste disposal) also expanded rapidly, climbing by some 150% between 2001 and 2006, while district heating turnover grew by about 33%.

The annual revenue growth recorded by Austrian electricity and gas companies ranged between 5% and 24% over the period. Verbund posted the largest revenue increase between 2001–2006 at about 140%. This was due to the expansion of the company's foreign activities and to the fact that higher wholesale prices were accompanied by stable generating costs at hydro power

21 The figures include the following companies: Begas, Bewag, Energie AG, Energie Graz, Energie Steiermark, EVN, 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 growth by business areas in absolute terms[21]**

Chart 20



Sources: Company annual reports

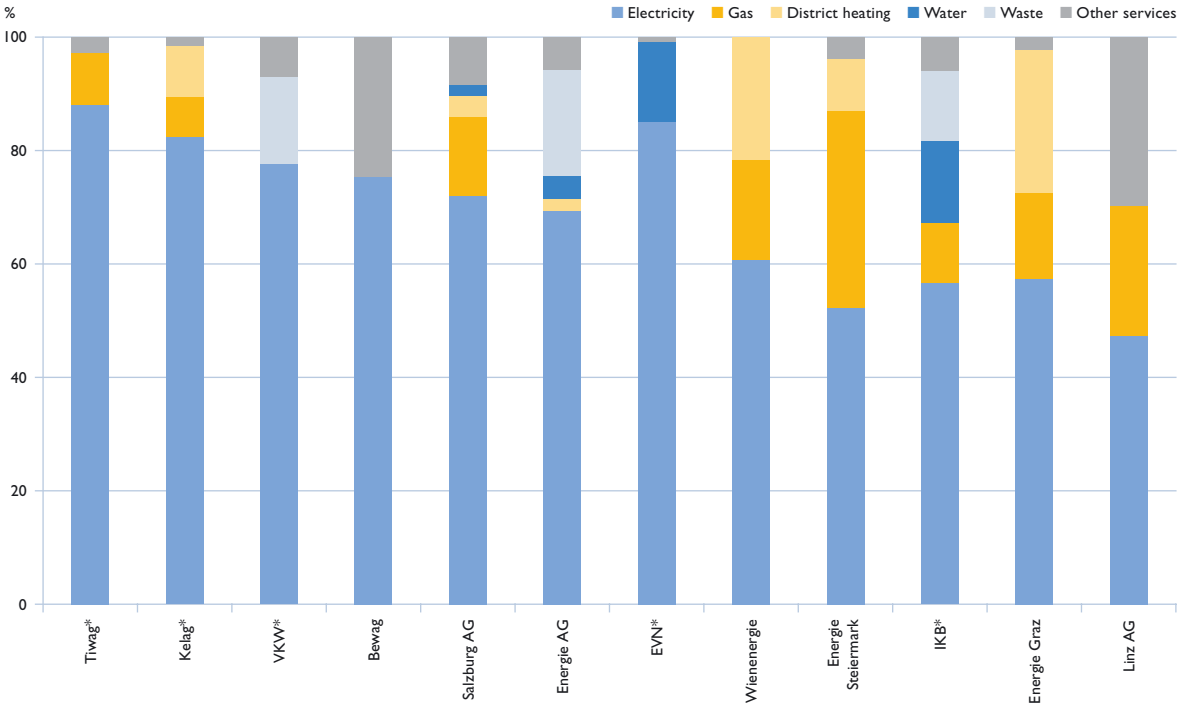
stations. However scale alone is not an indicator of strong revenue growth. The performance of energy companies that offer multi-utility services has also varied, with revenue growth ranging from 30–100 %.

Austrian energy companies' water supply, and wastewater and waste disposal businesses are playing an increasingly important role for them (see Chart 22). This also applies to the foreign activities of EVN and Energie AG. Energie AG's waste disposal segment now accounts for 25 % of total revenue (2002: 12 %), and the company is aiming to raise its contribution to 30 % in the medium term. Growth is mainly being driven by the expansion of Energie AG's AVE subsidiary which operates in Central and South-Eastern Europe. AVE is now the fourth-largest waste disposal company in Slovakia (partly as a result of growth by acquisition). Energie AG is also active in the Romanian waste disposal market via AVE. EVN has a presence in the waste disposal industry in Moscow among other locations, as well as the water supply and wastewater disposal sectors, with a total of 70 projects in 11 Central and East European countries under way.

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 have more than trebled since liberalisation. Some firms' post tax profits rose by more than 400 % between 2001 and 2006. The growth of after tax profits in the electricity

→ Revenue contributions by areas of activity:
selected Austrian energy companies, 2006 [22]

Chart 21



Sources: company annual reports

sector is chiefly attributable to higher electricity prices and virtually unchanged hydro power generating costs. Many companies have also expanded their wholesale activities. Expansion abroad has also had a positive impact on post tax profits.

The companies doubled their earnings before interest and taxes (EBIT) between 2001 and 2006. The average EBIT margin was always over 10% during the period, and was 12% in 2006. The EBIT based profitability ratios have likewise registered improvements, and rose sharply in 2006. Return on capital employed increased to 6%.

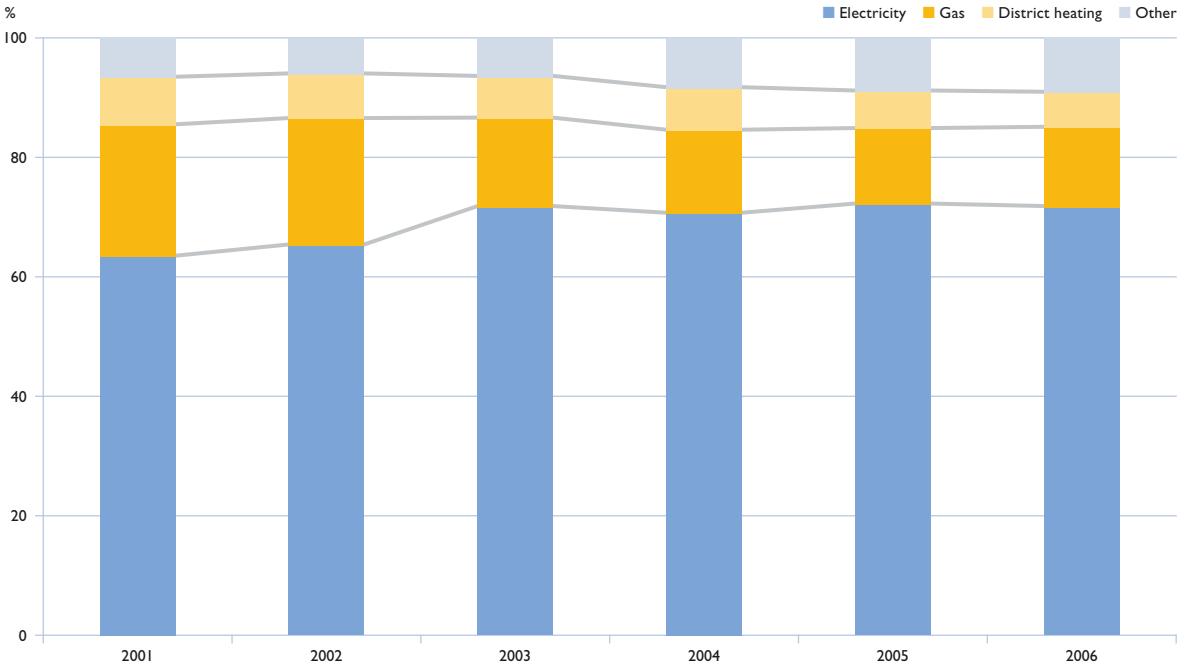
Return on equity, and return on equity and interest bearing borrowings improved still more markedly between 2001 and 2006, from approx. 7% to almost 13%, and from approx. 6.5% to almost 10%, respectively.

Since the revenue derived from the companies' regulated system operation activities has fallen as a result of the reductions in system charges, the increases in revenue evidently reflect to a significant build-up in activities in other areas of business. Rising wholesale electricity prices and activities abroad have also contributed to higher overall revenue.

22 The figures of asterisked companies are from the 2005 financial year.

→ Revenue contributions of business areas in percentage terms

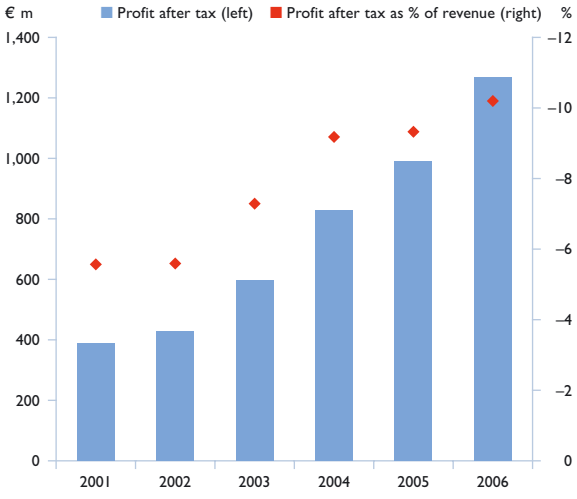
Chart 22



Sources: Company annual reports

→ Annual profits after tax in absolute terms and as a percentage of revenue

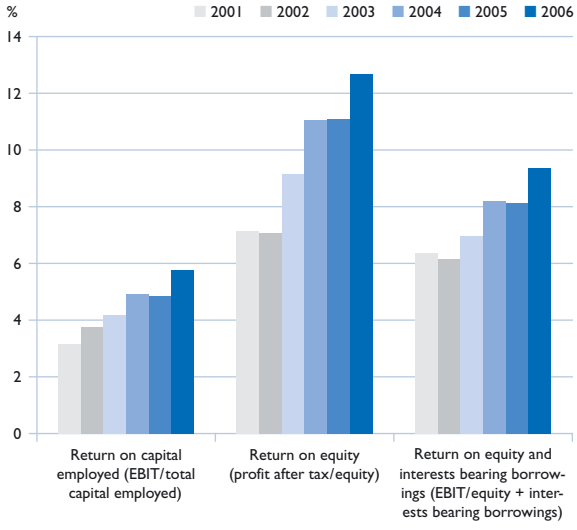
Chart 23



Sources: Company annual reports

→ EBIT based profitability measures, 2001–2006

Chart 24



Sources: Company annual reports

Austrian electricity companies' margins

It is possible to estimate the margins of individual suppliers on the basis of energy prices and the additional expenses for renewable electricity billed to end ussers over and above them (see Chart 25). This reveals two patterns:

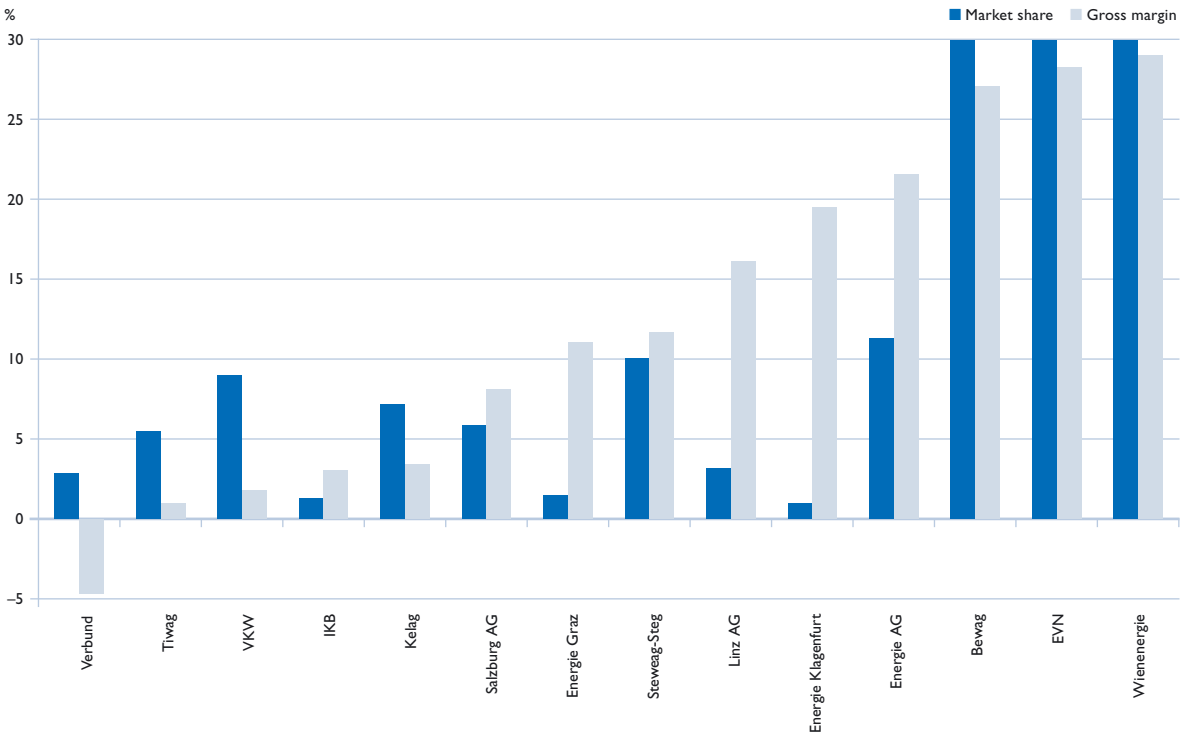
1. The margins of suppliers whose traditional supply areas are in eastern Austria are – in some cases significantly – higher than those of west Austrian incumbents; and
2. The higher their market shares, the higher are suppliers' margins.

While the first trend may be due to targets set by public sector owners, the second – in conjunction with high potential savings from switching and low churn rates – is an indication of possible entry barriers (switching costs such as search costs). Where new suppliers must compensate consumers for their switching costs their margins will be lower than those of the incumbents.

A study by the UK Office of Fair Trading[23] found a correlation between market shares and margins: the suppliers with the highest market shares also had the largest gross margins. Switching costs strengthen the link. Since electricity is not a growth market and consumers are reluctant to switch, it is more profitable to charge existing customers high prices than to win new ones by pitching rates lower.

→ **Market shares** (total supply to final consumers) **vs. gross margins of selected suppliers**[24]

Chart 25



Sources: Company annual reports and E-Control

23 Switching costs, Economic Discussion Paper 5, Part one: Economic models and policy implications (pp. 16 ff), Office of Fair Trading (OFT), April 2003.
24 Because Bewag Vertriebs- GmbH & Co, Wien Energie GmbH & Co and EVN GmbH & Co are subsidiaries of a retail joint venture, EnergieAllianz, their market shares are aggregated.

Market entry barriers

Entry barriers are factors that prevent or hinder new participants from entering a given market, resulting in competitive advantages for incumbent firms. Some entry barriers can be reinforced by incumbents (e.g. by inadequate unbundling). Entry barriers generally confront entrants with higher costs and risks than those of incumbents, enabling the latter to set prices above the competitive level.

The investigation of the electricity industry undertaken by the Federal Competition Authority, and the European Commission's energy sector inquiry identified numerous barriers to entry. Demand and supply side entry barriers on the Austrian electricity market are discussed below.

Supply side entry barriers

A distinction should be drawn between supply side entry barriers at the transmission and distribution system levels. There are three issues to consider at the transmission level:

1. Access to electricity;
2. Access to transmission capacity; and
3. The liquidity and transparency of the balancing market.

1. Access to electricity: In most European countries there is no difficulty in obtaining electricity, especially on the wholesale market. This applies to the Central European wholesale market (including Austria and Germany) in which the Leipzig EEX exchange is playing an increasingly important role.

2. Access to transmission capacity: Apart from electricity, new suppliers require access to transmission capacity. Access to cross-border transmission capacity poses problems where congestion is prevalent. However, provided that capacity (including firm, long-term capacity) is allocated in a demand based, transparent and non-discriminatory fashion, e.g. by means of auctions, there will be a level playing field for entrants.

3. The liquidity and transparency of the balancing market: Where a supplier has a narrow customer base supply and demand will not be automatically balanced by the law of averages, and the imbalance risk will be greater than with a large customer portfolio. Moreover, in spite of unbundling integrated companies obtain information on demand behaviour from their system operation subsidiaries, and are thus able to respond rapidly to it and keep down their balancing power requirements. Reducing imbalance risks depends on transparent, non-discriminatory design of the balancing market.

Even if the conditions for a functioning market are met at the transmission grid level it cannot automatically be assumed that there will be competition on downstream markets. Functioning wholesale markets and adequate cross-border interconnector capacity are necessary but not sufficient conditions for competition and the emergence of regional markets. Attention must also be paid to other factors including the legal framework, the regulatory environment, the transparency of retail markets and consumer behaviour.

A functioning Central European wholesale market, an efficient balancing market, and adequate transmission capacity from Germany into Austria have not yet led to robust competition on Austrian retail markets. The large and small consumer markets remain highly concentrated, and only a few new foreign entrants are active on them. Foreign suppliers are only present on the large consumer market, and their market shares are negligible.

On the downstream markets, i. e. at the distribution system level, vertically integrated companies have major advantages over new suppliers and opportunities to discriminate against them, namely:

- Lower customer care costs than newcomers, which face high fixed costs (including entry costs and marketing expenses) combined with large customer portfolios;
- Lower transaction costs than entrants which have higher system operator-retailer data exchange expenses due to their lack of integrated data systems. Despite unbundling, the Austrian retail subsidiaries of integrated companies often have information at their disposal that is only available to a new supplier later, if at all. This includes information on new customer connections – a point raised both by the industry investigation and the sector inquiry ("unequal information and treatment").
- The fact that the integrated companies market under common brand names despite legal unbundling (see section Unbundling in the electricity sector). Even where no financial cross-subsidisation takes place, the system operation function can support a retail operation by undertaking advertising activities and by maintaining a shared brand identity – especially if the company names are the same. Information as to the respective responsibilities of the retailer and system operator to the customer, if any, is usually given in a confusing manner.

As noted in section Unbundling in the electricity sector, despite legal unbundling there are loopholes for companies to give preferential treatment to retail affiliates or discriminate against other suppliers. As a result, the market development costs of alternative suppliers are higher and their margins lower, making market entry less attractive.

Demand side entry barriers

Beyond the demand side entry barriers, supply side factors also contribute to the low competitive intensity and number of new entrants in the Austrian electricity market. These include the costs incurred by consumers when changing suppliers. Lack of information and the intransparency of the Austrian electricity market reinforce the slowness of small consumers to switch. Here, too, there are opportunities for incumbents to erect entry barriers (switching costs). Intransparent market information includes:

- Opaque billing practices;
- Unclear customer information (e. g. on the respective responsibilities of suppliers and system operators); and
- Obscure price information.

Since 1 January 2007 the Electricity Industry and Organisation Act (section 45c [1]) has explicitly required information and advertising materials, and bills to be presented in a transparent, consumer friendly fashion. This involves disclosing the various price components in a transparent manner and expressing the energy price in cent/kWh. Nevertheless, some Austrian suppliers are continuing to state their energy prices in such a way that customers are unable to tell how high they were during given periods. In some cases bills only show an average price, from which it is impossible to deduce the most recent energy price. Few domestic consumers are aware of the energy prices they are paying. The reason for this is the failure of the suppliers to include price information in their corporate communication materials. The increase in the settlement price for allocations of supported green power to suppliers, and the resultant rise in additional expenses for renewable electricity have lessened price transparency for end users. Since the calculations behind suppliers' additional expenses are not disclosed, consumers are unable to tell how they are arrived at.

These intransparent disclosures mean that the effort involved in making price comparisons (i.e. the switching costs) and obtaining the information required to allay consumers' doubts about switching is considerable. A new supplier must compensate customers for their switching costs by charging lower energy prices, among other incentives. Given the potential savings available to an average domestic or small business consumer (up to 16% of total costs) and the low churn rates of both consumer groups (percentages in low single figures) it can be taken that there are significant switching costs.

Consumer behaviour

Since 1 October 2001 all electricity consumers have been free to change their suppliers. By September 2006 a total of 161,000 domestic consumers had done so, representing 4.1% of all electricity consumers.

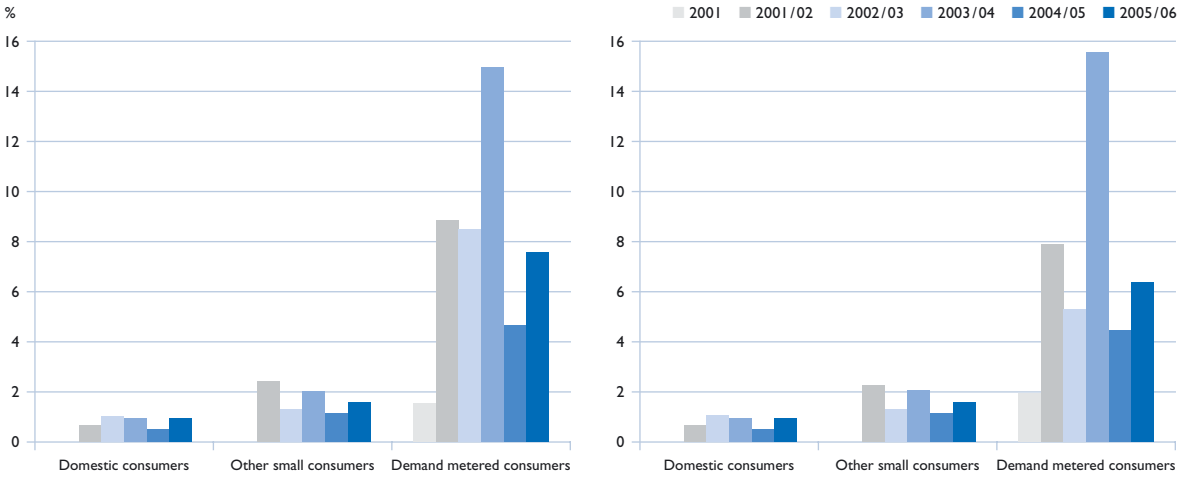
After a sharp decline in the switching rate for domestic consumers between October 2004 and September 2005, to 0.5%, last year the churn rate recovered to 0.9%. An annual 1.7% of the "other" small consumers (business customers) switch. This group has had a more constant churn rate than domestic consumers.

Demand metered consumers, which include large industrial consumers, farms and service companies, are the most active switchers. The reasons for this are the greater absolute savings to be made and the fact that these consumers are better informed.

In volume terms, consumers with a combined demand of some 2,000 GWh, equal to 3.9% of total demand, transferred to new electricity suppliers in 2005/2006. Demand metered consumers accounted for over 85% of the volumes transferred, though they represent only 2% of all metering points.

→ **Supplier transfers in the electricity market:** transfers as a percentage of consumers (metering points, left) and demand in GWh (right)

Chart 26



Source: E-Control

→ Consumer prices

The regulation of energy prices ended with the liberalisation of the electricity market. 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 (capped), all the system charges are fixed. The system operators are free to set lower metering charges, provided that they accord non-discriminatory treatment to all consumers, i. e. all customers must be charged the same price for a given type of meter. In practice, however, almost all system operators charge the maximum price established by the tariff determination.

Industrial electricity prices

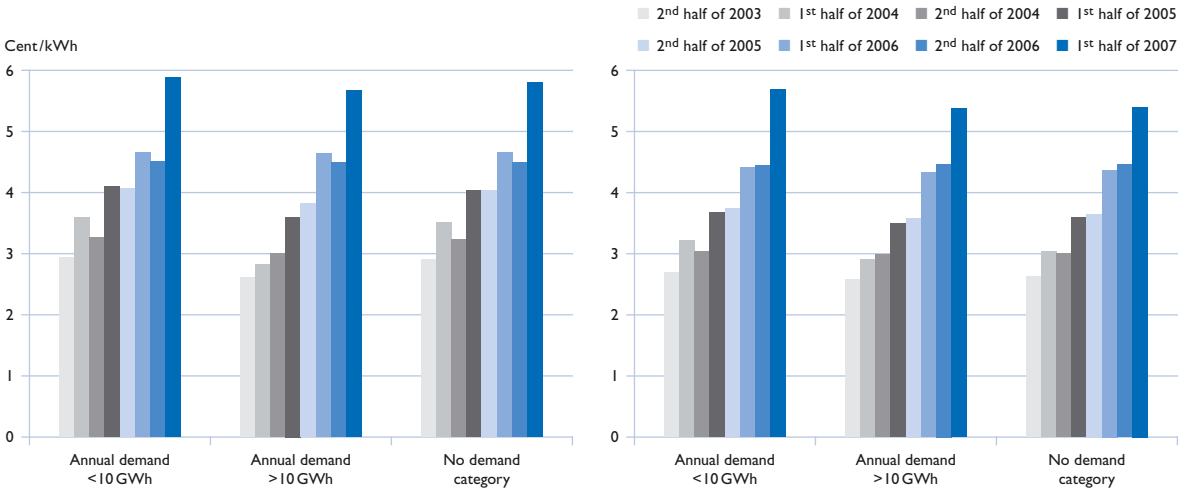
As in the past few years, industrial electricity prices have risen in 2007. This trend reflects higher wholesale prices, as well as increased settlement prices for electricity from subsidised renewable and small hydro generating stations. The 0.50.7 cents/kWh (net) difference between the market and settlement prices for renewable electricity is passed on to consumers in the form of so-called "additional expenses".

Suppliers are obliged to take the supported electricity, which is allocated by the green power settlement agent ÖMAG in proportion to the total supply to final consumers, at a fixed settlement price of around €92/MW. This is above current wholesale prices. The difference between the settlement and market prices is passed on to consumers on a pro rata basis.

E-Control carries out a survey of industrial prices every six months and publishes the results. The charts below depict the evolution of industrial prices for a variety of consumer categories. Prices for industrial consumers have risen steadily since E-Control began the survey, with a marked jump at the turn of each year.

→ Industrial electricity prices:
< 4,500 full load hours (left) and > 4,500 full load hours (right)

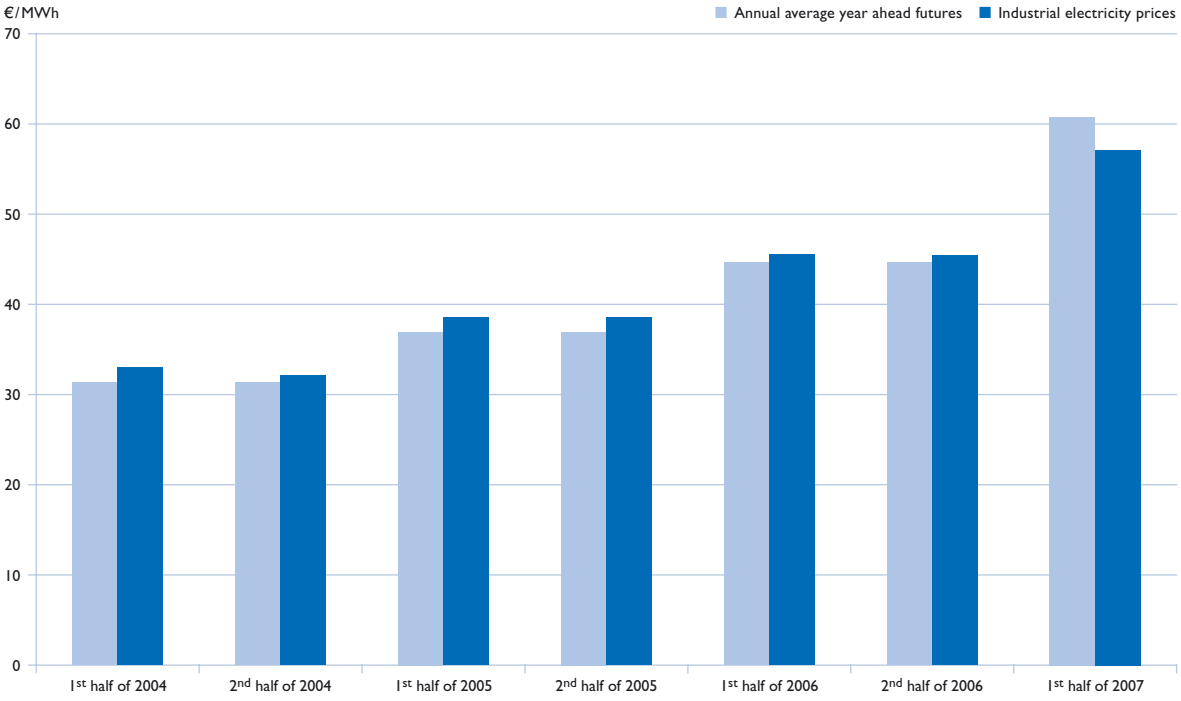
Chart 27



Source: E-Control

→ Trends in exchange quoted prices and energy prices charged to industrial consumers [25]

Chart 28



Sources: EEX and E-Control

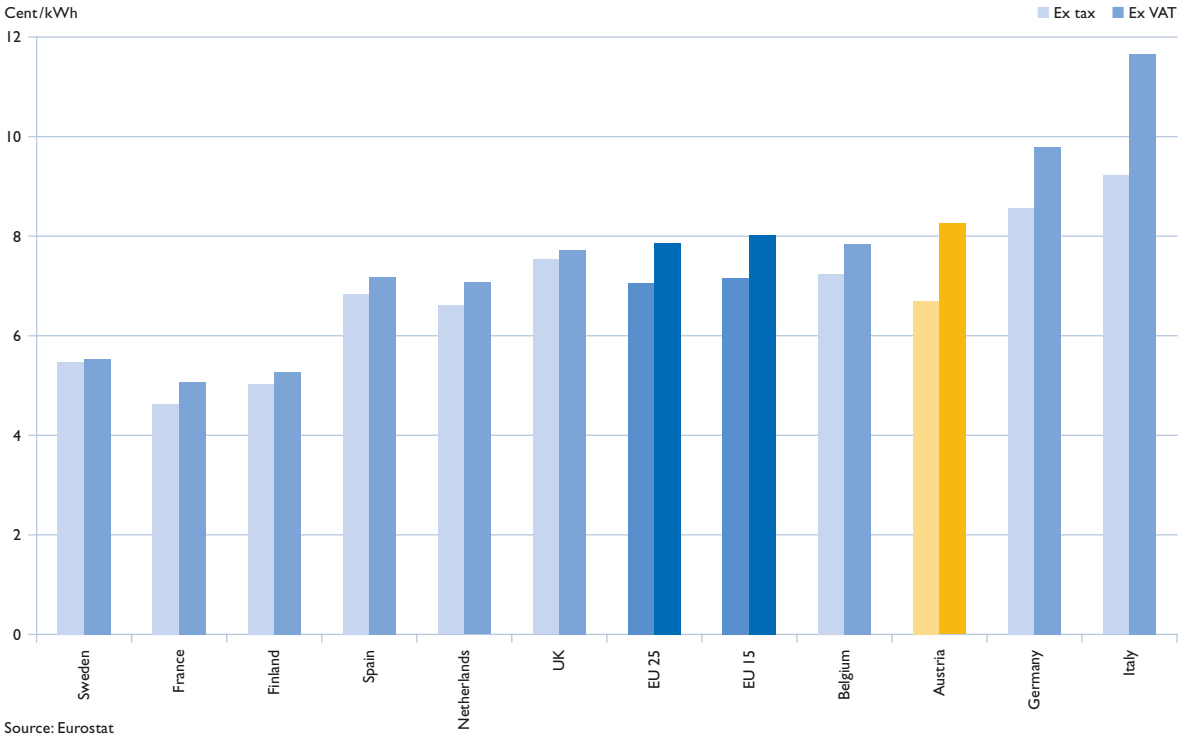
Chart 28 gives a comparison of movements in wholesale prices (based on EEX futures) and industrial electricity prices. Until the second half of 2006 the wholesale price was always below the average industrial price identified by the E-Control survey. The comparison for the first half of 2007 is of particular interest because the industrial price includes additional expenses for renewable electricity as well as the energy price.

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. Future surveys are expected to reveal a further increase in the energy prices charged to industrial consumers, since the survey data does not take account of when supply contracts were made. This means that the energy prices actually represent a mix of prices deriving from agreements with different terms. 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 which agrees a contract closer to the commencement date.

25 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.

→ **Industrial electricity prices** (energy and system charges) **in Europe** (24 GWh/y, 4 MW)

Chart 29



Source: Eurostat

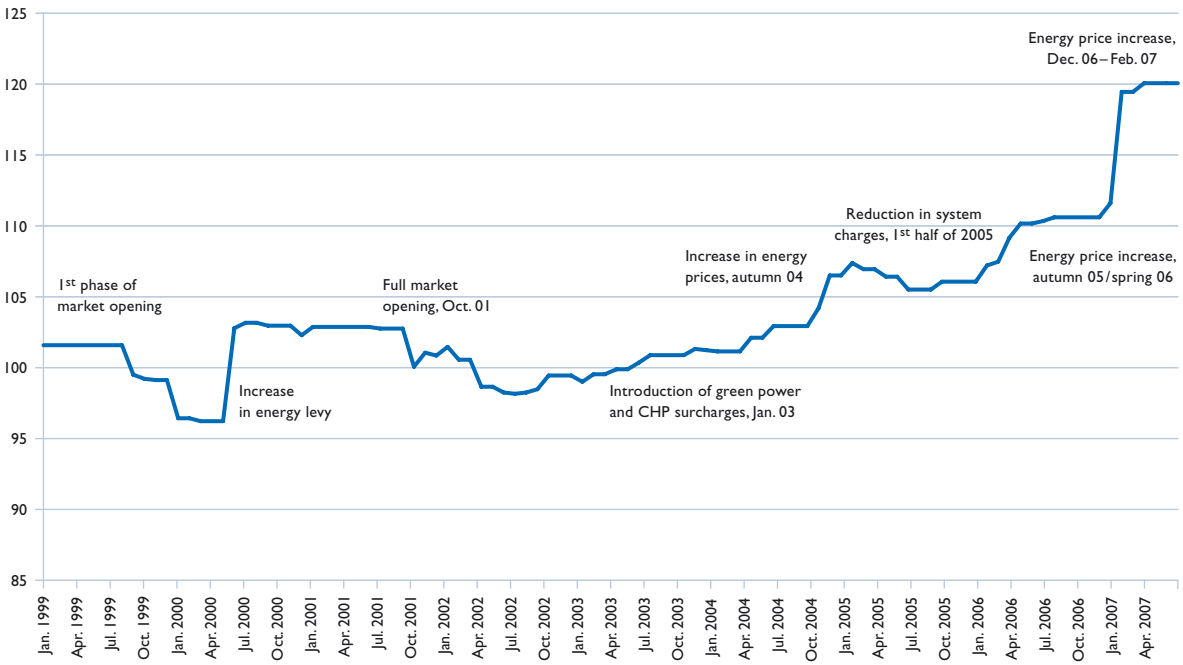
The energy price is only one of the determinants of an industrial company's choice of location and competitiveness. System charges, and taxes and levies also play a part – especially where power costs are a major component of costs.

Chart 29 reveals that energy and system charges in Austria are below average for the EU-15 and EU-25. However if taxes and levies are included the average price paid by Austrian industrial consumers is above the EU average (EU-15), with higher prices found only in Italy and Germany. Not all countries treat the allocation and itemisation of taxes and levies in the same way, so a comparison of energy and system charges produces a different result to one of overall prices. However, only overall prices including all taxes and levies are of relevance for choices of location.

Domestic electricity prices

Chart 30 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. Since then overall prices have risen sharply.

→ **Electricity CPI** (overall price, October 2001 = 100) Chart 30



Sources: Statistics Austria and E-Control

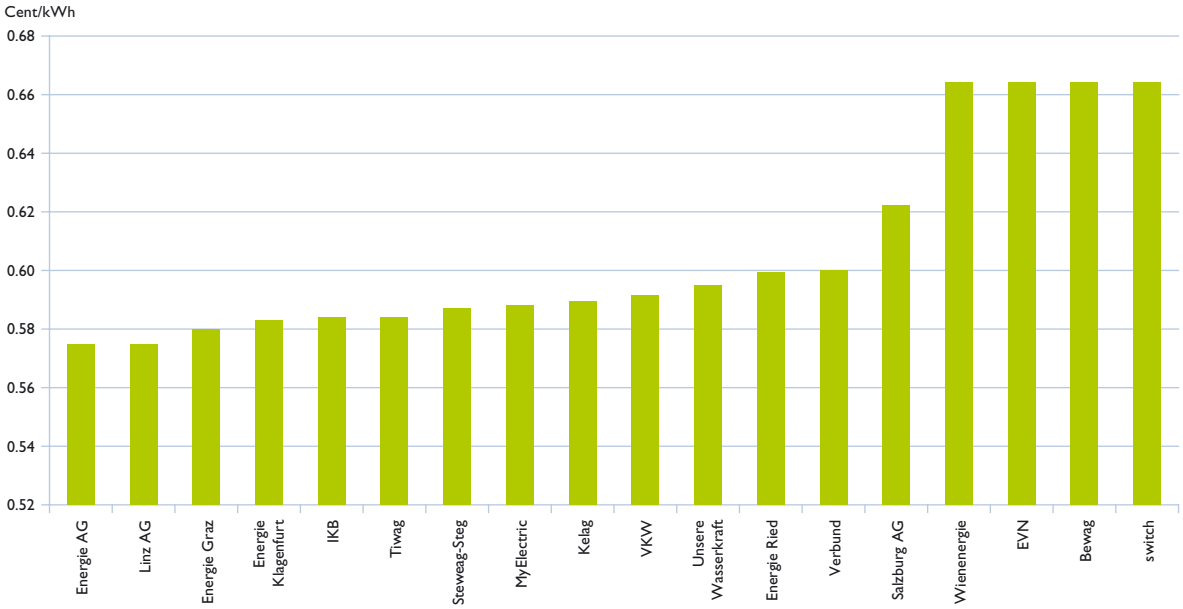
As with industrial prices, the increase in domestic electricity prices at the start of 2007 is attributable to two main factors:

1. A sharp rise in wholesale prices in recent years. Only since April 2006 have prices moved sideways. However, since suppliers purchase some of the electricity they require well ahead of delivery to mass market consumers, price fluctuations from previous years will influence current prices for the 2007 supply period.
2. The amendment of the Green Electricity Act brought an increase in the settlement prices for subsidised electricity allocated by ÖMAG, which suppliers are obliged to accept. This has led the suppliers to raise their charges to cover the "additional expenses" for renewable electricity from 0.57 to 0.664 cent/kWh.

The amounts charged by suppliers to compensate them for "additional expenses" arising from renewable electricity vary widely. The difference between the lowest and highest is around 16%. The additional expenses depend on the market price of renewable electricity. They represent the difference between the purchasing price and the settlement price for the allocated amount of green power, assigned on a pro rata basis. This should mean that the suppliers with the highest additional expenses charge the lowest energy prices. However, a comparison of additional

→ Additional expenses for renewable electricity

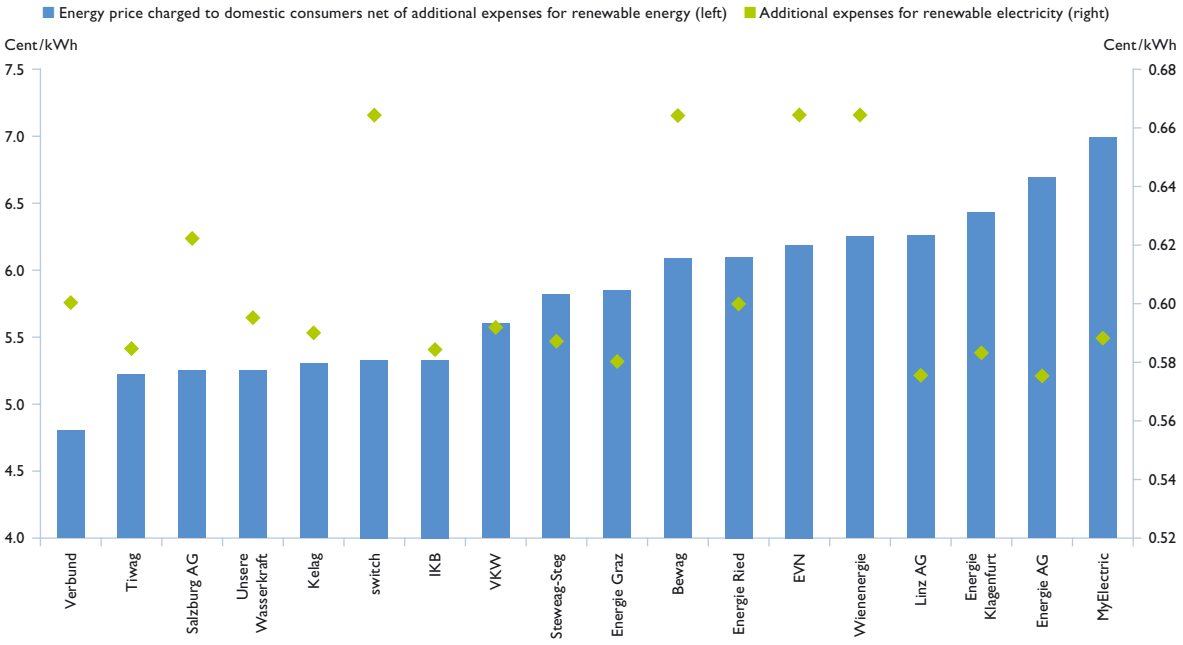
Chart 31



Sources: Company price lists and websites, June 2006

→ Additional expenses for renewable electricity compared to the energy prices charged to domestic consumers

Chart 32



Sources: Company price lists and websites

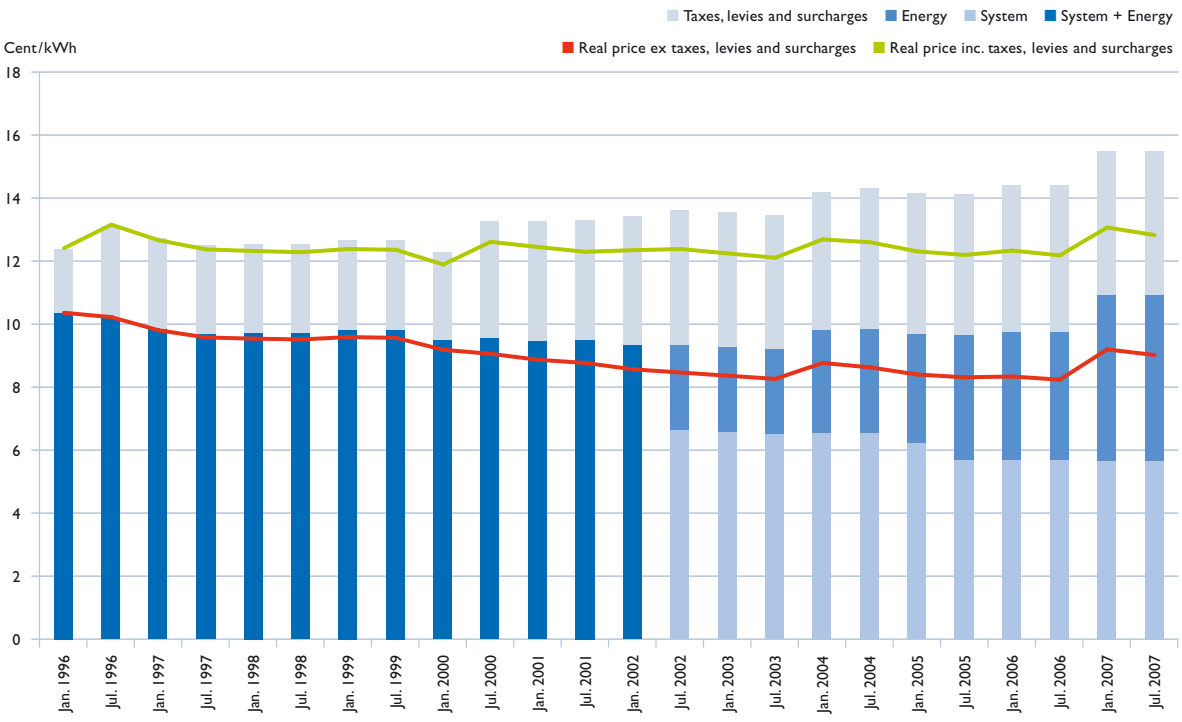
expenses for renewable power and residential electricity prices (Chart 32) shows that this is not the case in practice.

A look at the inflation adjusted energy and system charges shows that at the end of 2006 customers of the cheapest suppliers were paying less in real terms than before liberalisation. However, the increases in energy prices and additional expenses for renewable electricity led to a rise at the start of 2007. Real system and energy charges are currently above 2001 levels for the first time since liberalisation.

Chart 33 analyses the changes in the individual cost components since July 2002. The fall in system charges since liberalisation is unmistakable, whereas energy prices, taxes and levies have risen.

Chart 34 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 33 % higher than those of the cheapest incumbent supplier for a domestic customer with an annual consumption of 3,500 kWh. When the local players' prices are compared to the lowest-cost nationwide supplier the gap widens to some 40 %. Varying system charges also play a part in these wide disparities between the overall prices. The overall price of the local player in the dearest grid zone is some 23 % higher than that of its counterpart in the cheapest grid zone.

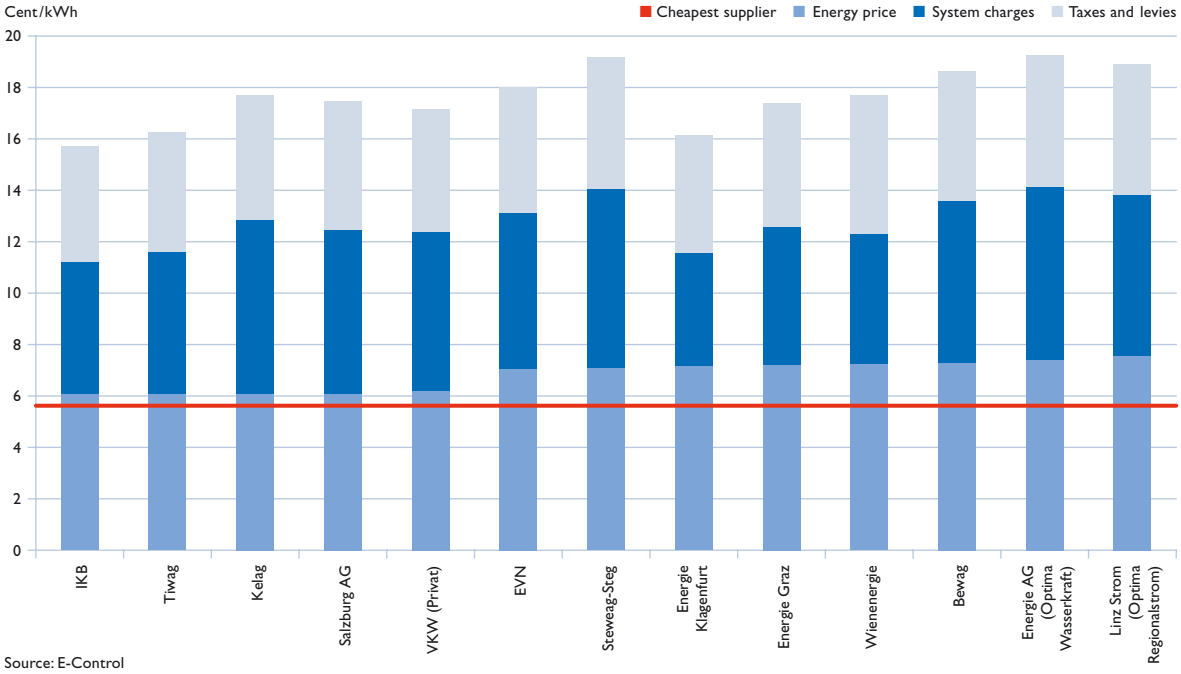
→ **Domestic electricity prices, 1996–2007** (3,500 kWh, cheapest supplier) Chart 33



Sources: E-Control and Eurostat

→ Price comparison: local player vs. cheapest supplier, 3,500 kWh, July 2007

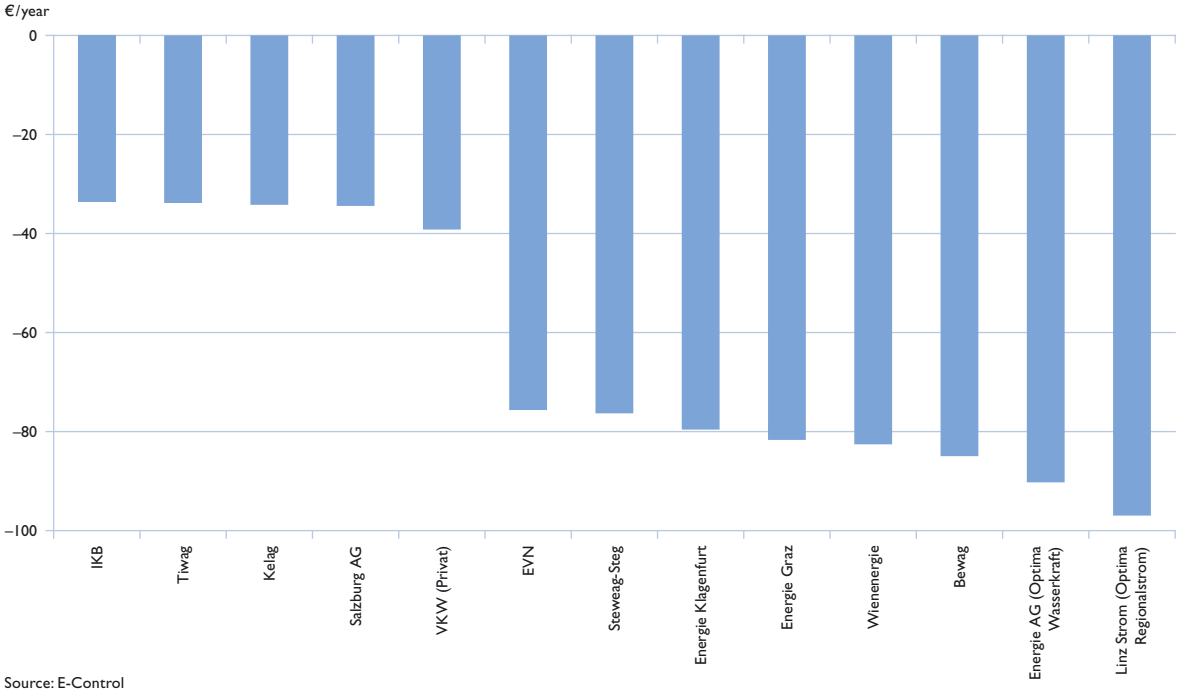
Chart 34



Source: E-Control

→ Price difference between local player and cheapest supplier, 3,500 kWh, July 2007

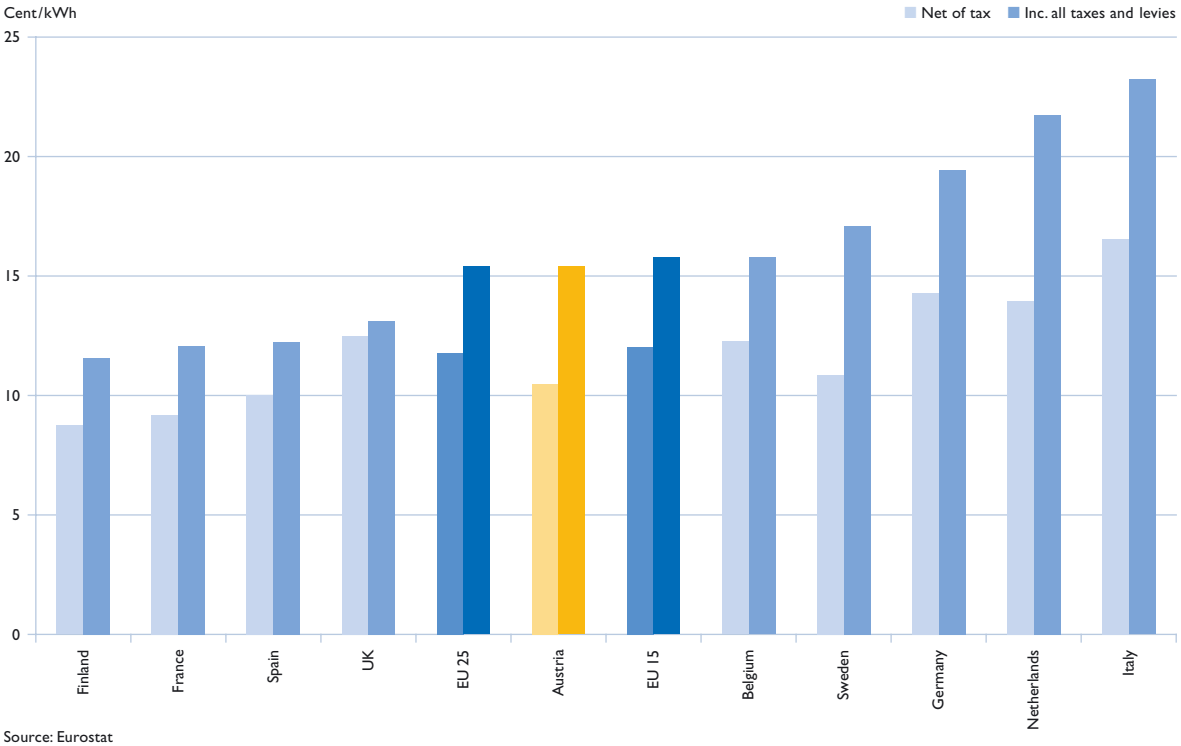
Chart 35



Source: E-Control

→ **Comparison of domestic electricity prices** (energy and system charges) **in Europe** (3,500 kWh)

Chart 36



Source: Eurostat

These differences between the energy prices of local players mean that the potential savings from switching to the cheapest provider also vary. It is striking that the potential savings – and the energy prices – are far higher in eastern than in the western Austria. The potential savings in eastern Austria range between €70–90, representing savings of some 40 % on the energy price and about 16 % on the overall price. Despite these – in some cases major – savings, however, each year less than 1 % of all domestic consumers switch suppliers. The combination of substantial differences between the energy prices of the cheapest provider and most local players, and a low switching rate points to the existence of switching costs and thus of entry barriers.

A European comparison reveals that overall prices including taxes and levies in Austria are close to the EU average. Austria performs better in terms of system and energy charges alone. It should also be borne in mind that the treatment of levies and surcharges is in some cases intransparent, and that they are sometimes included in the system and energy charges, resulting in over-reporting of these price components. Overall costs thus offer the best comparison, as they include all levies and surcharges, and thus keep distortions to a minimum. The average overall price charged by incumbents comes in at around 17.60 cent/kWh – well above the amount shown in Chart 36. A change in the Eurostat survey methodology should permit more representative results from 2008 onwards.

Regulation and Performance of the Natural Gas Market 2007

E-CONTROL

Natural gas accounted for 24.2 % of primary energy consumption in Austria in 2005. Supply to final consumers was 8.456 bn cu m – down by some 6.7 % year on year. Most of the imports (infeed to the Austrian grid from abroad) were re-exported to neighbouring countries including Germany and Italy. Movements in and out of storage increased markedly as compared to 2005.

Chart 37 analyses the supply and consumption of natural gas in Austria[26] in 2006. The variations in consumption between the summer and winter months (supply to final customers) are clearly apparent, as is the seasonal use of storage capacity.

→ Austrian gas indicators, 2006

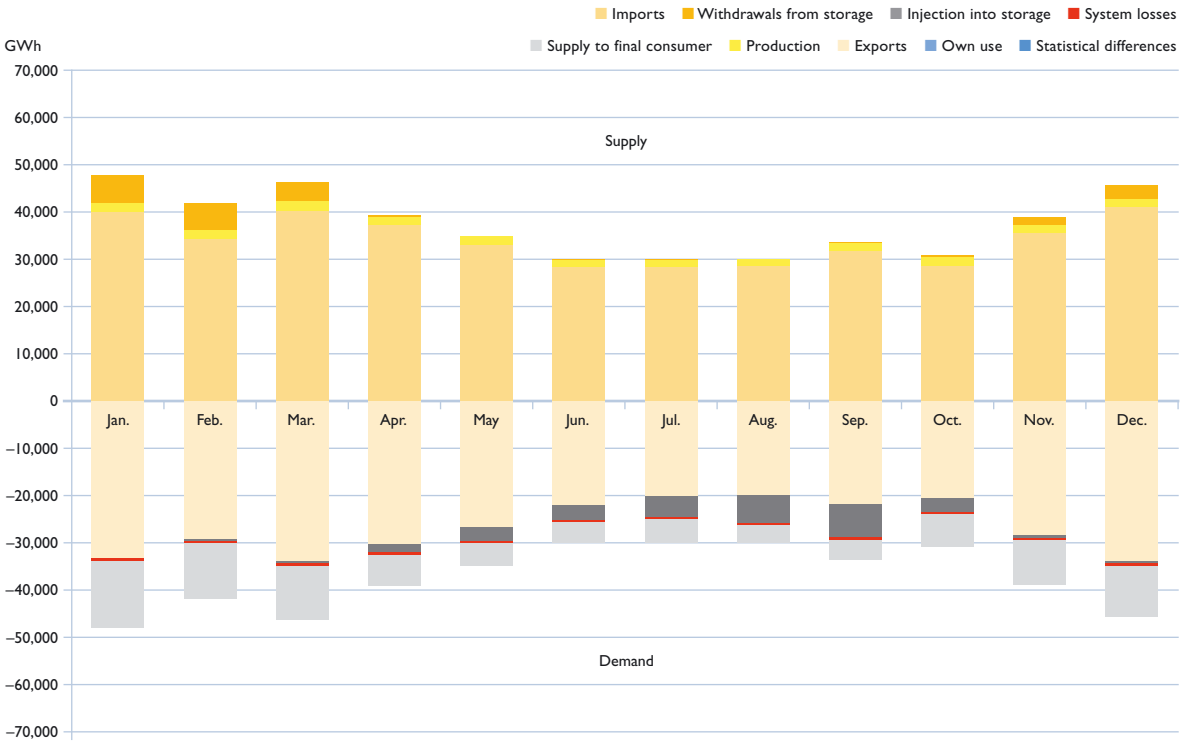
Table 4

	2006 m N cu m/year	Change vs. 2005
Imports	36,722	–1.5 %
Production	1,819	+11.1 %
Withdrawals from storage	1,848	+17.2 %
Supply/consumption	40,388	–0.3 %
Exports	28,879	–0.2 %
Injection into storage	2,600	+25.2 %
Own use and losses	224	+24.0 %
System losses	234	–13.7 %
Statistical adjustment	–5	
Supply to final consumers	8,456	–6.7 %
Net imports	7,843	

Source: E-Control

→ Natural gas supply and demand in Austria, 2006

Chart 37



Source: E-Control

26 Statistics Austria, energy statistics (www.statistik.at).

In 2006 the amended Natural Gas Act and the third market rules review process brought significant changes to transit and domestic transportation regulation. Transits and domestic transportation continue to be subject to different regulatory regimes. Conversion of the regulatory regime for domestic transportation from a cost-plus to a multi-year incentive based system is under discussion. As regards storage regulation, the amended legislation imposes additional obligations, including duties to publish information, on the storage operators.

→ Transit regime

Austria is a gas transit country. Of the 36.7 bn N cu m of natural gas injected into the Austrian grid in 2006, almost 80 % was transited. Only 8.5 bn N cu m remained in the country (Chart 38) and 28.7 bn cu m was re-exported. Most of the transits go to Italy (2006: approx. 23 bn N cu m).

Transit tariffs

The Natural Gas (Amendment) Act 2006[27] contains provisions governing cross-border tarification which entered into force on 1 January 2007. The Act transposes Directive 2003/55/EC and Regulation (EC) No 1775/2005 by requiring transmission companies and holders of transportation rights to provide access to their networks on the basis of charges that conform to the principles of cost reflectiveness and non-discrimination. The methods for calculating the rates require the ex ante approval of the E-Control Commission.

Like domestic conveyance, cross-border transportation is now subject to regulated network access on the basis of general terms and conditions, and cost based system charges which must be approved by the regulator. However the Natural Gas (Amendment) Act permits a variety

→ Gas flows in 2006

Chart 38

Sources: E-Control and OMV

27 Energy Security of Supply Act 2006, BGBl. I No. 106/2006.

of approaches to certain calculation parameters and to the manner in which tariffs for cross-border transportation are determined.

To gain approval, 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 also 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. The approval procedure for calculation methodologies was still in progress as of 30 June 2007.

It is regrettable that the companies concerned (BOG GmbH, OMV Gas GmbH and TAG GmbH) failed to fulfil their duty to submit appropriate tariff calculation methodologies by 1 January 2007. Applications for approval were indeed made, but these did not meet the requirements of the regulatory authority.

Gas transit capacity situation

An investigation of the capacity situation at the end of 2006[28] found that there was congestion on some Austrian transit systems. A basic distinction should be drawn between contractual and physical congestion. In 2006 the amount of capacity sold for transits on the east-west system (the HAG, WAG and PENTA West pipelines) was 14.106 bn N cu m. The figure for the north-south system (the TAG and SOL) was 32.792 bn N cu m, yielding total capacity sales of around 47 bn N cu m[29].

There is physical congestion on the Trans-Austria Gasleitung (TAG), with firm short-term capacity booked out until 1 October 2007. Long-term capacity under contracts commencing on 1 October 2008 has been allocated on a pro rata basis. The auction of short-term capacity for the gas year from 1 October 2006 to 30 September 2007 resulted in prices three times higher than those for long-term capacity. In order to overcome the physical bottleneck, TAG is adding two compressors to its system, expanding capacity by 6.5 bn cu m/year from 2008 on (Chart 39). However, since the expansion scheme will be insufficient to meet transportation capacity needs, and will probably be subject to delays, E-Control and the Italian regulator have called on TAG GmbH to take appropriate action to bring capacity into line with demand. As a transmission system operator, TAG has a legal obligation to expand its system to meet demand, which it has hitherto to fulfil to the necessary extent.

The Oberkappel interconnection point on the West-Austria Gasleitung (WAG) is also prone to physical congestion. In consequence, the capacity of the WAG is to be raised in three development phases, due to be concluded by 2011. This will involve expanding existing compressor stations (including Baumgarten and Rainbach), constructing new stations (a.g. Kirchberg am Wagram) and laying new pipeline sections ("loops") parallel to the existing link. The aim of the project is to almost double the capacity of the WAG pipeline system. At the same time, the capacity of the Penta-West (PW), which branches off from the WAG at Oberkappel, will be increased by the construction of a new compressor station there (Chart 39).

No physical congestion currently exists on the Hungaria-Austria-Leitung (HAL) or the Süd-Ost-Leitung (SOL). On the HAG, however, all capacity has been allocated until 1 October 2016[30]. On the other hand, data on the actual use of capacity over the past three years shows that only around half of the reserved capacity was utilised.

28 Route Assessment Report for the South-South East Region of the ERGEG GRI [GRI-SSE-SG-02-03], November 2006.
29 See www.omv.com.
30 OMV Gas GmbH online capacity booking system, July 2007.

The Natural Gas (Amendment) Act includes provisions designed to improve short-term congestion management. In addition to the obligation for shippers to make unused capacity accessible to third parties on a central trading platform ("use it or sell it"), transmission system operators and holders of transportation rights are also required to withdraw such capacity on an interruptible basis ("interruptible use it or lose it") if a shipper fails to utilise booked capacity.

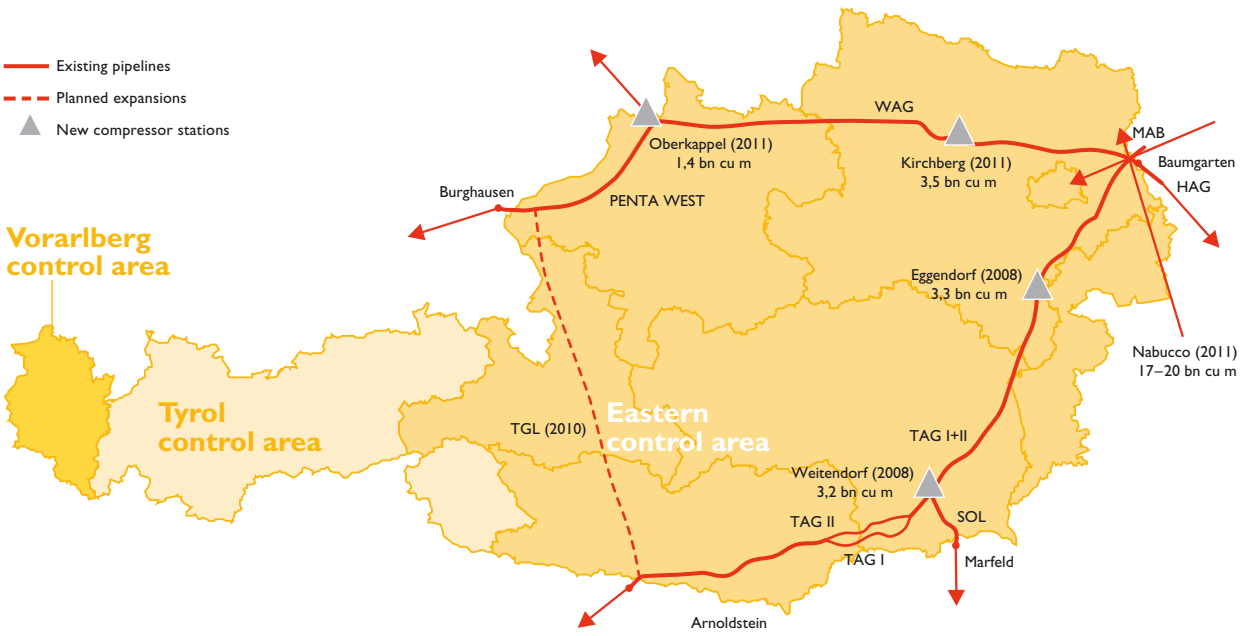
Steps to achieve effective long-term congestion management were taken by Baumgarten-Oberkappel Gasleitungs GmbH (BOG) in 2006, following market research on the need for additional transmission capacity. The feedback received in response to this study was being analysed at the time of writing, and will be published.

Interconnection point agreements

Cooperation between transmission system operators in neighbouring countries is of vital importance to cross-border gas transportation. This should be underpinned by the conclusion of interconnection point agreements (IPAs) at each exit/entry point. Such agreements enable shippers to manage their transactions at interconnection points more efficiently. A key component of IPAs are operational balancing agreements (OBAs), under which adjacent transmission system operators allocate nominated quantities of natural gas to the shippers concerned and manage any balancing energy that arises via an imbalance account maintained by the transmission system operators.

→ Transit system expansion

Chart 39



Sources: E-Control and OMV

The conclusion of an IPA between SPP preprava (the Slovakian system operator) and OMV Gas GmbH at the Baumgarten interconnection point has been delayed. Such an agreement (including an OBA) is of crucial importance to the continued development of the Central European Gas Hub market.

The removal of trade barriers, particularly at interconnectors (technical and legal barriers), and the conclusion of interconnector point and operational balancing agreements are also priorities for the Gas Regional Initiative in the South-South East Europe REM (see Chapter Gas Regional Initiative).

Existing contracts

There are long-term contracts for reservations of capacity on the TAG and WAG systems. These agreements were concluded when the pipelines were built. The investors were allocated the capacity in question by the shareholders, which are also the holders of the TAG and BOG transportation rights. In the event of expansion projects they are not, however, given preferential treatment with regard to new capacity, for which there is a non-discriminatory allocation mechanism.

Nevertheless third-party access is hindered by the existing long-term contracts, which block most of the technically available capacity. Under section 31i. Natural Gas Act, which is based on Directive 91/296/EEC of 31 May 1991 (Transit Directive), contracts concluded after 30 April 2004 are unrestrictedly subject to the legal requirements with regard to third party access to gas transmission systems, such as the UIOLI principle [31].

Transparency

Publication of information on capacity

The transmission system operator OMV Gas GmbH, and the transportation rights holders TAG GmbH and BOG GmbH post information on capacity on their websites [32]. However both the quantity and the quality of the information vary. The transmission system operators have yet to meet all the requirements of Regulation (EC) No. 1775/2005, one year after its entry into force.

Both OMV Gas GmbH and BOG GmbH have set up online capacity booking systems that provide detailed information on free capacity. Apart from a preview of technical capacity and free capacity, these systems can also display records of capacity use over the past three years. TAG GmbH only posts capacity information on a monthly basis, and this is at variance with the transparency requirements of Regulation (EC) No. 1775/2005.

Secondary trading

OMV Gas GmbH, TAG GmbH and BOG GmbH have bulletin boards on their websites to facilitate secondary trading of transportation capacity. This is aimed at making it easier for potential customers to obtain capacity and contact companies offering it.

However it remains unclear what procedure is used to allocate secondary capacity. Following the signature of a strategic partnership agreement with ENI in November 2006, Gazprom Export has been receiving transmission capacity on the TAG to enable it to supply Italian customers directly. It is unlikely that this transmission capacity has been offered to all potentially interested market participants in a transparent manner.

31 See section 19(2) Natural Gas Act.
32 See www.omv.com, www.taggmbh.at and www.bog-gmbh.at.

→ Transmission and distribution

The Austrian transmission grid consists of some 2,718 km of domestic transmission pipelines, 29,240 km of distribution pipelines and 792 km of transit pipelines (status as of 2005)[33]. The domestic transmission and distribution networks (excluding transit pipelines) are run by seven transmission system operators and 19 distribution system operators.

The transmission system

As with the electricity market, the gas market is divided into three control areas. The control area manager for the Eastern control area is AGGM, and that for both the Tyrol and the Vorarlberg control areas is A & B. AGCS holds the clearing and settlement licence for the Eastern control area, which makes up about 95% of the Austrian market, and A & B is the settlement agent for the Tyrol and Vorarlberg control areas.

About two-thirds of Austria's import capacity is earmarked for transit, which has been regulated since 1 January 2007. The Natural Gas Act established three grid levels. The transit systems form part of Grid Level 1. Domestic transportation capacity is allocated according to the "backpack" principle, whereby the pipeline capacity previously used by the customer remains at its disposal in the event of a supplier transfer. The mechanism for the allocation of capacity on transit systems is different.

The TAG[34] pipeline was built by OMV, and OMV Gas GmbH maintains it. TAG GmbH is the transportation rights holder and markets the capacity. Long-term capacity has hitherto been allocated on a pro rata basis (in future a lottery will be used), and short-term capacity (one-year contracts) is auctioned.

OMV also built the WAG[35] system, which is likewise maintained by Gas GmbH. BOG GmbH owns the transportation rights, and markets the capacity according to the first come, first served principle as there is no physical congestion.

The HAG, MAB, Penta West and SOL transit systems were likewise constructed by OMV. They are owned by OMV Gas GmbH, and as the transportation rights holder it markets the capacity – also applying the first come, first served principle as here, too, there is no physical congestion (see section Transit tariffs).

Separate charges are not made for domestic transportation at Grid Level 1. The costs arising from Grid Level 1 services are cascaded to Levels 2 and 3, and thus enter into the calculation of the system charges. These costs are determined by the E-Control Commission during tariff reviews. The system operators disclose them by completing a survey questionnaire. This requires respondents to provide both technical details (e.g. the number of metering points, the system length per grid level and the amount of gas supplied to final consumers) and commercial information (e.g. fixed asset movement schedule, balance sheet, income statement and statement of activities).

Changes in the tariff and capacity model

For the first time, general terms and conditions governing the relationships between the control area managers and balancing group representatives, and the distribution system operators have been drawn up and approved by the E-Control Commission, as required by the Natural Gas (Amendment) Act.

33 See Der österreichische Gasmarkt 2006 (The Austrian Gas Market in 2006), brochure, E-Control.
34 The shareholders in the operating company are ENI International B.V. (89%) and OMV Gas GmbH (11%); www.taggmbh.at.
35 OMV Gas GmbH holds 51%, GdF 44% and E.ON Ruhrgas AG 5% of the operating company, BOG GmbH; www.bog-gmbh.at.

→ "Other shipments" – shipment type

Table 5

	Application for system access to	Tariff determination rules	Contractual tariff setting
Control area boundary to storage facility Storage facility/production	AGGM	No charge	No GTC
system to control area boundary	AGGM	Order under section 31h.(5) Natural Gas Act	GTC for Cross-border Transportation with reference to section 31h.(5) Natural Gas Act
As part of a cross-border shipment[1]	OMV Gas one-stop shop), transmission company and AGGM	Order under section 31h.(5) Natural Gas Act	GTC for Cross-border Transportation with reference to section 31h.(5) Natural Gas Act

1 Cross-border transportation via domestic transmission systems under section 12d. Natural Gas Act

One of the key changes made to the Austrian market model has been the recognition of "other shipments" [36]. "Other shipments" in the meaning of section 6.(46a) are shipments from control area entry points to storage facilities, and from production systems or storage facilities to exit points.

A distinction is drawn between "other shipments" within control areas and those that pass through them or depart from them on a paying basis. Whereas such deliveries were previously neither taken account of in capacity allocation nor charged for, section 31h.(5) Natural Gas (Amendment) Act now provides for the determination, at the application of a system user, of a system charge for the entire length of the pipeline route used to convey shipments from storage facilities or production systems to a control area boundary, or cross-border shipments on the domestic transmission network.

→ One-stop service provider

Text box 1

The Natural Gas (Amendment) Act 2006 assigned the role of a one-stop service provider to OMV Gas GmbH. OMV Gas GmbH is obliged to provide shippers wishing to transport gas across more than one transmission system with the following within 14 days:

- → A calculation of free pipeline capacity;
- → A calculation of the use of system charge;
- → The necessary contract documents, based on the approved general terms and conditions; and
- → Information on unused committed capacity (posted on the internet).

The system charges for "other shipments" are made up out of energy and capacity components, and are determined by the Sonstige Transporte-Gas-Systemnutzungstarife-Verordnung 2007 (Other Shipments Gas System Charges Order 2007 [SonT-GSNT-VO 2007]). Transmission system operators are obliged [37] to establish a standard calculation methodology for available pipeline capacity at entry and exit points used for cross-border shipments on the transmission network. They must adopt the standard calculation formula of the control area manager (AGGM). This is published on AGGM's website [38]. Table 5 summarises the types of deliveries constituting "other shipments", the responsibilities of market participants and the tariff determination rules.

36 Along with the introduction of capacity expansion agreements, the adoption of the priority rule, the obligation to make minimum deliveries, and the recording of all capacity at control area entry and exit points.
37 See section 31e.(6) Natural Gas Act.
38 See www.aggm.at.

Use of system charges

Under the amended Gas-Systemnutzungstarif-Verordnung 2006 (Gas System Charges Order 2006), the E-Control Commission reduced the use of system charges by an average of 4.39% (Grid Level 2 by 11.51% and Level 3 by 3.08%) with effect from 1 January 2007. The resulting total savings for the whole of Austria will amount to around €21 m (see Table 6).

Consumption levies are only billed to customers separately from the system charges in Vienna and Salzburg. In the other grid areas, the consumption levies, if any, have been included in the system charges since 1 January 2007. Consumption levies are governed by provincial legislation[39].

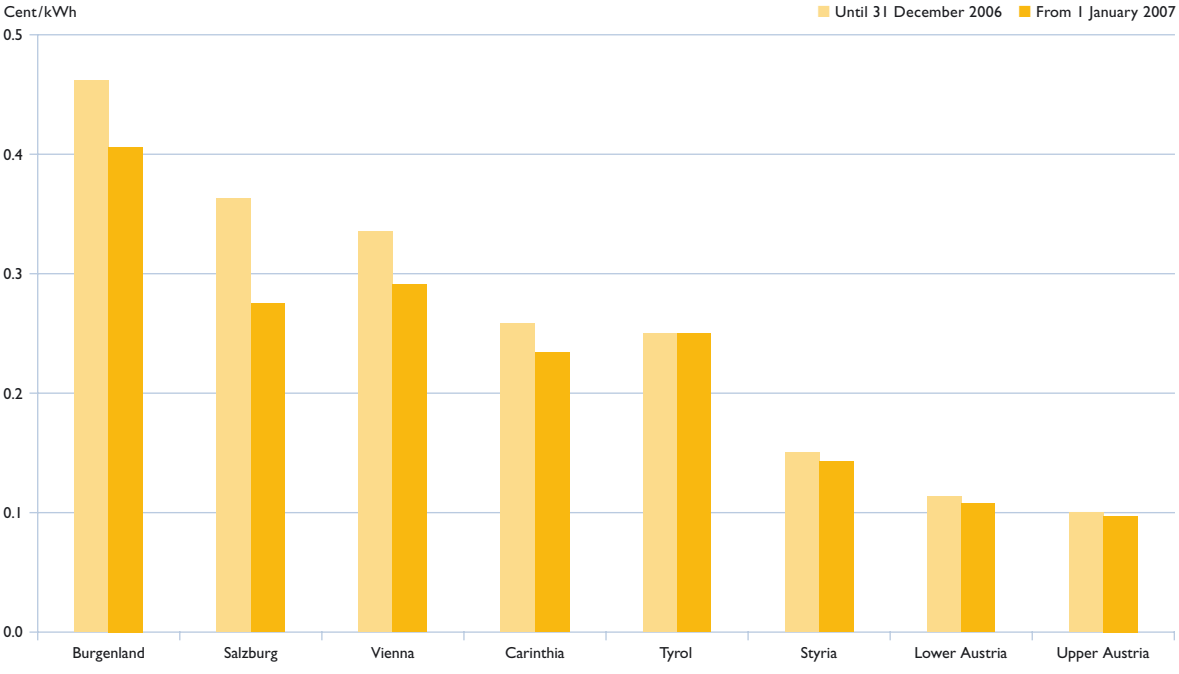
The evolution of the system charges is illustrated below by the cases of typical industrial and domestic consumers. In the example shown in Chart 40, the use of system charge was highest in Burgenland both before and after the reduction in system charges that came into effect on 1 January 2007. The lowest reduction –

→ **Reduction in system charges by grid zones,** Grid Level 3, 1 January 2007 Table 6

	Change
Burgenland	–6%
Carinthia	–1%
Lower Austria	–4%
Upper Austria	–2%
Salzburg	–3%
Styria	–4%
Tyrol	no change
Vorarlberg	–5%
Vienna	–3%

Source: E-Control

→ **Use of system charges at Grid Level 2,** Band B, 7,900,000 kWh/y, 8,000 kWh/h, demand metered consumer[40] Chart 40



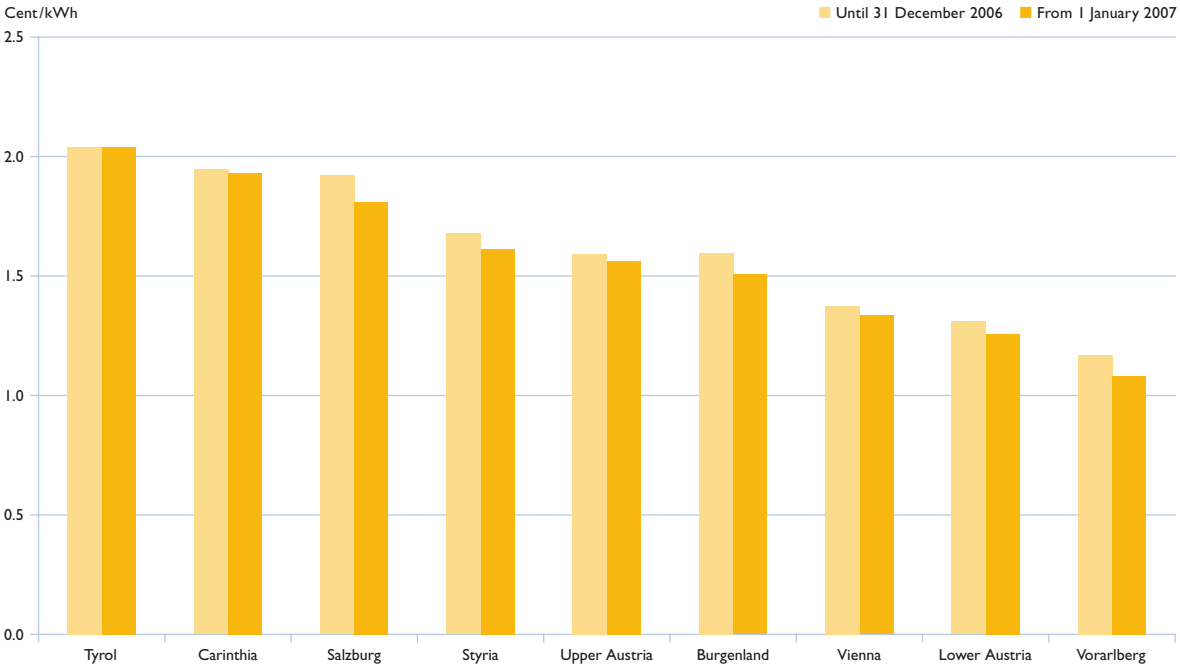
Source: E-Control

39 Usually, consumption levies are based on the revenue generated by liable companies using pipelines situated on public land. Depending on the respective provincial legislation, the levy is capped at between 3–6% of this revenue. However some provincial legislation also includes regulations under which the level of the consumption levy is assessed according to the amount of public land utilised (e.g. €/metre of pipeline).

40 NB: There are no Grid Level 2 customers in Vorarlberg.

→ **Use of system charges at Grid Level 3,**
15,000 kWh, non demand metered consumer

Chart 41



Source: E-Control

with the exception of Tyrol where the use of system charge remained unchanged – took place in Upper Austria (2.73 %).

As Chart 41 shows, level 3 rates also vary between the individual grid zones. A typical domestic customer in Tyrol, with an annual average consumption of 15,000 kWh, pays the highest use of system charge. Here, the high level of the charges, and the fact that they have not been reduced, are a reflection of the heavy capital costs borne by TIGAS as a result of the newness of its network.

Incentive regulation

Following the introduction of incentive regulation in the electricity sector, a changeover from a cost-plus to a multi-year incentive based system is also under discussion in the gas industry. The new system is to replace the annual tariff determination procedure by a multi-year regulation period during which rates are automatically adjusted according to an ex ante mechanism.

Preliminary talks between the regulator and the gas companies were held at the start of 2006, and more intensive discussions began in January 2007. The incentive regulation system will be designed to take account of overall industry trends, and firms' efficiency performance, output and non-influenceable costs by applying the following parameters:

- A frontier shift;
- Productivity offsets;
- An investment factor;
- The change in the system operator price index.

The frontier shift reflects the shift in the efficiency frontier over time. The level of the frontier shift has not yet been set. A benchmarking analysis is to be performed in order to determine the productivity offsets. As with electricity, a mix of benchmarking techniques is planned. The efficiency scores required to calculate the productivity offsets are to be arrived at by weighting the results yielded by the various methods. The productivity offsets have not yet been established.

The regulator has proposed the use of an investment factor to reflect the investment pattern over the regulation period. This would be derived from the difference between actual capital costs during the regulation period and those determined at the start of the period. The main purpose of the investment factor is to capture expansion investments made during the regulation period. It is not yet clear whether the changeover to the new system will take place in 2008.

Quality of service

The Natural Gas (Amendment) Act 2006[41] creates a legal basis for the setting of standards for the safety, reliability and quality of the system services provided by gas distribution companies.

During the market rules review process in the second half of 2006 appropriate standards and performance indicators were established, and included in the general terms and conditions of distribution system operators. These standards relate, inter alia, to the notice periods for network connections, repairs and notifications of supply interruptions.

Distribution system operators are also obliged to send E-Control data to enable it to monitor compliance with the standards, and to publish the results of E-Control's performance analyses on an annual basis. The main purpose of this is to inform consumers about the services provided by system operators that are compensated by the regulated system charges.

→ Unbundling in the gas sector

E-Control's experience with the implementation of unbundling by electricity system operators is similar to that with their gas industry counterparts, and reference is therefore made to section Unbundling in the electricity sector. Some companies are multi-utility service providers that operate both gas and electricity networks, meaning that the comments on their electricity businesses are also applicable to this section.

In fulfilment of its statutory duties, E-Control has compiled a report on Austrian gas system operators' compliance programmes in 2006. This is to be posted on the E-Control website at the end of July 2007. The findings are summarised below.

As stated in the previous report on Austrian system operators' compliance programmes, in most cases there is still extensive organisational overlap between the regulated areas of companies' operations and those that are exposed to competition. The only improvement identified by the latest investigation was efforts to protect commercially sensitive information. Though in most cases they are not illegal, these links tend to restrict competition and endanger non-discriminatory treatment of market participants.

While most companies have unbundled the marketing of energy and system services in organisational and legal terms, intragroup service contracts generally mean that the same staff members sell both types of product. There was no improvement in this area during the latest reporting period. Company size and structure appears to have no influence on system operators' willingness to make the necessary organisational changes.

Some progress on the protection of commercially sensitive data was identified, as compared to the previous period, but here, too, the current overall situation is unsatisfactory and this problem cannot be said to have been solved.

41 Energy Security of Supply Act 2006, BGBl. I No. 106/2006.

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 compliance programmes, but others have made no improvements and merely cite the relevant legislative provisions. The regulator takes the view that data access concepts cannot be developed until the relevant data categories have been precisely defined.

The companies' approach to data access reveals 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. As in the previous reporting period, not a single written data access concept was submitted.

Efforts are now being made to sensitise employees who market both system operation services and energy to the issue of discrimination, and to provide them with special training. For instance, some companies are preparing or already using information leaflets for distribution to persons applying 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 unbiased 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 impartial treatment of suppliers.

Companies' suggestions and outlook

The feedback received after the November 2006 workshop showed that most of the companies are interested in further information exchanges, and E-Control therefore plans to organise a follow-up event.

During the next reporting period 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. E-Control believes that it would be productive for the regulator's staff to investigate the practical implementation of these measures on site, and has already carried out such a visit during the current reporting period. Some other companies have consulted the regulator on the design of their data confidentiality policies.

Transmission system operator unbundling

E-Control's assessment of the implementation of unbundling by distribution system operators in terms of their commercial behaviour largely applies to the transmission system operators, too.

During the calculation methodology approval process pursuant to section 31h.(2) Natural Gas Act, E-Control found that the transit tariff calculation methods for which the transmission system operators were seeking approval favoured shippers operated by fellow group companies or associates. This shows that network companies always take key decisions with an eye to the interests of fellow group companies. Only ownership unbundling would lead the companies to behave as independent businesses.

Summary

The third E-Control report on compliance programmes shows that the gas system operators have met the legal unbundling requirements, vague as these are under Austrian law. The parent companies have exploited the room for interpretation left by the statutory provisions by providing the network companies with little capital or personnel of their own, meaning that they are obliged to buy in the resources required to perform virtually all their core functions under service contracts. The services concerned are predominantly purchased from fellow group companies. The terms of these contracts with regard to pricing and service specifications reveal that they would not have been concluded with non-group firms, and thus that the system operators are in reality not commercially independent. This means that the goal of the unbundling provisions in the EU directive – namely the creation of independent system operators that are neutral in their choice of suppliers – has not been met in Austria.

→ Change in the legal framework for the storage market

Regulation of the Austrian storage market is based on sections 39. and 39a.–39d. Natural Gas (Amendment) Act, and Directive 2003/55/EC. Under the Act as amended, storage companies are obliged to provide eligible customers with access to their facilities at non-discriminatory and transparent terms and conditions.

Storage charges are not subject to determination or approval by the regulator, though the Act requires them to be non-discriminatory and cost reflective. However the Act provides for comparisons of Austrian storage prices with those in other EU member states. If Austrian storage prices are more than 20 % above the average posted prices for comparable services in other member states the Energy Control Commission is entitled to intervene in price setting by the storage companies, and determine the costs on which their rates are to be based by order.

A first comparison in 2004 showed that the prices charged by the Austrian storage operators, OMV Gas GmbH and RAG AG were within the legal limits. It is difficult to base these comparisons on equivalent services. Because of this, when the first price comparison was made in 2004 the standard product offered by OMV Gas (Classic bundled services) was taken as the basis for calculating a variety of charges. Since the performance parameters for these services differ from those of other storage operators' bundled services, these products are not identical and the prices are hence not directly comparable. Conversion to the same withdrawal cycle time (ratio of working gas volume to the withdrawal rate) results in a convergence of the rates.

The storage companies are legally obliged to submit storage contracts to E-Control as soon as they are concluded. This duty is a vital regulatory instrument that enables E-Control to assess whether storage capacity is being allocated in a transparent and non-discriminatory manner. It also enables the regulator to ascertain whether the charges are non-discriminatory.

The Natural Gas (Amendment) Act imposes additional duties on storage companies. They are now obliged to frame their general terms and conditions to meet certain requirements, and must publish them, as well as regularly posting their available injection, withdrawal and storage capacities on their websites.

→ Description of the wholesale market

Gas wholesaling on the basis of long-term contracts

An important feature of the gas wholesale market is procurement by means of long-term contracts. These contracts probably continue to be characterised by:

- → Large volumes, involving risks too great to be borne by small distributors or wholesalers;
- → Take-of-pay clauses; and
- → Escalation clauses tied to oil prices.

Austrian gas imports

Chart 42 depicts the transportation links that give Austria access to gas reserves in and outside Europe. There are links with fields in Russia, Norway and Algeria. However Algeria has hitherto played no part as a gas supplier via pipelines to Austria because of existing capacity limitations. At present LNG deliveries to Austria are not possible due to the lack of pipelines to LNG terminals. The planned Nabucco pipeline would give Austria access to the large reserves in Iran and Turkmenistan.

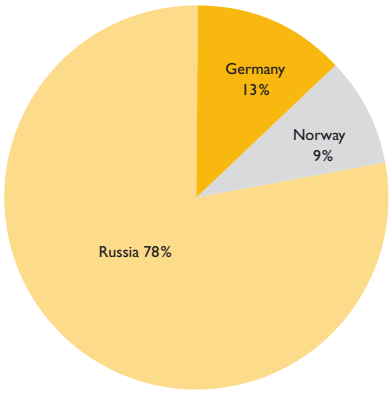
→ Austrian access to gas reserves

Chart 42

Source: EconGas on the basis of statistics from the Energy Information Administration (EIA), and the Oil and Gas Journal (reserves as of 1 January 2007)

→ Austrian natural gas imports, 2006

Chart 43



Source: BP Statistical Review of World Energy (2007)

The European market has a number of suppliers, but Austria's choice is largely restricted to Russia because of the transport situation (Chart 43), though some gas is imported from Norway and Germany.

Renegotiation of import contracts in 2006

At the end of September 2006 OMV announced the renegotiation of its long-term gas import and domestic supply contracts. Until then OMV Gas had been the contractual partner of Russia's Gazexport, the Norwegian gas producers and its group's domestic gas production subsidiary, OMV Austria Exploration & Production GmbH, under long-term agreements.

In place of OMV Gas, EconGas concluded direct contracts with Gazexport with durations until 2027, guaranteed by OMV AG. Gas- und Warenhandelsgesellschaft mbH (GWH) – a joint venture between Gazprom (50 %), Centrex (24.9 %) and OMV Gas (25.1 %)[42] – also signed a long-term supply contract with Gazexport running until 2027. At the urging of the competition authorities, OMV Gas has undertaken to withdraw from GWH by the end of 2007. In this new contractual landscape, the former provincial gas utilities, Steirische Gas Wärme, Salzburg AG and Kelag AG are no longer procuring Russian gas under

→ Projects aimed at extending Austria's procurement options

Text box 2

Nabucco project: The Nabucco pipeline project is being promoted by Turkey's Botas, Bulgaria's Bulgargaz, Romania's Transgaz, Hungary's MOL and Austria's OMV Gas, all of which are gas transmission companies in the countries concerned. The aim is to build a 3,300 km natural gas pipeline from Turkey's eastern borders to Austria by 2012. This link would be capable of carrying up to 30 bn cu m/year of natural gas from the Caspian to Europe. Implementation of the project depends on the group's finding additional partners, and on the conclusion of gas supply contracts with West European customers, and potential suppliers in the Caspian region and the Middle East.

Adria LNG project: The Adria LNG Study Company – a joint venture between OMV, Total, RWE Transgas, INA and Geoplin – is cooperating with E.ON Ruhrgas on a feasibility study on the construction of an LNG terminal in Croatia. The preferred site for the terminal is the island of Krk. Preliminary findings are expected near the end of 2008. After phased expansion the planned LNG regasification terminal, which would be scheduled for completion by 2011, could attain a full capacity of 15 bn cu m of natural gas.

42 See www.centrex.com.

back-to-back contracts with OMV Gas, but are now doing so under long-term agreements with GWH. Direct agreements between the Norwegian gas producers and EconGas, Steirische Gas Wärme, Kelag and Salzburg AG are planned, meaning that here, too, OMV Gas will cease to act as a contractual party.

Domestic gas production

Austria has two domestic gas producers – OMV Austria Exploration & Production GmbH and Rohöl-Aufsuchungs AG (RAG). Domestic natural gas[43] output totalled some 1.8 bn N cu m in 2006. Some 70 % of the total was produced by OMV Austria Exploration & Production (see Table 7).

As of 1 January 2006 proven and probable reserves totalled 31.8 bn cu m, and were evenly divided between the two companies. RAG AG markets its production via RAG Beteiligungsgesellschaft. However it is also registered as a trader on the Austrian Central European Gas Hub gas market[44].

Most of OMV Exploration and Production's output is sold to EconGas, Steirische Gas Wärme, Salzburg AG and Kelag under long-term contracts. The price escalation clauses in these contracts have been brought in line with the new import contracts. OMV Gas has ceased to be a party to the domestic gas supply contracts, too.

According to OMV Gas, in future all production in excess of the amounts specified by these contracts will be marketed via EconGas[45]. These additional volumes which are not contractually locked in represent substantial amounts in relation to domestic consumption. Due to high oil prices OMV intends to boost domestic production from 1.2 bn cu m in 2006 to some 2 bn cu m in 2010[46]. The extra output will be of particular interest to small gas wholesalers and new retailers. There is therefore a need for competition neutral marketing channels for OMV's gas output.

Demand structure

EconGas, Steirische Gas-Wärme, Salzburg AG and Kelag have long-term procurement contracts, concluded via the wholesale market. Other Austrian retailers, including Terragas and Wingas, also have access to the wholesale market.

Volumes and prices

Like those of other European countries, Austrian gas import prices have risen sharply since the start of 2004 (Chart 44). A major influence on the gas import price is the oil price trend, depicted by Chart 44 (ARA gasoil spot price FOB). As the chart shows, the gas price tracks the oil price, but the curve is lagged and smoothed by the escalation clauses in the contracts.

→ Natural gas production in Austria, 2006 Table 7

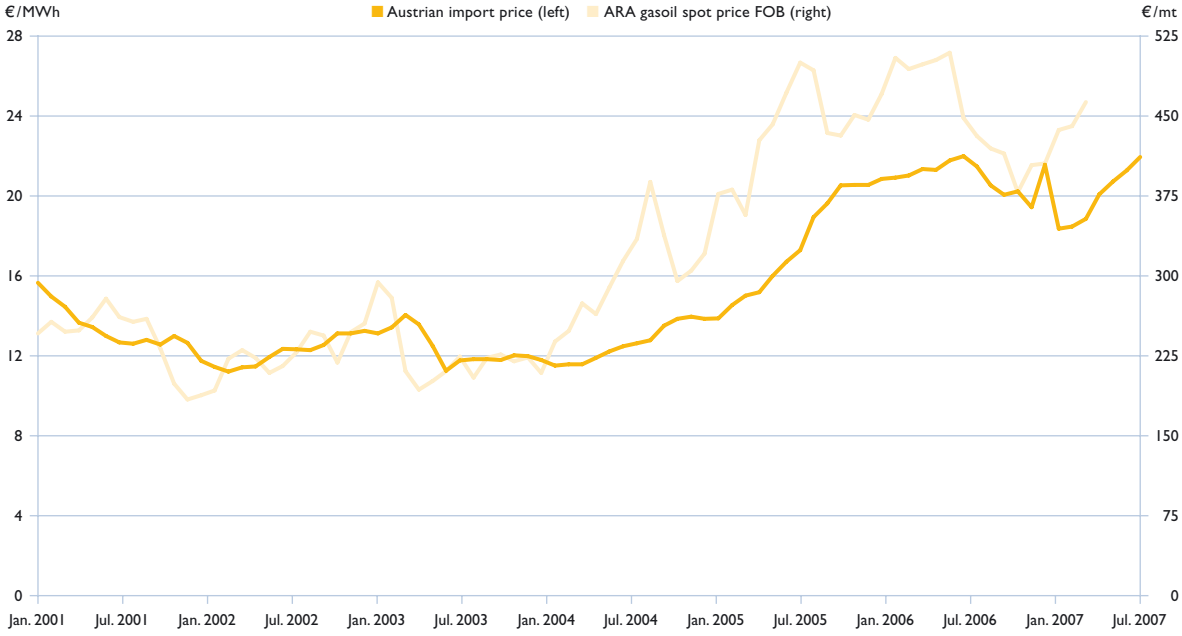
	2006	2006	change vs, 2005
OMV Austria Exploration & Production	1,248 m cu m	70.7%	4.2%
Rohöl-Aufsuchungs AG	517 m cu m	29.3%	13.2%
Total	1,765 m cu m	100.0%	6.7%

Source: Geologische Bundesanstalt (Geological Survey of Austria)

43 Including associated gas.
44 www.gashub.at.
45 Additional domestic output, over and above the volume sold under the existing contracts, is likely to be difficult to forecast, and will thus require flexible uptake by the buyers. To date, OMV only has such arrangements in place with EconGas, and it is not yet clear whether they will also apply to future output. It is hard to see why potential purchasers should not be able to decide for themselves whether they wish to use flexible uptake mechanisms (a number of companies have storage contracts).
46 See www.omv.com, OMV E&P Strategy 2010, and presentation by Reinhart Samhaber of OMV Austria Exploration and Production GmbH to the IIR Gas 2006 conference, 19. September 2006, Vienna.

→ Comparison of the gas import and gasoil prices

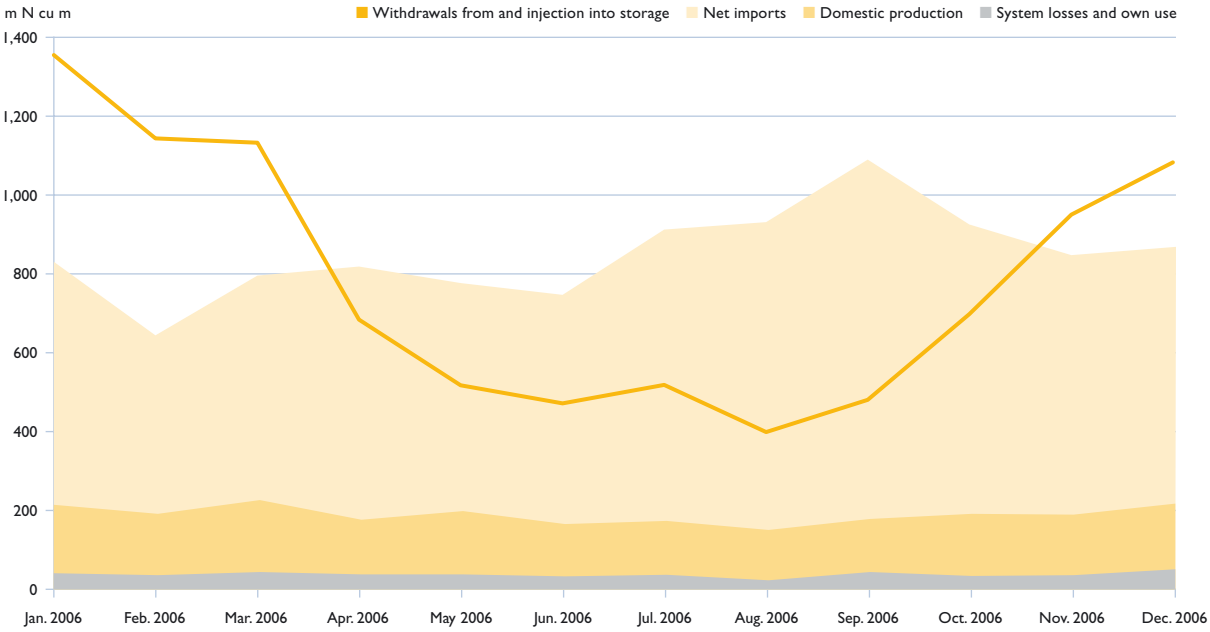
Chart 44



Sources: www.energate.de and E-Control

→ Austrian gross gas supply, 2006

Chart 45



Source: E-Control

Gross gas supply from domestic production and net imports amounted to approx. 9.7 bn cu m in 2006,imports accounting for 80 % of the total. A large part is stored in the summer and withdrawn from storage in winter (Chart 45). There are only minor fluctuations in production over the year. Net imports – which are subject to wider seasonal swings – registered an overall year-on-year decline in 2005[47].

Short-term gas trading

Short-term gas trading is taking on an increasingly important role in Europe, alongside long-term contracts concluded on the wholesale market. The main market in Austria is operated by Central European Gas Hub GmbH (CEGH).

CEGH, based at the Baumgarten gas hub, is a wholly owned subsidiary of OMV Gas International GmbH. Formed in 2000, CEGH offers the following services:

- Title tracking: Tracking of all changes of title to gas flows between trading partners at given trading points;
- Wheeling: Performance of the entire matching process and generation of electronic schedules;
- No notice storage: Short-term access to storage services (only available to OMV Gas storage customers);
- Conduct of gas auctions (e.g. EconGas gas release programme).

Gas traders also have the option of using the online bulletin board set up by CEGH in September 2006. This trading platform was introduced in response to customer demand, following a survey in 2006. According to EconGas it is among suppliers that have been offering gas on the bulletin board since autumn 2006[48].

In order to reduce gas traders' transaction costs, use of the EFET gas master agreement as a standard contract was introduced in 2006; this includes an appendix tailored to the CEGH. The hub operator also plans to develop its hub services into a back-up service.

Traders at the CEGH

Most of the registered traders at the CEGH[49] are gas wholesalers, such as Gazprom Marketing & Trading Limited (UK) and RWE Trading, which are also active at other European trading points. However, they also include Austrian retailers and suppliers from neighbouring countries. Power generators, large industrial consumers and banks, which figure among the traders at the Zeebrugge Hub, have yet to enter the CEGH market.

As of 19 July 2007 the Central European Gas Hub had 48 registered members of which 36 were active traders. As Chart 46 shows, the number of traders has risen markedly since 2005[50].

As Chart 47 shows, the dominance of a single trader, still apparent in January 2006, has decreased considerably. Concentration at the CEGH, measured by the HHI, fell from 1,600 in to 800 between January and December 2006.

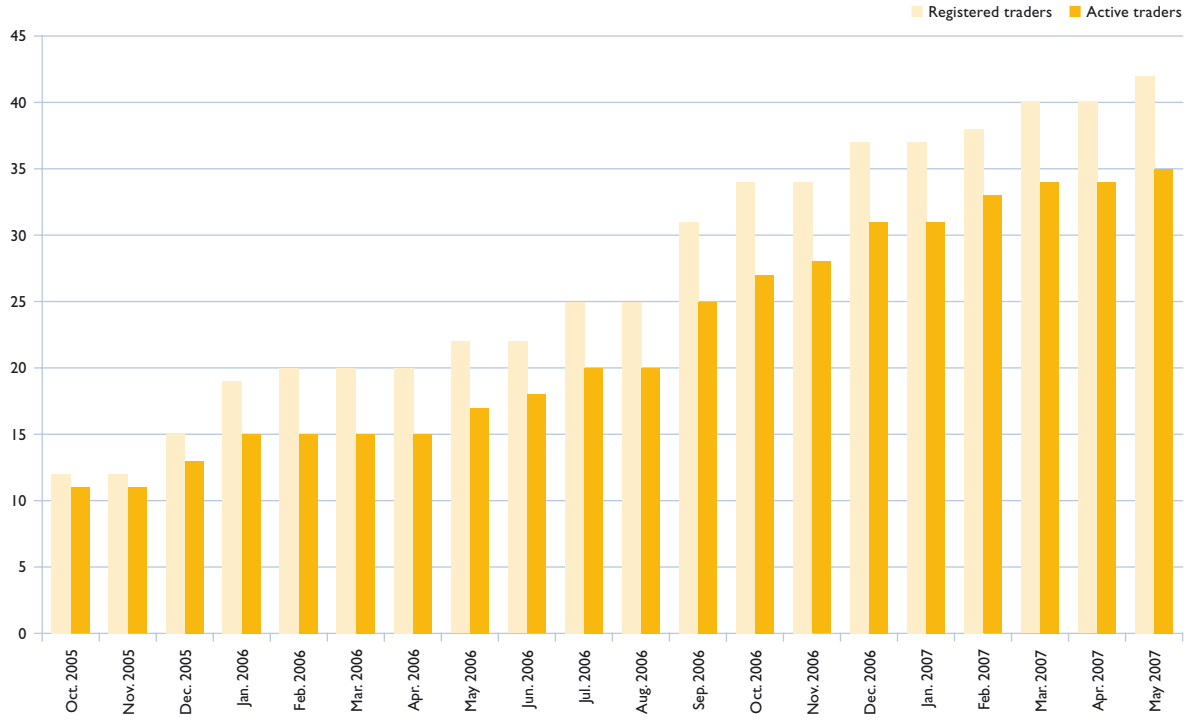
Turnover

CEGH publishes figures for title transfers and the number of active traders, and also began disclosing physical throughput volume at the hub in December 2006. However, at present it is not possible to discover which products are traded OTC and at what prices.

47 E-Control.
48 See EconGas press release dated 11 July 2007 on the company's results for its 2006/2007 financial year, and the company's annual report for FY 2006/2007.
49 www.gashub.at.
50 www.gashub.at.

→ Registered and active traders at the CEGH

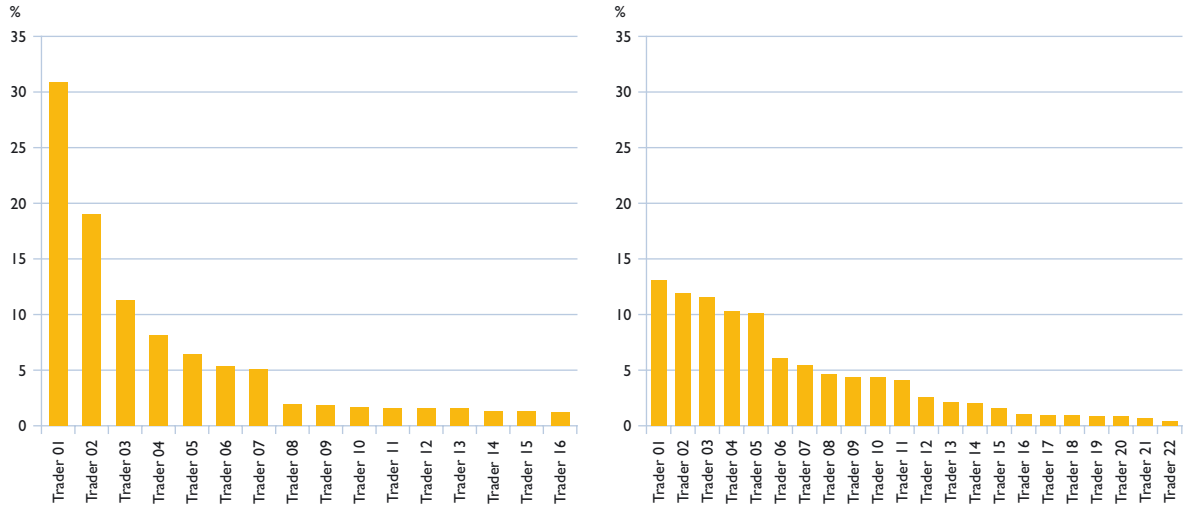
Chart 46



Source: Central European Gas Hub

→ Concentration at the CEGH (left: January 2006; right: December 2006)

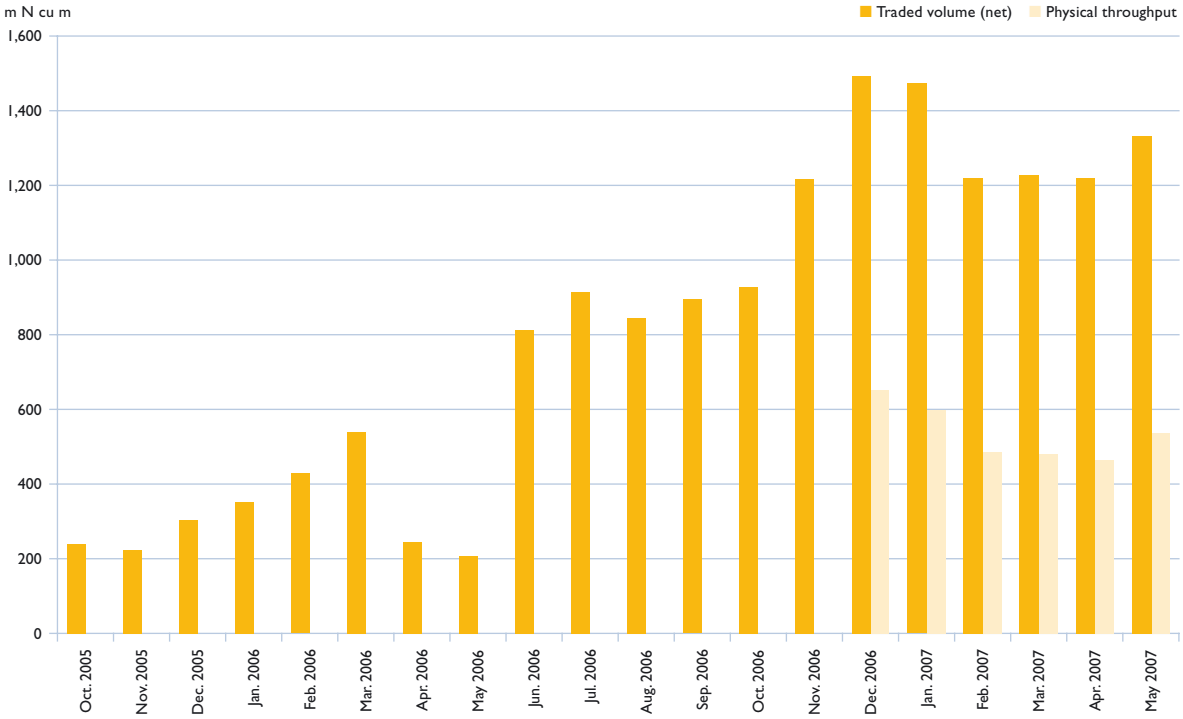
Chart 47



Source: Central European Gas Hub

→ Traded volume and physical throughput on the CEGH market

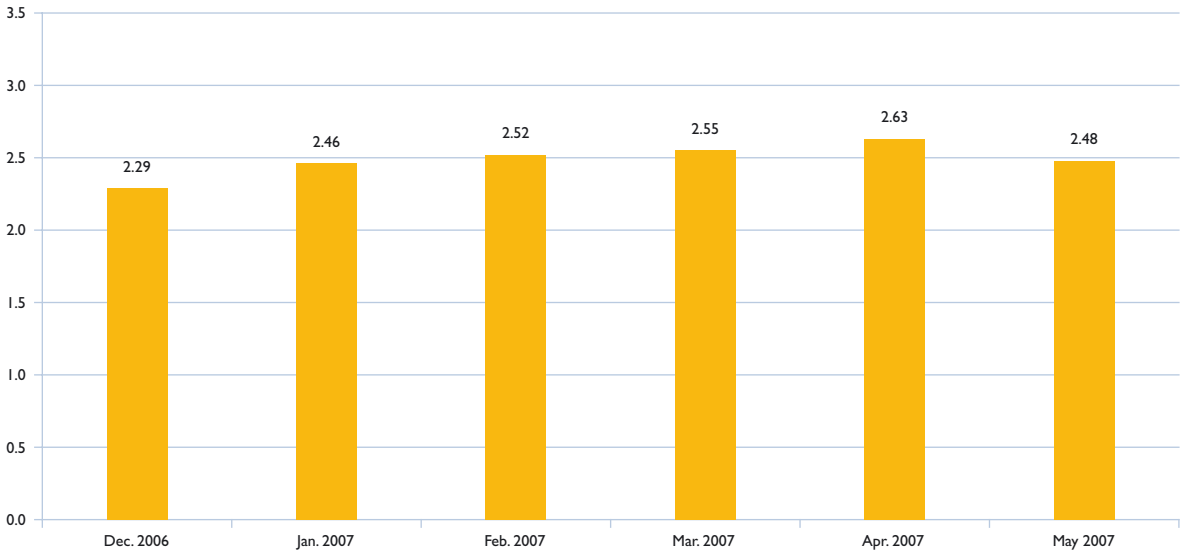
Chart 48



Source: Central European Gas Hub

→ Monthly churn rate on the CEGH market

Chart 49



Source: Central European Gas Hub

Chart 48 shows the evolution of turnover on the CEGH market. The chart distinguishes between traded volume and physical throughput. Title tracking does not capture gas transfers from one shipper to another. The chart reveals a strong upward trend in traded volume.

The churn rate is an indicator of the growth of a trading hub. The churn rate – the ratio of traded volume to physically delivered amounts – is a measure of liquidity. CEGH has published its churn rate since December 2006, and this stood at 2.48 in May 2007 (Chart 49). By way of comparison, the churn rate at the Zeebrugge Hub was 3.78 during the same month[51].

The lack of transparency with regard to the products traded and prices on the CEGH means that it cannot fulfil the important function of a gas price indicator.

Gas auction at the CEGH under the 2006 gas release programme

The fourth auction under the EconGas gas release programme took place in July 2006. Rights to supply contracts with EconGas were sold in an online auction run by CEGH. Some 250 m cu m of gas was offered in 25 lots of equal size, to be supplied at a fixed price over the entire contract duration. There were five successful bidders, from Italy, the Netherlands and the United Kingdom. The winning bids were not disclosed. A total of 27 bidders from eight countries took part in the auction. For the first time since the inception of the gas release programme no Austrian gas trader made a winning bid.

This outcome shows that lasting entry to the Austrian market is not possible solely by purchasing gas under the gas release programme, and that the auctions are not sufficiently liquid to overcome the entry barrier constituted by access to gas.

Assessment of the development of the CEGH

There has been a strong upward trend in the volume traded on the CEGH, and a comparison with other European trading points (e.g. the French PEG and Italian PSV) reveals that the CEGH has grown significantly faster (Chart 50). By December 2006 the number of traders had caught up with the Title Transfer Facility point (TTF), though annual volume was still lower than on the PSV.

The following factors will be crucial to the continued growth of gas trading on the CEGH:

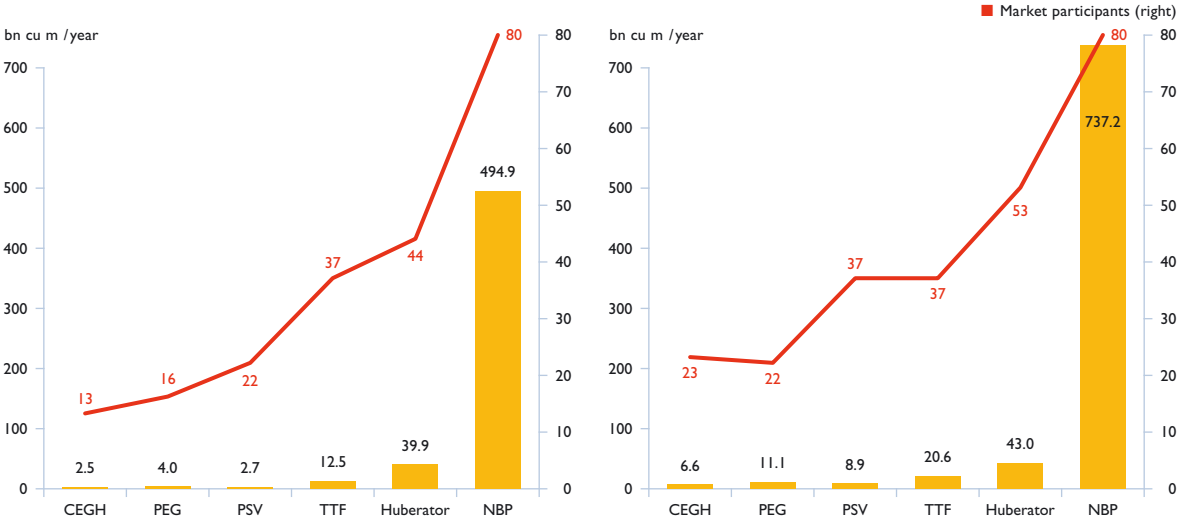
- Increased gas availabilities, e.g. in the form of LNG (Krk terminal) resulting in greater liquidity;
- Pipeline capacity availabilities; and
- Storage capacity availabilities in the region.

A positive aspect has been the operating company's stress on continued development of new mechanisms for trading on the CEGH. However, in order to fulfil a key function of a market – that of a price barometer – the transparency of the products traded and their prices needs to be improved, possibly on a mandatory basis. This applies not only the operator but also the traders registered at the hub. In order to avoid endangering the competitiveness of individual

51 See www.huberator.com; for a comparison of churn rates see Stern, 2007, Is There A Rationale for the Continuing Link to Oil Product Prices in Continental European Long-Term Gas Contracts?, Oxford Institute for Energy Studies, Discussion paper NG 19, April 2007.

→ Comparison of CEGH with other European hubs
(left: January 2006; right: December 2006)

Chart 50



Source: Central European Gas Hub

hubs, uniform Europe-wide disclosure duties should be laid down for these markets.

Role as a regional balancing market

The Gas Regional Initiative has been discussing the possibility of developing hubs into regional balancing markets, and the transmission system operators (TSOs) and shippers have been examining the feasibility of using hubs as points where TSOs provide balancing energy for call-off according to merit order lists.

Austrian wholesalers' activities abroad

To date EconGas is the only Austrian company trading on other European markets. In March 2007 the company registered as a trader at the Belgian Zeebrugge Hub and the TTF point on the Netherlands transport system[52].

→ Market for the 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[53]. It is served by EconGas, Steirische Gas Wärme, Kelag and Salzburg AG. EconGas has by far the largest market share.

Long-term contracts represent a significant obstacle to competition on this market[54]. 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 network of similar agreements. The latter include minimum offtake

52 See EconGas press release issued on 11 July 2007.
53 See Federal Competition Authority, Allgemeine Untersuchung der österreichischen Gaswirtschaft, Endbericht (General Investigation of the Austrian Gas Industry, Final Report), 2006.
54 For a detailed discussion of this problem see Federal Competition Authority, Allgemeine Untersuchung der österreichischen Gaswirtschaft, Endbericht (General Investigation of the Austrian Gas Industry, Final Report), 2006.

obligations of 80 % of contractual supply, and the sole supplier has given the 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.

Nonetheless, it is unlikely that competition will be stimulated by opening up the contracts as has happened in Germany, because the contractual amounts involved (a total of almost 2 bn cu m) are currently not directly substitutable by procurement from alternative suppliers. Alternative suppliers that are also active in the industrial consumer market would need storage capacity of the same order as the supply contracts, but this has already been reserved by EconGas. In contrast to the German gas market there is no sign of the emergence of new suppliers (e.g. the marketing subsidiaries of gas producers, or subsidiaries of other European companies) at present.

This situation might, however, change as a result of the development of competition in Germany or the implementation of new pipeline and LNG projects. It cannot be excluded that modification of the questionable contracts with local distributors might stimulate competition if there were a significant change in the structure of the supplier market. The regulator will therefore be monitoring the situation on an ongoing basis as part of its activities.

Austrian suppliers' activities abroad

EconGas has formed two distribution subsidiaries – EconGas Deutschland GmbH in Germany and EconGas Italia S.r.l. in Italy – to supply municipal utilities. In Germany the market for the supply of local distributors (municipal utilities) has been opened at the initiative of the Federal Cartel Office [55]. EconGas has concluded three or two-year supply contracts with Technische Werke Ludwigshafen (partial requirements), Stadtwerke Speyer and Stadtwerke Grünstadt. These utilities previously obtained their gas from SaarFerngas [56].

According to EconGas it has also succeeded in winning local distributors as customers in Italy. The company began supplying the German and Italian utilities in October 2006 [57]. Steirische Gas Wärme is also active in neighbouring countries, but does not supply distributors. Instead, it has made equity investments – mainly in energy distributors – in the Czech Republic, Hungary, Slovakia and Slovenia [58].

→ Storage market

Supply structure

All the Austrian gas storage facilities are located in the Eastern control area, in the concession areas of the two oil and gas producers, OMV and RAG, both of which are storage operators. The storage facilities are former gas fields.

→ Storage capacity in Austria, 2007

Table 8

	Injection capacity	Total capacity	Withdrawal capacity	Total capacity	Working gas volume	Total capacity
OMV Schönkirchen	650,000 m cu m/h	50 %	740,000 m cu m/h	52 %	1,570 m cu m/h	53 %
OMV Tallesbrunn	125,000 m cu m/h	10 %	160,000 m cu m/h	11 %	300 m cu m/h	10 %
OMV Thann	115,000 m cu m/h	9 %	130,000 m cu m/h	9 %	250 m cu m/h	8 %
RAG Puchkirchen	400,000 m cu m/h	31 %	400,000 m cu m/h	28 %	850 m cu m/h	29 %
Total	1.290,000 m cu m/h		1.430,000 m cu m/h		2,970 m cu m/h	

Sources: www.rohoel.at and www.omv.com

55 For a detailed account see www.bundeskartellamt.de.
56 See www.energate.de, 13 September 2006 and Zeitung für Kommunale Wirtschaft, No. 11, 2006.
57 See EconGas Annual Report 2006/2007, p. 7.
58 Steirische Gas Wärme.

OMV Gas GmbH is a wholly owned subsidiary of OMV AG. The latter also produces natural gas and operates transmission pipelines, as well as owning interests in transit pipelines, and engaging in gas retailing and trading through its 50 % holding in EconGas GmbH. E&P Holding GmbH (Royal Dutch Shell) holds 25 % and RAG-Beteiligungsgesellschaft 75 % of RAG AG[59]. Its (indirect) owners, EVN AG, Salzburg AG and Steirische Gas Wärme are active on the Austrian gas market as retailers.

OMV Gas holds about 70 % of the country's storage capacity (Table 8). Total working gas capacity at Austrian storage facilities is almost 3 bn cu m – equal to about one-third of Austrian gas demand in 2006.

Demand structure

As in other countries, the Austrian storage facilities give users a safety net in the event of supply outages, help them balance seasonal demand fluctuations, add to the flexibility of their merchant functions, and enable them to provide balancing energy for system control. The Austrian storage facilities are a crucial source of flexibility as access to other flexibility tools (swing contracts for imports and domestic output, and interruptible contracts) is limited. Access to storage capacity is therefore crucial to the development of competition.

Storage demand patterns have changed since liberalisation in 2002. Apart from long-term storage contracts, short-term (daily or monthly) contracts are also concluded, and there is a call for additional injection and withdrawal services. The storage providers have responded by extending their product ranges. For instance, OMV Gas GmbH not only offers bundled services comprising fixed injection and withdrawal rates for given working gas volumes[60], but also unbundled services that allow working gas volumes, and injection and withdrawal rates to be reserved separately from each other, including reservations on an interruptible basis. OMV Gas GmbH offers contracts with durations from one day up to several years. RAG AG's range of products is currently narrow due to its lack of free capacity.

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 for interim storage related to transit business, and to offer flexible delivery to the Baumgarten gas hub trading point. The number of storage customers has grown considerably since liberalisation in 2002.

Availability of storage capacity

According to RAG AG its storage capacity is booked out until 2008[61], while approximately 20,000 cu m/h of withdrawal capacity at the Puchkirchen storage facility in 2009 and 50,000 cu m/h in 2010 are still unreserved.

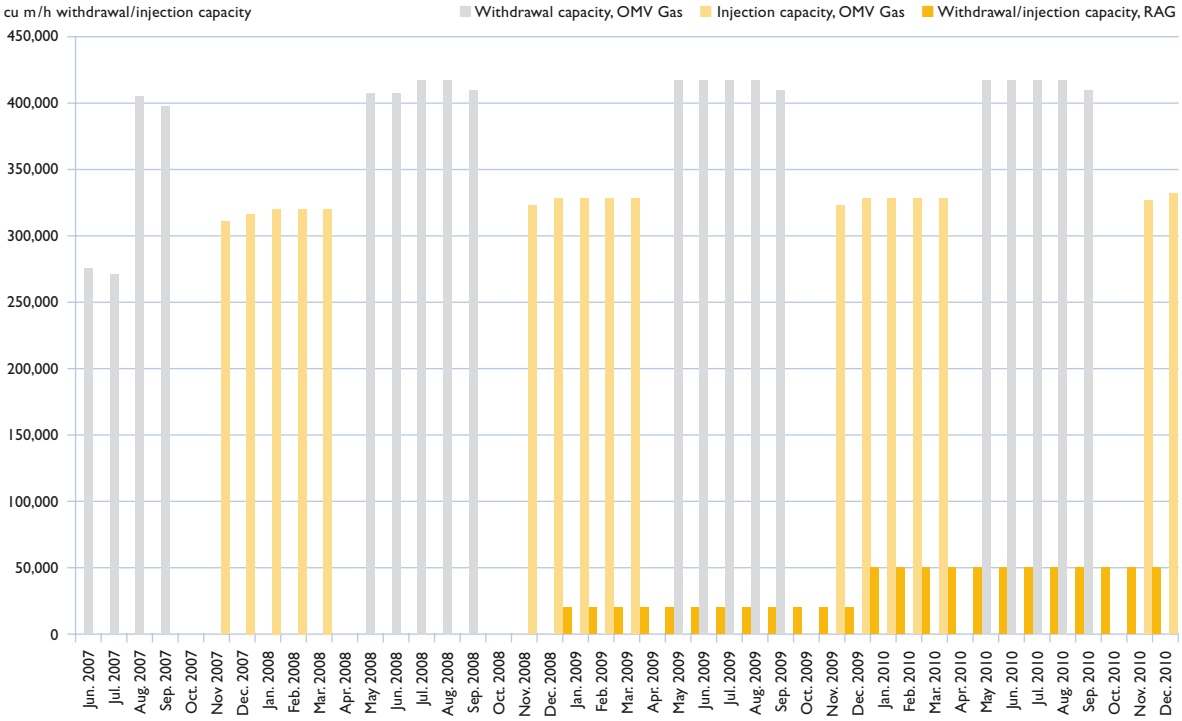
In the questionnaire response provided by it for the 2006 ERGEG monitoring report, OMV Gas GmbH stated that free capacity was available[62]. This situation will change in 2007. The OMV Gas Online Capacity Booking System[63] shows no more withdrawal capacity available for the winter months and no more free withdrawal capacity for the summer.

This means that storage availabilities have decreased in comparison to 2006. The information available to E-Control does not indicate 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 storage capacity. OMV Gas GmbH has also introduced an online storage capacity bulletin board. At the same time, however, there are no rules to prevent the hoarding of capacity.

59 See www.rohoel.at. The shareholders of RAG-Beteiligungsgesellschaft are EVN AG (50.05 %), E.ON Ruhrgas E&P GmbH (29.95 %), Salzburg AG (10 %) and Steirische Gas Wärme GmbH (10 %).
60 The Classic bundled product offered by OMV Gas GmbH consists of a working gas volume of 2 m cu m, a withdrawal rate of 1,000 cu m/h and an injection rate of 800 cu m/h. (www.omv.com).
61 See www.rohoel.at.
62 ERGEG Final 2006 Report on Monitoring the Implementation of the Guidelines for Good TPA Practice for Storage System Operators (GGPSSO); www.ergeg.org.
63 www.omv.com.

→ Withdrawal capacity availabilities in Austria up to 2010

Chart 51



Sources: www.rohoel.at and www.omv.com

Relevant geographic market and concentration

No information is available to E-Control 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 reveal a growing interest in Austrian storage operators' products on the part of foreign suppliers. However, since transportation to the storage facilities is still affected by capacity problems it is safe to assume that the storage market is confined to the Eastern control area.

On this basis concentration is well above the 1,800 threshold for highly concentrated markets, at an HHI of 5,722 (in terms of shares of working gas volume).

Storage capacity expansion projects in Austria

There are widespread plans across Europe to expand storage capacity[64]. Expansion projects are also under way in Austria – mainly in response to gas transit needs. Whether new storage capacity can be built largely depends on geological conditions. In the past, the producers, RAG and OMV – which hold storage licences – have converted depleted gas fields into storage facilities.

The legal framework for the storage operators' activities is the Mineralrohstoffgesetz (Mineral Resources Act), under which the search for suitable storage sites, and the construction and operation of a gas storage facility require permits from the economics ministry. Such permits are granted if the operator can demonstrate

64 See Cedigaz, Underground Storage in the World, Serving Market Needs, Paris, June 2006.

that the planned site is geologically suitable, and that it has the necessary technical and financial resources to operate a storage facility.

New developments and expansion projects: RAG

According to AGGM's 2007 long-term plan[65] RAG plans to expand its Puchkirchen facility, build a new facility in Haag, and construct the Haidach 5 facility.

RAG is offering storage rights for the Puchkirchen/Haag and Haidach 5 facilities. The Haidach storage facility is a depleted gas reservoir, developed in 1998, which produced over 2.9 bn cu m of natural gas for the Austrian market[66]. The facility will be built and operated by the concessionaire, RAG (AGS concession). The storage rights are held by Wingas GmbH and Gazprom Export. Wingas GmbH has posted tariffs for this capacity on its website.

The initial capacity of the Haidach gas storage facility is 1.2 bn cu m (working gas), rising to 2.4 bn cu m on completion of the project. Due to the high permeability of the reservoir rock the withdrawal rate will be about 1 m cu m per hour at full capacity.

The Haidach site is linked to the storage facility at the Überackern, Burghausen gas hub on the Austro-German border by the 39 km Austria-Bavaria-Gas-Pipeline (ABG). Until now Haidach has not been linked with the Eastern control area grid. The procedure for the exemption of new infrastructure is still pending.

New developments and expansion projects: OMV Gas

OMV Gas is planning to expand its Schönkirchen-Tief storage facility. Working gas volume is to be raised by about 1 bn cu m, and the withdrawal rate significantly increased[68].

On 23 May 2007 Gazprom and OMV AG signed a memorandum of understanding, under which they agreed to cooperate on storage facility development and expansion in Austria and neighbouring countries[69]. This agreement also relates to the Schönkirchen-Tief expansion project.

In contrast to the position in other European gas industries such as those of Germany and the United Kingdom, the construction of additional storage capacity is unlikely to lead to the entry of new storage operators to the market. One reason for this is the differing geological conditions. New capacity and services will not reduce the current high level of concentration in the Austrian storage market. As shown by the examples of Haidach and Gazprom's intention to participate in the Schönkirchen-Tief project under some circumstances it is possible for other gas companies to invest in storage capacity. However, to do so they must cooperate with RAG AG or OMV Gas GmbH.

Regulatory activity by E-Control will therefore focus on the transparent and non-discriminatory allocation of storage capacity, and arrangements for preventing the hoarding of capacity.

→ RAG AG expansion projects[67]

Table 9

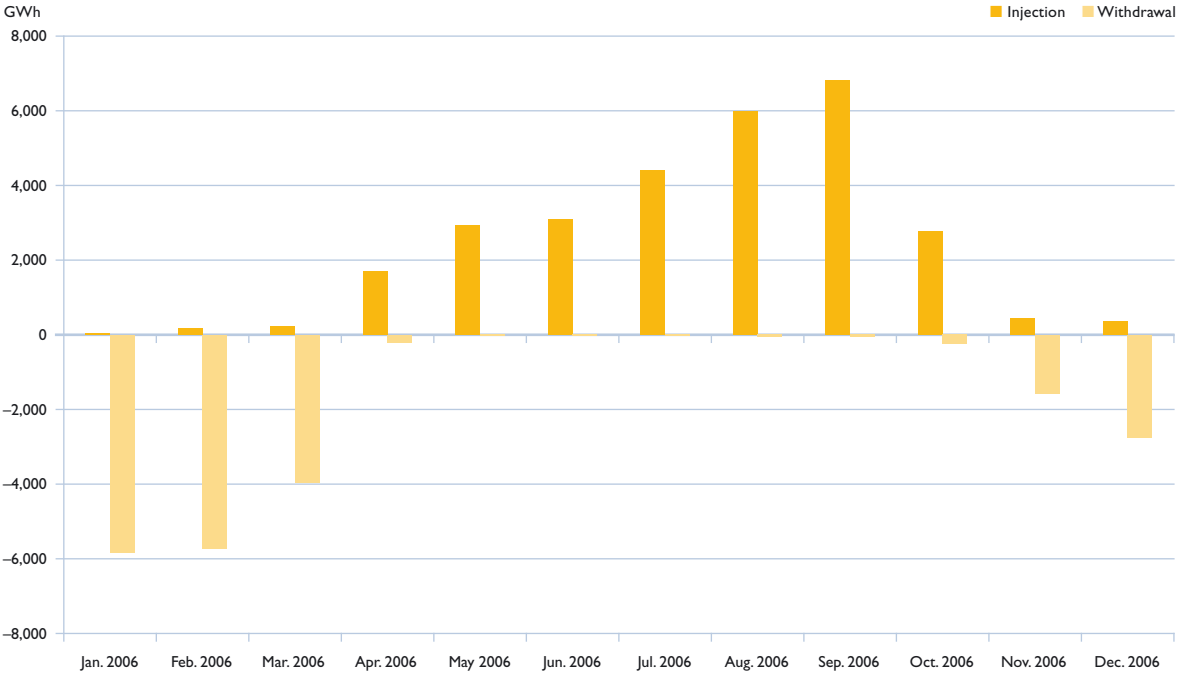
Storage facility	Increase in working gas volume	Increase in withdrawal capacity	Commissioning
Puchkirchen	150 m cu m	100,000 cu m/h	2010
Puchkirchen/Haag	400 m cu m	160,000 cu m/h	2010
Haidach 5	13.5 m cu m	20,000 cu m/h	2007

Source: RAG

65 See AGGM, Langfristige Planung 2006 für die Regelzone Ost für den Zeitraum Gasjahr 2007–2011 mit Ausblick auf das Gasjahr 2030 (2006 long-term plan for the Eastern control area for the 2007–1011 gas year period, and outlook until the 2030 gas year), 2006.
66 See www.rohoel.at.
67 See www.rohoel.at.
68 See Michael Kreuz, OMV Gas GmbH, Recent Changes in Austria's Gas Markets: Impact and Lessons Learnt, Flame conference, March 2007.
69 See OMV AG press release, OMV and Gazprom step up cooperation in gas business, 23 May 2007, www.omv.com.

→ Injection and withdrawals, 2006

Chart 52



Source: E-Control

Storage volumes and charges

Monthly inventory movement statistics (injection and withdrawals) are available[70]. These figures reveal a typical seasonal pattern, with injection in the summer and withdrawal in the winter (Chart 52).

The maximum hourly peak demand in 2006 was 24,835 MWh/h (February 2006)[71]. The rate of withdrawal from Austrian storage facilities was 15,887 MWh/h, meaning that in theory it was possible for 63 % of peak demand to be met from storage.

The charges for the use of the storage facilities operated by OMV Gas GmbH and RAG AG are posted on the respective corporate websites. Chart 53 compares the rates for standard services.

→ Prices of standard storage services in Austria, July 2007[72]

Chart 53

Sources: www.omv.com and www.rohoel.at

70 www.e-control.at.
71 See www.aggm.at.
72 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.

Apart from bundled services under which the injection and withdrawal rates are tied to the working gas volume, OMV Gas GmbH also offers unbundled services, i. e. additional injection and withdrawal capacity. The posted prices of these storage products are effective rates. The charges depend on the duration of the contracts and whether fixed or flexible injection and withdrawal periods are selected.

RAG AG does not publish any custom product specifications, but does offer them in principle. Like that of OMV Gas, the RAG website carries a tariff for standard services, which is related to withdrawal capacity and can be seen as an indicative price. RAG's charges also reflect contract duration, and whether the injection and withdrawal periods are fixed or flexible. Another factor that influences pricing is the injection and withdrawal points, i. e. the exit/entry points at storage facilities.

→ Balancing market[73]

Balancing regime

The introduction of a balancing group system made it possible for the control area manager, which may not own natural gas, or gas transportation or storage capacity, to perform the operational balancing of the network. Balancing energy is needed when balancing groups' demand and production forecasts diverge from the actual offtake of balancing group members.

Because of this balancing energy was created as a product comprising gas injection into or withdrawal from the system at short notice (hourly balancing) in order to stabilise the network. The mechanism for trading this product on the balancing market is established by the general terms and conditions of the balancing group coordinator (AGCS in the Eastern control area) which form part of the market rules[74]. The balancing group coordinator is responsible for the organisational and technical management of a balancing group. Due to the special circumstances of the Tyrol and Vorarlberg control areas the following discussion relates only to the Eastern control area.

"Gas merchants"[75] can offer their unused day ahead gas and transportation capacity on the balancing market up to 4 pm on working days, provided that they are registered with the settlement agent, AGCS. Balancing energy suppliers make separate offers to deliver or accept natural gas on an hourly basis. These bids are ranked by price and sent to the control area manager in the form of a merit order list on a daily basis.

The control area manager uses this merit order list to correct system imbalances by calling off gas. If the control area manager believes that the system is oversupplied it asks suppliers to withdraw gas. If there is too little gas in the system suppliers are requested to inject additional amounts. Balancing energy suppliers receive the price offered by them for the withdrawal or injection of gas.

Changes since the introduction of the balancing market

During the first year of operation the cost to system operators of the system losses and own use balancing groups emerged as a major problem, amounting to some €3 m. Due to a change in the price formula for hours without balancing energy call-off, made in October 2003, the system losses balancing groups have recorded no income since November 2003. In addition, the control area manager AGGM has improved its call-off method, resulting in a marked reduction in physical call-off.

Action has also been taken on congestion management. Besides the possibility of reopening the market, which has existed since its inception, day ahead rate contracts were introduced in 2005. These are for additional storage capacity offered by OMV Gas to its storage customers in

73 The description of the balancing market only applies to the Eastern control area.
74 Appendix to the GTC of balancing group coordinators on balancing energy management, www.e-control.at.
75 The Natural Gas (Amendment) Act (GWG II) defines a "gas merchant" as a natural person or legal entity who/which buys or sells gas and performs no transmission or distribution functions either inside or outside of the network in which he/she/it operates.

order to enable them to provide more balancing energy. However this storage product is only available if the market is reopened.

Since January 2007 it has been possible to fax balancing energy bids to the control area manager and AGCS when congestion arises. The control area manager draws up the merit order list. Thanks to the longer response times (150 minutes) associated with this measure imports and consumer cut-offs can also be used to balance the system.

A move to 24-hour market opening, with a "round-the-clock merit order list" is planned for January 2008. Balancing energy suppliers will then be able to make additional offers whenever they wish after the 4 pm close. The updated merit order list will be sent to the control area manager at hourly intervals.

Supply structure

The active suppliers on the Eastern control area balancing market are EconGas, RAG, Steirische Gas Wärme, Salzburg AG, Kelag and Terragas. The technical requirements that bidders must meet (half-hour call-off response time) have at times meant that only customers of the OMV gas storage pool have been in a position to offer balancing energy. Apart from EconGas, RAG and Terragas are also major suppliers.

Demand structure

Although the control area manager is responsible for calling off balancing energy the demand for it comes from the balancing groups. Call-offs carry no financial risk for the control area manager. The balancing energy is billed to the commercial balancing groups (gas merchants) by the settlement agent, AGCS. The balancing group representatives pay the average prices for balancing energy sales and purchases during the hour in question. During hours when no call-off occurs the accrued balancing power price is the average for the past seven hours. Whether the purchasing or selling prices are applied depends on whether the system losses balancing groups are long or short. If they buy gas during the hour in question, i. e. have to inject it into their systems, the selling price – which is lower – is used in the calculation, and vice versa.

The largest commercial balancing group in terms of accrued balancing energy is that of EconGas. Other companies acting as commercial balancing group representatives in 2006 were Steirische Gas Wärme, Kelag, RAG BG, Terragas GmbH, Salzburg AG, Centrex Gashandels- und Vertriebs GmbH, Central European Gas Hub GmbH and Energie Ried. Gas is continuing to be traded over the balancing market in the Eastern control area because the balancing groups are oversupplied.

Relevant geographic market and concentration

The balancing market is confined to the Eastern control area. To be eligible bidders on the balancing market, prospective purchasers must be balancing group members, be metered online, and be registered with AGCS as balancing energy suppliers, and a data line to the control area manager must be in place[76]. Bidders also require the consent of their balancing group representatives, and must possess flexibility tools (storage contracts, or swing contracts with customers and flexible supply contracts). This significantly narrows the field of potential bidders among the registered balancing group members (Austrian market participants). While 32 gas retailers (balancing group members) are registered in the system, only eight are registered suppliers of balancing energy, and not all of these are active suppliers.

The market shares of balancing energy suppliers vary as between the buying and selling sides of the market. In 2006 the HHI for purchases from balancing energy suppliers was 2,354, while that for sales to them was 2,330. The combined

76 See the appendix to the general terms and conditions of the balancing group coordinator AGCS on balancing energy management, November 2006, www.e-control.at.

market share of the three largest suppliers was 78.6% as measured by purchases of balancing energy and 73.9% in terms of sales. The three largest suppliers on the purchasing and selling sides are not identical.

Supply substitutability is significantly limited by the existing storage contracts and the related storage availabilities. It is safe to assume that the balancing energy provided by the largest 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. Importance should therefore be attached to efforts to obtain additional supplies for the balancing market.

Balancing energy volumes and prices

In 2006 a total of 161,960 MWh of physical balancing energy was purchased, i. e. injected into the system by balancing energy suppliers, and 1,194,600 MWh was sold, i. e. withdrawn by them. Total balancing energy corresponds to 1.5% of total gas consumption in the Eastern control area. Balancing energy was purchased in 4.7% of the hours during the year and was sold in 33.6% of all hours. The control area manager relied entirely on linepack during most of the hours (61.7%).

Chart 54 shows monthly call-off of physical balancing energy in 2006. Only in January were purchases of balancing energy higher than sales.

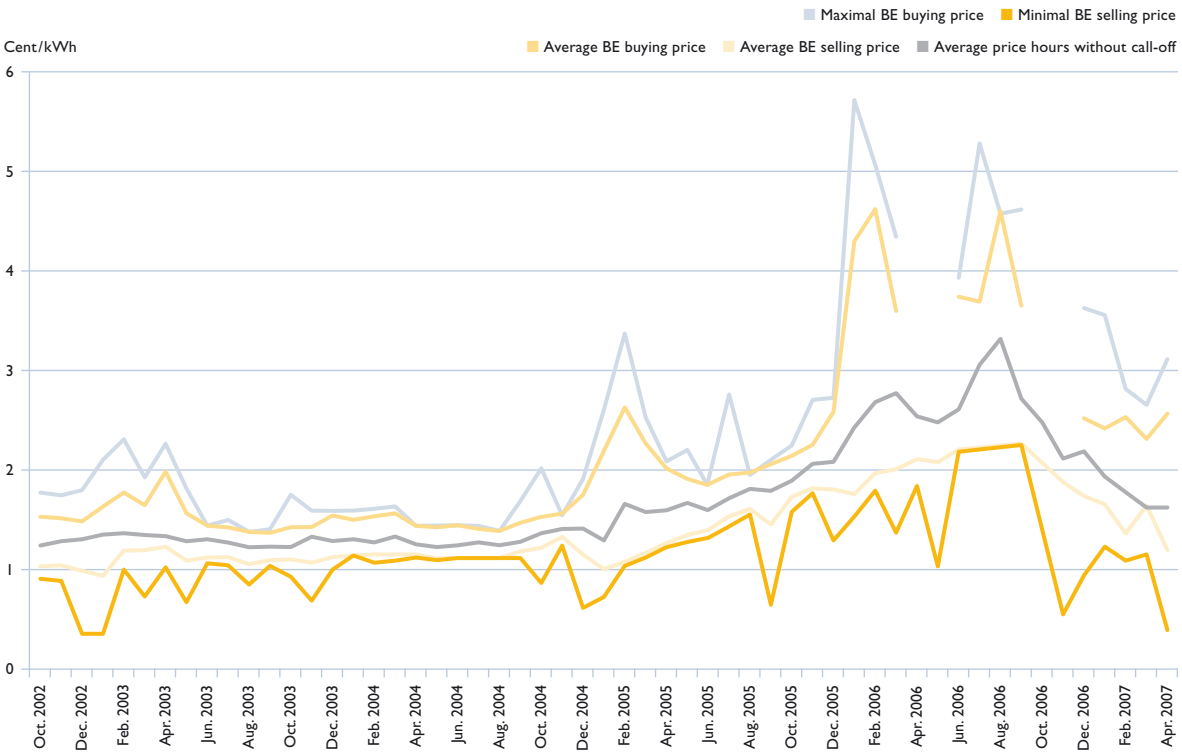
→ Balancing energy volumes in 2006

Chart 54

Source: AGCS

→ Price movements on the balancing market[77]

Chart 55



Source: AGCS

Sales to balancing energy suppliers were particularly heavy in November and December – evidence of the persistent oversupply of the system.

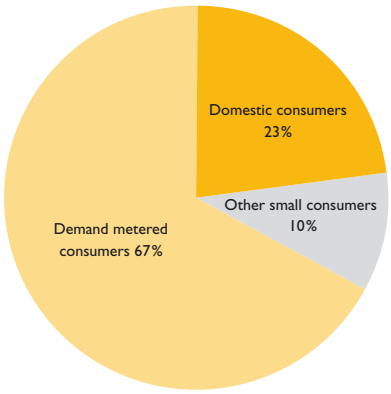
Despite the decline in call-offs of physical balancing energy, prices firmed and volatility increased (Chart 55). Thus, although the volumes purchased fell heavily, prices for the purchase of balancing energy from suppliers rose sharply. This trend is explained by climbing import prices. The marked price spike in January 2006 reflects the expectation of a gas shortage due to Gazprom's cutbacks in deliveries to Ukraine at the start of the year. Technical problems at storage facilities may also have impacted prices.

→ Description of the retail market

In 2006 the Austrian gas market comprised some 1.33 m final consumers[78] and total demand was approx. 8.5 bn cu m. The retail market can be roughly divided into two sub-markets, served by different suppliers: the domestic and small consumer market (annual consumption of up to 100,000 cu m), with 1.328 m non demand metered end users; and the medium-sized business and industrial consumer market (annual consumption from 100,000 cu m) with some 2,000 demand metered end users. The market for the supply of large consumers with an annual consumption of 500,000 cu m or more can seen as a further sub-market.

77 No balancing energy purchases in April, May, October and November.
78 See E-Control Quarterly, No. 1, 2007.

→ **Natural gas consumption by consumer groups,** 2005/2006 gas year Chart 56



Source: E-Control

During the 2005/2006 gas year 66.5% (67,800 GWh) of total natural gas consumption was accounted for by demand metered consumers (gas-fired generating stations and industry), 23.1% (23,500 GWh) by households and the remaining 10.3% (10,600 GWh) by other small consumers (Chart 56).

Demand metered (medium-sized business and industrial) market – Supplier market structure

Medium-sized business and industrial consumers (annual consumption of 100,000–500,000 cu m)

Upwards of an annual demand of 100,000 cu m final gas consumers are demand metered, and thus receive a different product to the non demand metered domestic and small consumers.

The market leader is EnergieAllianz, through its retail subsidiaries Wien Energie GmbH & Co, EVN GmbH & Co and Bewag Vertriebs- GmbH & Co. Switch is a nationwide retail subsidiary of EnergieAllianz. Since 1 July switch has been marketing natural gas to private and medium-sized business consumers, as well as electricity. Due to its discount policy in the Salzburg grid zone switch is the lowest cost gas supplier for a typical domestic consumer (July 2007).

Kelag, Steirische Gas Wärme's Unsere Wasserkraft subsidiary, Salzburg AG through MyElectric, Erdgas Oberösterreich and Linz Gas also serve the Eastern control area. The suppliers in this segment are also present on the electricity market (in some cases via affiliated companies). State influence over these suppliers is strong (see section Supplier market structure).

Large consumers (annual consumption of 500,000 cu m or more)

Upwards of an annual consumption of 500,000 cu m the large consumer market has a different structure. The market leader is EconGas. The three largest suppliers have a combined market share of about 95%. Aside from EconGas, Steirische Gas Wärme, Terragas and Wingas are active in this segment. These suppliers market across the entire Eastern control area. Due to their lack of access to sufficient amounts of natural gas some suppliers' ability to bid for contracts is limited.

Gas-alive GmbH (80% owned by Steirische Gas Wärme) – a service company aimed at medium-sized business and industrial consumers (e.g. transaction structuring) – withdrew from the market at the end of 2006.

Centrex, a Gazprom affiliate, plans to supply large Austrian consumers including generating stations, and has already registered with AGCS as a balancing group representative[79]. Gazprom also has a foot in the Austrian retail market through its 50% interest in Wingas GmbH.

79 www.agcs.at.

For strategic reasons, Italy's ENI S.p.A. plans to enter the Austria and German markets with a view to claiming an overall market share of 7.3 % by 2010[80].

Gas companies' advertising activities

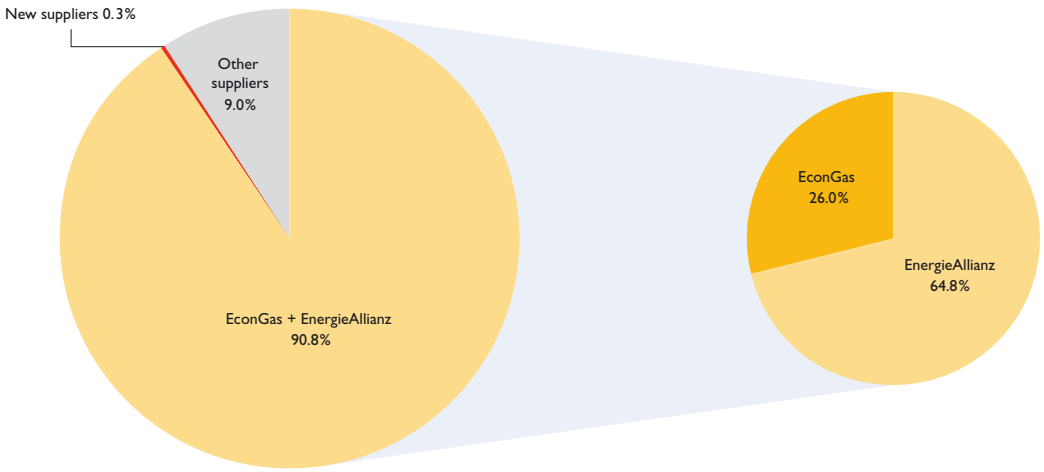
Charts 57 and 58 depict the gas companies' total advertising expenditure from April 2001 until December 2006. The biggest spenders on marketing activities were EconGas[81] (26 %) and EnergieAllianz[82] (64.8 %), which accounted for a combined 90.8 % of total expenditure.

The remaining suppliers accounted for about 9 % of overall advertising expenditure, and new and potential Austrian and foreign suppliers for 0.3 %.

An example of the latter group is a south German gas supplier which has been using outdoor advertising in Austria to raise brand awareness ahead of possible market entry. After spending heavily on image advertising in May 2006 in connection with its planned merger with Verbund, OMV scaled back its expenditure markedly when the deal was called off.

EnergieAllianz's consistently high spending in October and November suggests that the main target was medium-sized business consumers, as most of these contracts expire at the end of the year. Advertising expenditure in 2006 was down on 2002, when the market was opened. By contrast there was an increase in electricity advertising as compared to the year of liberalisation – in this case, 2001 (see section Electricity companies' advertising expenditure).

→ Proportionate shares of gas industry advertising expenditure Chart 57

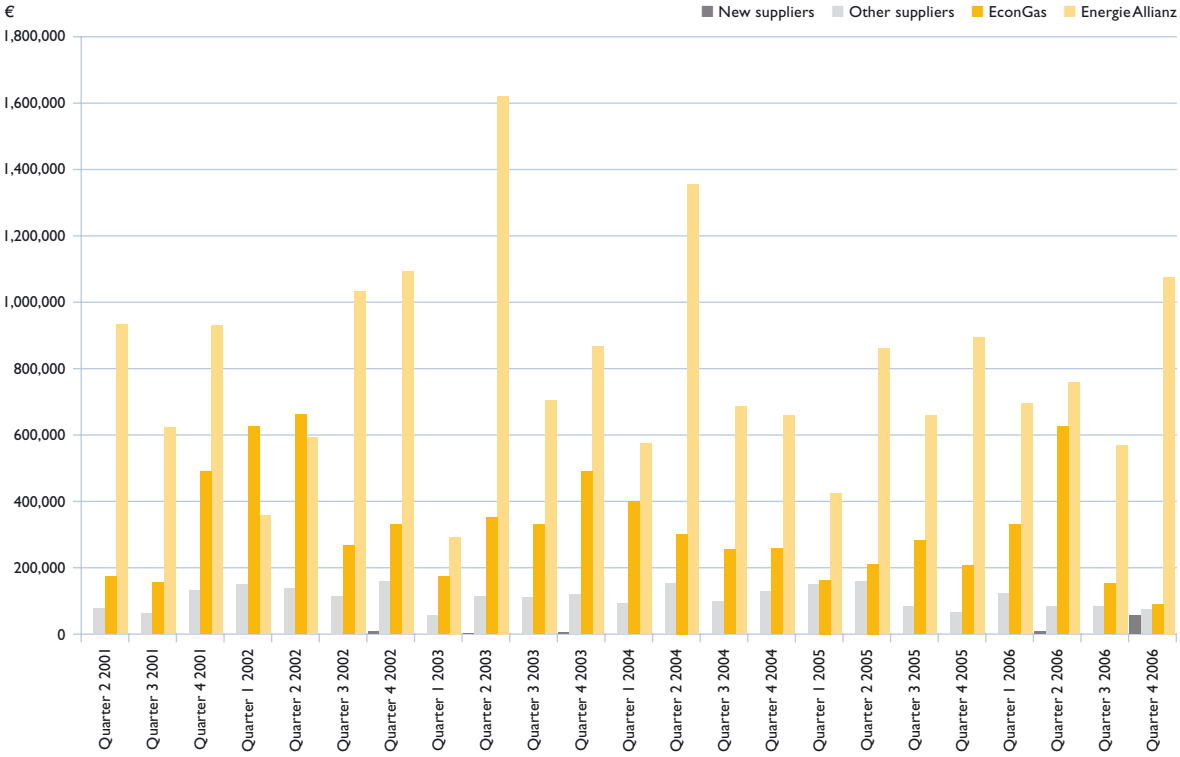


Sources: Media Focus and E-Control

80 www.eni.it, Investor Relations, 2006 Results & Strategies, 13 July 2007.
81 Begas, EVN, Linz AG, OMV, OÖF and Wien Energie.
82 Begas, EVN and Wien Energie.

→ Advertising expenditure by gas companies

Chart 58



Sources: Media Focus and E-Control

Consumption and prices

Section 9(1)(3) Energy Regulatory Authorities Act requires E-Control to prepare and publish electricity and gas price comparisons for consumers. The means of doing this for domestic consumers is the tariff calculator, which displays the current prices of the various suppliers, while for industrial consumers it is the biannual industrial price survey (carried out in January and July). Since the participation of industrial consumers is voluntary, in order to obtain a sufficiently large data sample small industrial companies with an annual consumption of 1,107,000 kWh or more (approx. 100,000 cu m) are also surveyed.

The figures in Table 10 show the gas prices (excluding system charges, taxes and levies) arrived at by the industrial price surveys from January 2004 to January 2007.

The price reductions in January 2007 as compared to July 2006 – by 0.12 cent/kWh in Category A and 0.11 cent/kWh in Category B – reflect the predominant use of price escalation clauses and a fall in the oil-linked import price (index for July 2006: 170.38; index for January 2007: 155.40; October 2002 = 100). In contrast, Category C industrial prices rose by 0.14 cent/kWh, due to the prevalence of fixed prices.

→ Gas prices and average contract terms

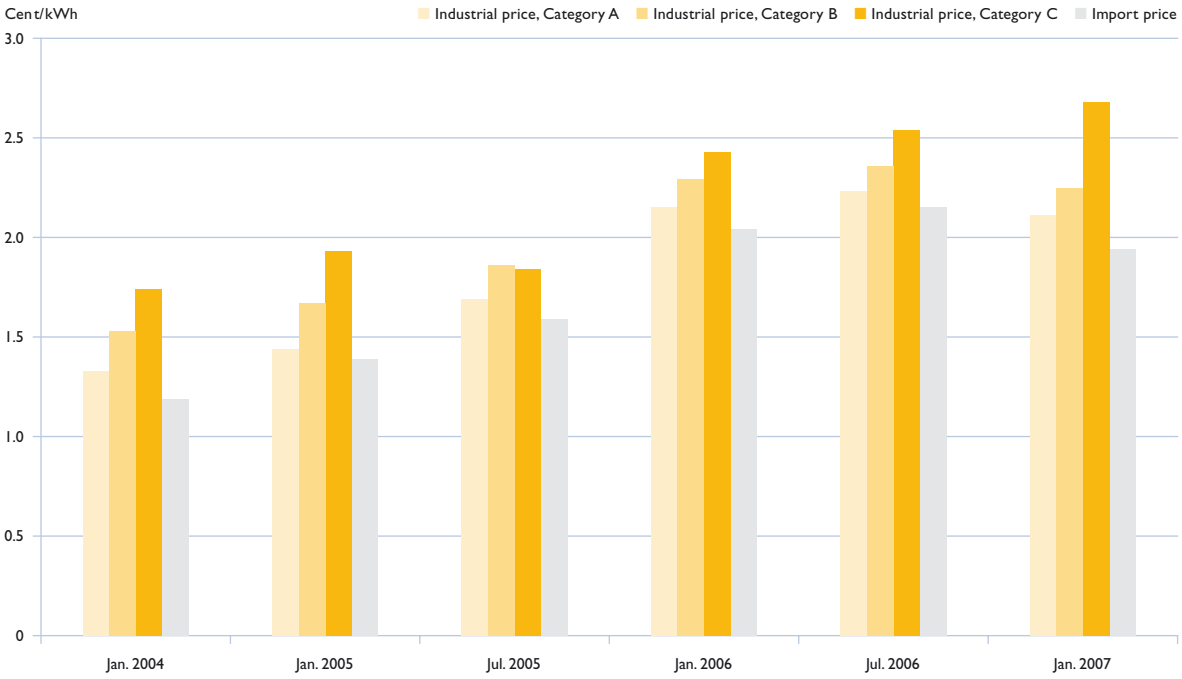
Table 10

		Jan. 2006 cent/kWh	Jan. 2007 cent/kWh
Category A	Arithmetic mean	2.11	2.23
Annual consumption >100 GWh	Average contract term	35 months	
Category B	Arithmetic mean	2.25	2.36
Annual consumption >10 GWh <100 GWh	Average contract term	21 months	
Category C	Arithmetic mean	2.68	2.54
Annual consumption <10 GWh	Average contract term	22 months	
Total	Arithmetic mean	2.41	2.42
	Number of companies	166	156
	Average contract term	23 months	

Source: E-Control

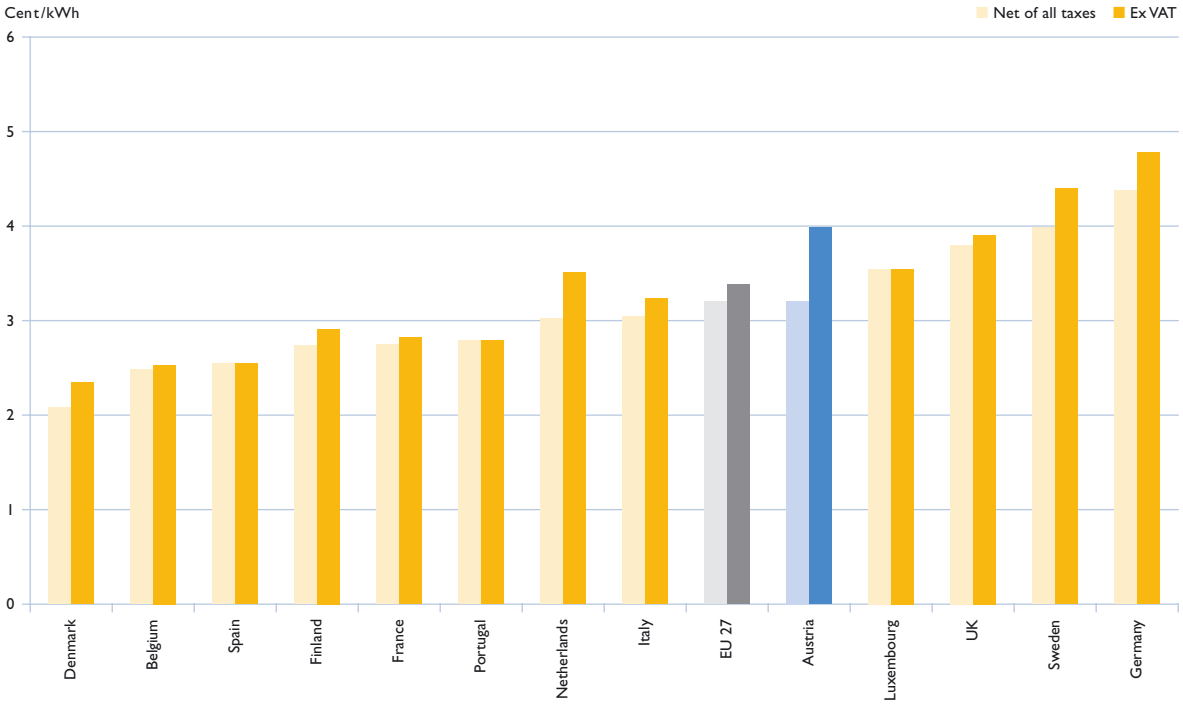
→ Import and industrial prices on selected reporting dates

Chart 59



Sources: E-Control and Statistics Austria

→ **Comparison of industrial gas prices inc. system charges in Europe, January 2007** Chart 60



Source: Eurostat

Industrial gas price trends (energy price only, excluding system charges, taxes and levies) mirror movements in import prices, though the latter are consistently lower than those charged by suppliers.

A European comparison (Chart 60) shows that at 3.21 cent/kWh (ex levies and VAT) the Austrian industrial gas price for a standard consumer with an annual consumption of approx. 11.7 m kWh was only slightly above the EU-27 average on 1 January 2007. Gas prices in Germany and Sweden are considerably higher than in Austria.

Non demand metered (domestic and small consumer) consumer market

Supplier market structure

The supplier structure of the domestic and small consumer market is the same as that of the market for the supply of medium-sized business and industrial consumers with an annual consumption of up to 500,000 cu m. Here, too, EnergieAllianz is the market leader. Switch entered this market in mid-2006. Kelag, Steirische Gas Wärme (through its Unsere Wasserkraft subsidiary),

Salzburg AG through MyElectric, Erdgas Oberösterreich and Linz Gas also supply the Eastern control area. The suppliers in this segment are also present on the electricity market (in some cases via affiliated companies).

Demand

Gas offtake by non demand metered consumers fell slightly to 28,958 GWh in the 2005/2006 gas year. The consumption data for the 2006/2007 gas year is likely to show a sharper decline due to the milder temperatures.

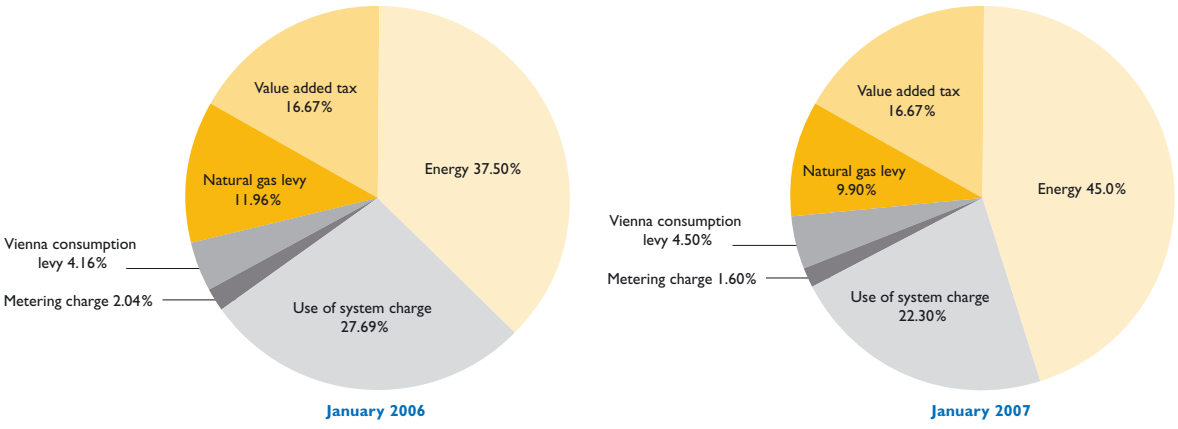
Natural gas prices for domestic and small consumers

The natural gas prices paid by consumers are composed of the energy price, the system charges, taxes and levies. Since 1 January 2007 the consumption levy has been included in the system charges, except in the Vienna and Salzburg grid areas. Like the other network energy forms, oil, LNG and electricity, natural gas is subject to a consumption levy. The Austrian natural gas levy has remained at 6.60 cent/N cu m (0.5941 cent/kWh) since 1 January 2004.

Taking a standard domestic consumer in Vienna with an annual consumption of 15,000 kWh, a comparison of the components of gas prices on 1 January 2006 and 1 January 2007 shows a marked shift as a result of the cut in system charges on 1 January 2007, and the energy price increases on 1 March 2006 (37.6% net increase) and 1 January 2007 (10.2% net increase). The negotiable energy component grew from 37.5% in January 2006 to 44.96% a year later (Chart 61).

Chart 62 shows the expenditure of a standard domestic customer (15,000 kWh/year) of the local player by grid zones. The highest overall price is paid by the customers of Energie Graz. With the exception of consumers in the Kelag grid zone, gas consumers in the Eastern control area can make savings by switching.

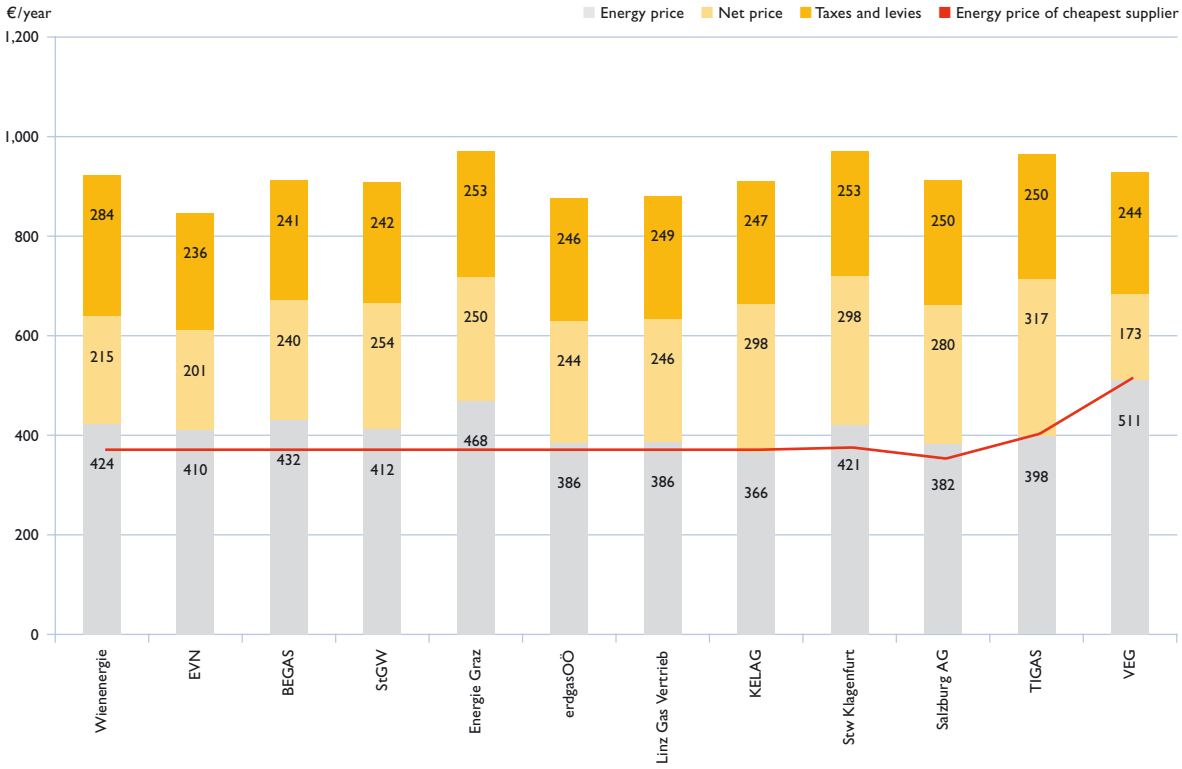
→ **Gas price breakdown,** Vienna grid zone, 15,000 kWh/y, cheapest supplier — Chart 61



Source: E-Control

→ **Expenditure by a standard domestic consumer supplied by the local player** (consumption of 15,000 kWh/year)

Chart 62



Source: E-Control; July 2007

Price trend in 2006/2007

Gas suppliers passed on the increase in procurement costs during the 2006 calendar year to domestic consumers before the start of the 2006/2007 heating season (Table 11).

Begas increased its energy price by 17% (net gas price) on 15 November 2006 – the second increase inside a year (1 January 2006: net energy price up by 9.3%). A changeover in Kelag's tariff scheme (uniform rates for Kelag customers in Carinthia and the rest of the Eastern control area) on 1 December 2006 actually reduced the price charged to a standard domestic consumer

→ **Price increases since 1 September 2006**

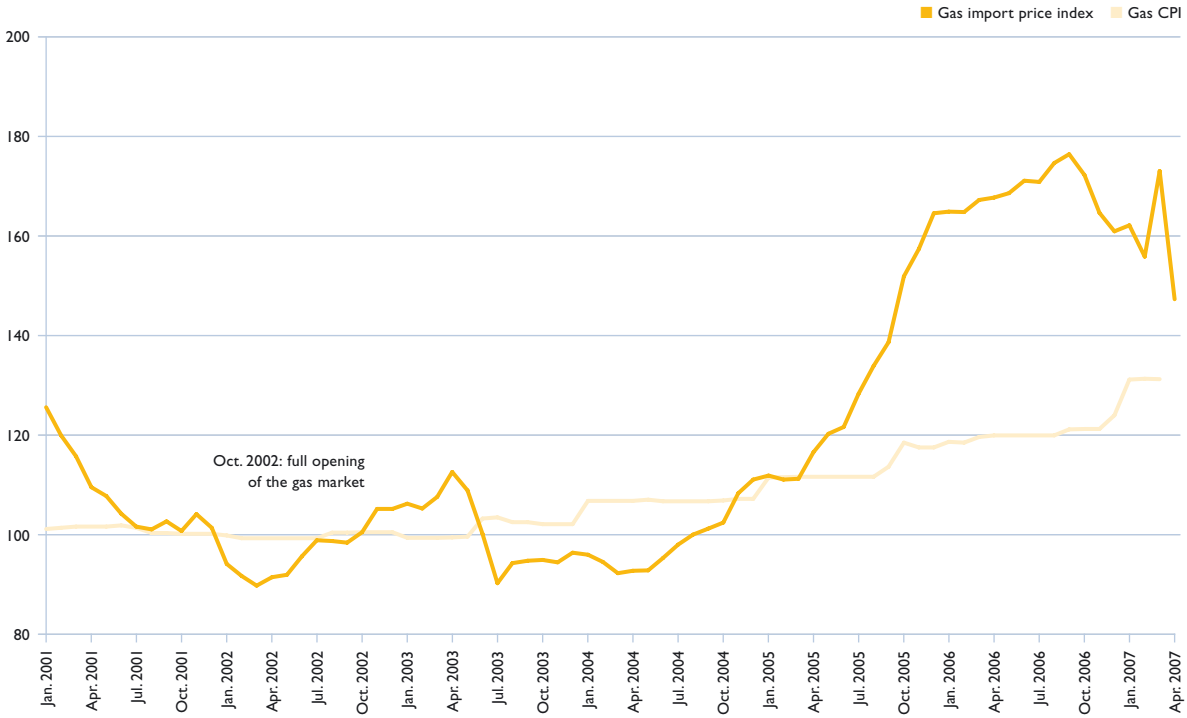
Table 11

Supplier	Energy price increase	Overall price increase
Erdgas Oberösterreich	17.5%	9.3%
Linz Gas Vertrieb	10.6%	5.9%
E-Werk Wels	16.6%	8.7%
KELAG	16.1%	7.6%
WienEnergie	10.2%	4.8%
Steirische Gas Wärme	14.7%	6.3%
Energie Graz	17.3%	8.3%
Stw Kapfenberg	11.0%	4.8%
VEG	11.5%	5.4%
Stw Bregenz	11.5%	5.4%
MyElectric	14.2%	

Source: E-Control

→ Comparison of the gas import price index and the gas CPI
(October 2002 = 100)

Chart 63



Sources: Statistics Austria and E-Control

with a consumption of 15,000 kWh/year by 1.26% (net energy price).

Most suppliers took advantage of the cut in system charges on 1 January 2007 ordered by the E-Control Commission to raise their energy prices at the same time, such that overall prices increased.

As a result, the gas consumer price index rose from 123.5 in December 2006 to 130.64 in January 2007. Suppliers justified these price increases with rising purchasing prices over the preceding months. As can be seen from Chart 63, the import price reached an all-time high of almost €22/MWh in September 2006.

However, Chart 63 shows a clear downward trend in import prices since September 2006. Several suppliers in the domestic consumer segment responded by reducing their rates on 1 July 2007 (Table 12).

→ Price reductions on 1 July 2007

Table 12

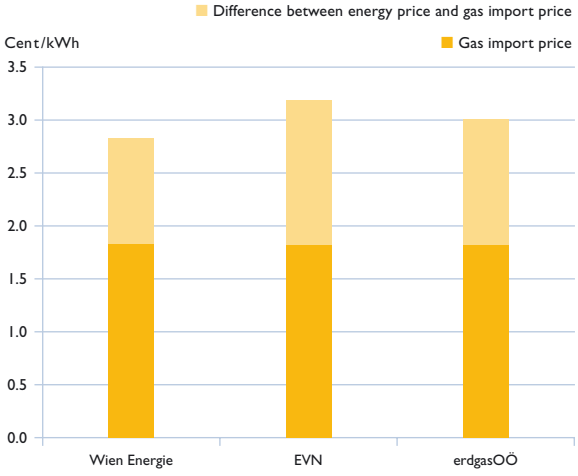
Supplier	Energy price decrease	Overall price decrease
EVN	7.6%	5.7%
BEGAS	7.7%	4.6%
Steirische Gas Wärme	7.1%	4.0%
Energie Graz	6.4%	3.8%

Source: E-Control

A comparison of gas import prices and the local players' energy prices in the three grid zones with the highest demand clearly reveals that the energy price paid by a standard customer with an annual consumption of 15,000 kWh is largely determined by the import price. The difference between the energy price and gas import price of about 1 cent/kWh in the case of Wien Energie illustrates the leeway that suppliers have in setting their prices. This difference is made up of storage, balancing energy and marketing costs, and the profit margin.

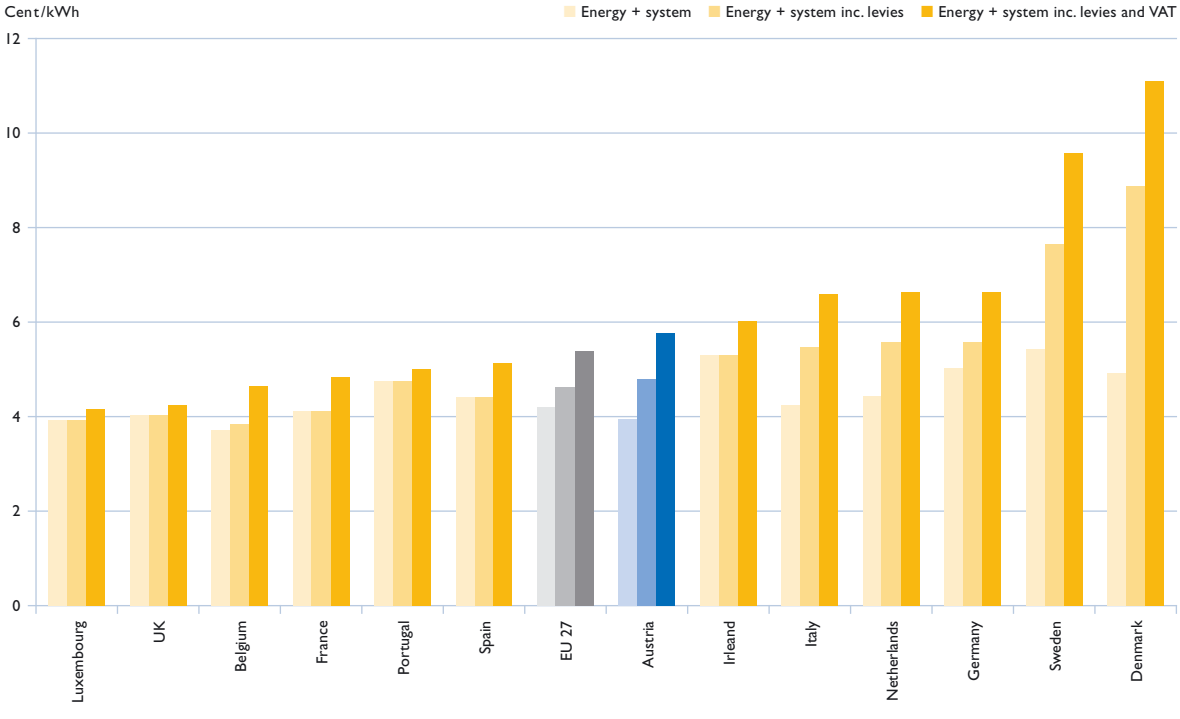
A European comparison of domestic gas prices in January 2007 (Chart 65) shows that the average Austrian price of 5.76 cent/kWh (energy price and system charges, inc. levies and VAT) for a consumer with an annual demand of 23,250 kWh was slightly above the EU-27 average, which was up by 16% year on year.

→ Comparison of gas import and energy prices (domestic consumer, 15,000 kWh/year) Chart 64



Sources: Statistics Austria and E-Control; April 2007

→ Comparison of domestic gas prices inc. system charges in Europe, January 2007 Chart 65



Source: Eurostat

Switching rates

In the 2006 gas year (October 2005 to September 2006), around 7,000 domestic consumers changed suppliers, bringing the cumulative switching rate since liberalisation in October 2002 to 3.3 % (approx. 36,500 domestic consumers). The churn rate in the 2005/2006 gas year was 0.6 %. By contrast, the switching rate among demand metered final consumers was 7.3 % in the same period.

While there was a fall of 0.2 % (around 2,100 customers) in the number of domestic consumers switching as compared to the 2005 gas year, there were increases in transfers among other small consumers (0.2 % or approx. 320 customers), and industrial consumers and generating stations (1.9 % or approx. 40 customers).

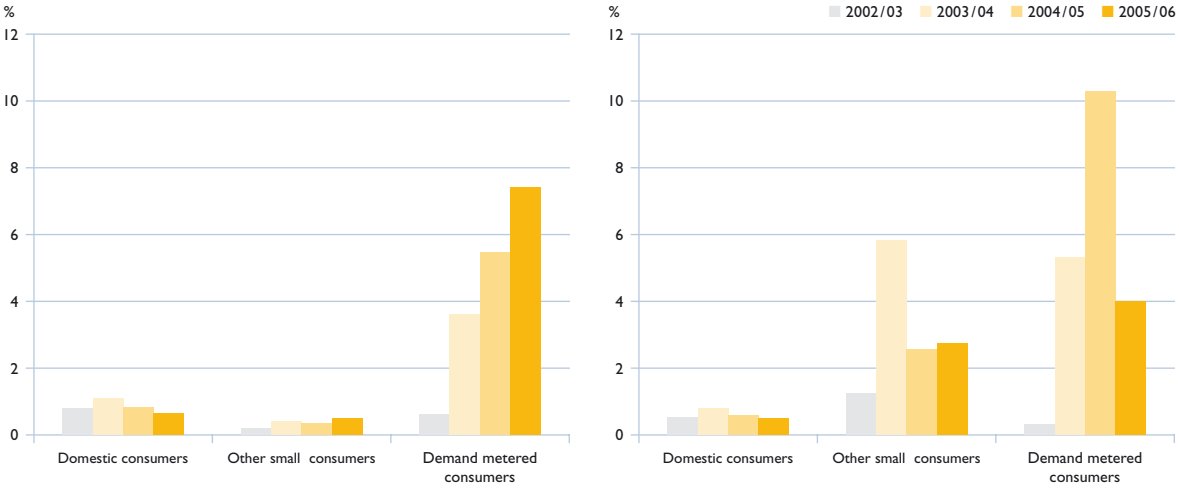
In volume terms, from liberalisation until October 2006 some 15,356 GWh of consumption or 15.1 % of total final demand was transferred. During the 2005 gas year the churn rate in volume terms increased despite a decline in terms of metering points, due to a greater willingness to switch on the part of demand metered consumers. In the following gas year the rates in terms of both the number of metering points and the volume transferred declined, from 0.8 % to 0.6 % and from 7.2 % to 3.1 %, respectively.

The 2007 long-term planning exercise, during which future pipeline construction projects are being examined and approved by the E-Control Commission, is currently investigating whether an 18 km interconnector between the provinces of Salzburg (Saalfelden) and Tyrol (Hochfilzen) should be built. If this project goes ahead gas consumers in Tyrol will also be able to switch. The regulatory authority supports the construction of a link between Tyrol and the Eastern control area because of the positive impact on competition.

Chart 67 shows the potential savings resulting from a transfer to the cheapest supplier (as of 1 July 2007). Consumers in the Energie Graz grid area can make the biggest savings (13 % or €123/year).

→ Supplier transfers in the gas market:
proportion of switchers (metering points, left) and GWh transferred (right)

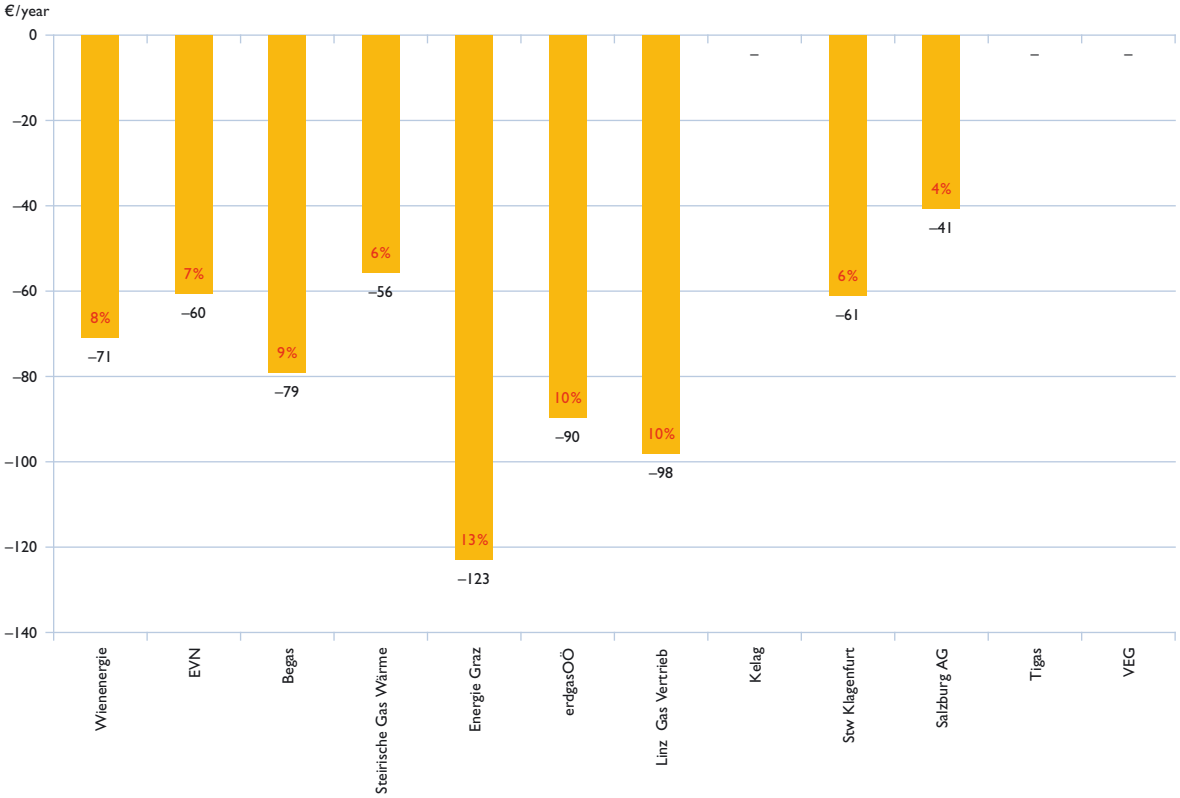
Chart 66



Source: E-Control

→ Potential savings resulting from a transfer from the local player to the cheapest supplier (consumption of 15,000 kWh/year)

Chart 67



Source: E-Control; July 2007


Annex 2007

Section 20i(1) Energielenkungsgesetz 1982 (Energy Emergency Powers Act 1982) as amended by BGBl. I (Federal Law Gazette I) No. 106/2006 charges E-Control with monitoring the security of electricity supply with a view to preparing intervention measures. The balancing group coordinators, balancing group representatives, infeed suppliers, electricity companies, system operators and control area managers identified in section 7 Electricity Industry and Organisation Act are obliged to cooperate in this process. This monitoring covers, in particular:

- → The supply/demand balance on the national market;
- → Expected future demand and available supplies;
- → Additional capacity being planned or under construction;
- → The quality and level of maintenance of the networks;
- → Measures to cover peak demand and to deal with shortfalls of one or more suppliers; and
- → The availability of electricity generating stations and networks.

The findings of the monitoring may be used as a basis for long-term planning and the compilation of a report pursuant to section 14a Energy Regulatory Authorities Act.

In line with its statutory duties, E-Control also carries out long-term planning in cooperation with market participants. E-Control publishes selective information on the supply/demand balance on the domestic market, and additional capacity being planned or under construction (generation and network). The medium and long-term forecasts that must be prepared are available to the competent authorities and companies present on the market. Relatively long-term advance information about the expected supply situation is particularly vital for industrial sectors with long-term investment cycles.

It should also be possible for the additional surveys conducted by E-Control to be carried out by the respective regulatory authorities at European level, on a coordinated basis, 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 coordinated activities aimed at safeguarding supply security.

Table 13 lists the generating station projects currently known to E-Control on which work is due to begin between 2006 and 2009. According to the table, 2,300 MW of additional capacity is due to come online by 2009. Available generating capacity in Austria amounted to 13,700 MW in 2006; a peak demand of 8,600 MW was recorded during the year. In its System Adequacy Forecast 2007–2020, the UCTE forecasts that peak demand in 2007 and 2008 will be 8,800 MW and 9,000 MW, respectively.

→ Generating station expansion and new projects in Austria, 2006–2009

Table 13

Generating station type	Capacity
Combined cycle gas and steam	1,335 MW
Run of river	50 MW
Pumped storage	900 MW

Source: E-Control

Under section 20i. Energy Emergency Powers Act, transmission system operators and distribution system operators with a final supply of 40 GWh or more must send E-Control a description of their network maintenance and expansion programmes broken down by grid levels and operating equipment, and a description of the measures, such as generation and load management, and network restoration plans, taken to deal with demand peaks and outages of one or more suppliers, as well as their contractual terms and conditions.

System operators are requested to adhere largely to the terminology specified by DIN 31 051[83] in their descriptions of their maintenance and expansion programmes. The most frequently used maintenance strategies in the electricity supply sector, in equipment terms, are the following:

- Outage oriented;
- Condition oriented;
- Preventive;
- Reliability oriented.

83 Deutsches Institut für Normung (German Institute for Standardisation), Instandhaltung – Begriffe und Maßnahmen (Maintenance – terminology and measures), 1985.

Section 20j(1) Energy Emergency Powers Act 1982 charges E-Control with monitoring the security of gas supply with a view to preparing intervention measures. The control area managers named in section 12a GWG are required to use best efforts to participate in the assessment of congestion on transmission systems. This monitoring covers, in particular:

- → The supply/demand balance on the national market;
- → Expected future demand and available supplies;
- → Additional capacity being planned or under construction;
- → The quality and level of maintenance of the networks;
- → Measures to cover peak demand and to deal with shortfalls of one or more suppliers, and
- → The availability of sources of natural gas supply and networks.

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

The legal basis for the construction of infrastructure is a long-term plan, the aim and result of which is:

- → Satisfaction of the demand for transport capacity for the supply of final consumers and preparedness for emergency scenarios;
- → The achievement of a high level of availability of transportation capacity (adequate infrastructure to maintain security of supply);
- → Sufficient capacity for "other shipments".

Among other actions, a feasibility study which examines transportation requirements in both the southward and westward directions was initiated in 2007. This project is investigating whether there is a more efficient alternative to building a southern and a western pipeline in order to meet the transport requirements of the Eastern control area.

As a means of promoting investment in major infrastructure projects (cross-border transmission pipelines and storage facilities), the Natural Gas Act includes provisions exempting infrastructure or parts thereof from regulation for a specified period. Such exemptions are intended to provide incentives for the implementation of infrastructure projects.

Gas system operators can apply for certification under the ÖVGW (Austrian Association for the Gas and Water Industry) V 30 standard, drawn up by the Fachverband der Gas- und Wärmeversorgungsunternehmen (Natural Gas and District Heat Association). Certification enables distribution system operators to transfer their duty to publish proof of compliance with the applicable quality standards to the certifying body. To qualify for certification gas system operators must have sufficient human, technical and economic resources to plan, construct, operate and maintain gas pipeline systems and related operating equipment. Half of the gas system operators in Austria are already certified according to this standard.

The ability of the normal balancing mechanism to meet shortfalls caused by supplier outages is severely limited. Provision has been made for

a variety of congestion management measures in such contingencies, depending on the extent and duration of undersupply.

Section 12g Natural Gas Act requires the control area manager to prepare and implement an action plan in consultation with the affected market participants and the regulator in the event of a short or medium-term supply shortfall. 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, starting in 2007 comprehensive periodical data surveys are to be carried out, and analysed by the control area manager and E-Control.

If necessary, final consumers with contractually agreed consumption of over 100,000 kWh/h may be subjected to separate regulation by E-Control. The emergency legislation in place also states that the delivery of available natural gas to final consumers shall be according to the degree of urgency, substitutability by other energy forms and economic impact, while having regard to supplies for domestic heating.

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

→ If information is given on the energy price together with the system charges, they are advertised together, or contracts covering both are offered, or settlement is to be jointly made for them, the system charges, surcharges for taxes and levies, and energy price shall be itemised in a transparent manner.

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

→ Price changes, and amendments to general terms and conditions shall always be notified to customers in writing, in a timely manner. If a customer objects to a notified contractual amendment the contract shall 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 supplied at the previous prices until the transfer takes place.

→ The general terms and conditions for the supply of gas or electricity shall, as a minimum, contain the following:

– The name and address of the supplier;
– The services rendered and the 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-compliance with the contractually agreed service quality;
– Information on complaint procedures;
– The terms at which last resort supply (basic supply) is provided.

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

→ Billing shall transparent: all invoices must contain the following information:

– The meter readings applied to settlement of the account;
– The means of ascertaining 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 shall inform the customer of important contractual terms before concluding the contract. To this end an information leaflet must be issued to the customer.

→ 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 providing consumers with a basic electricity supply. Suppliers of domestic consumers must publish the tariff at which this basic supply is provided in an appropriate form, e.g. on the internet. The Act thus creates an obligation to supply domestic consumers who invoke their right to a basic supply with electricity. The detailed arrangements with regard to the reasonableness of the basic supply obligation and the charges must be established by implementing legislation at provincial level.

→ Energy efficiency

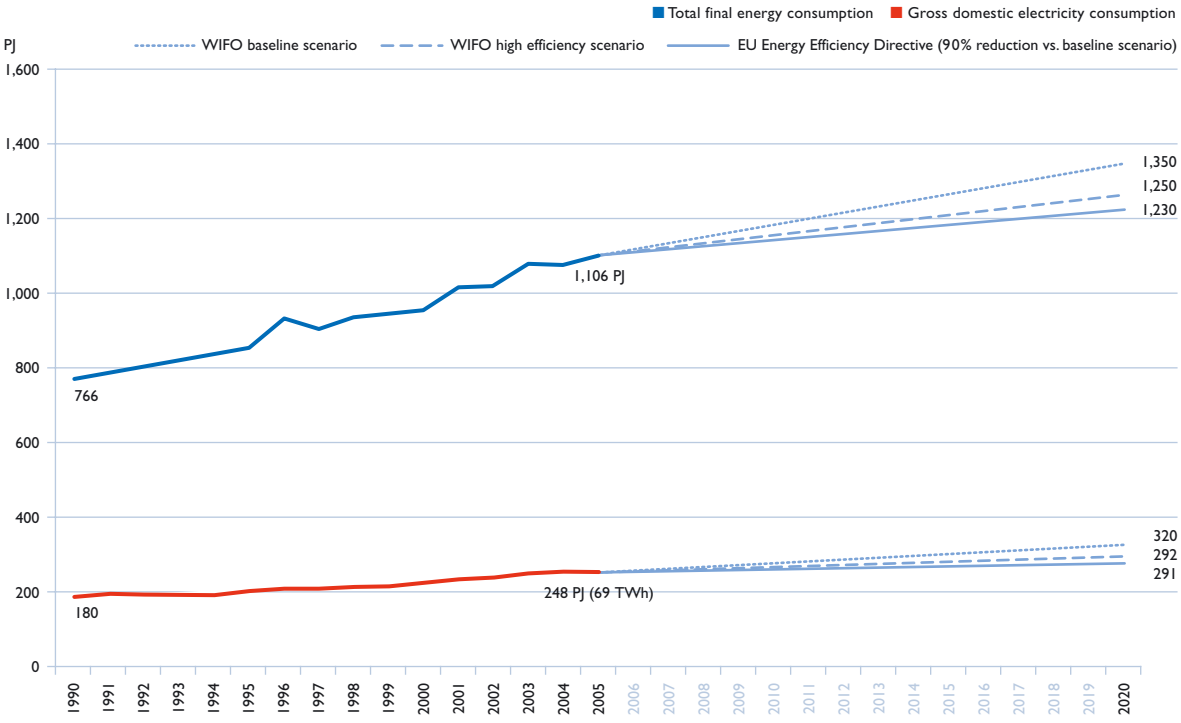
Both total energy consumption and the consumption of electricity – shown in Chart 68 – have grown steadily in recent years. Between 1990–2005 final energy consumption rose by an annual average of 2.5% (from 766 PJ in 1990 to 1,106 PJ in 2005), while electricity demand increased by 2.2% (from 180 PJ in 1990 to 248 PJ in 2005).

As regards the outlook until 2020, model projections by the Austrian Institute of Economic Research (study published in June 2005) predict average annual growth rates of 1.1% for overall energy use and over 2% for electricity demand under a baseline scenario without additional action to increase energy efficiency. This results in increases in final energy consumption to 1,350 PJ and in electricity consumption to 320 PJ by 2020.

The high efficiency scenario in this study, which assumes that energy saving measures are taken, cuts projected energy use in 2020 by 100 PJ as compared to the baseline scenario (to 1,250 PJ). This is still 13% higher than in 2005, while the reduction of almost 30 PJ in electricity consumption leaves it nearly 18% up on that year.

Given implementation of the EU Energy Efficiency Directive, which provides for a 9% cut in energy use relative to the baseline scenario, total final energy consumption would be 1,230 PJ and gross domestic electricity consumption 291 PJ in 2020 (assuming the same rate of reduction).

→ Gross domestic electricity consumption and total energy consumption, 1990–2020 (in PJ) Chart 68



Source: Austrian Institute of Economic Research and the European Commission

E-Control has made the following four proposals for the Austrian national energy efficiency action plan, drawn up to implement the directive:

- Real-time electricity metering (use of smart meters);
- Promotion of heat pumps;
- Reduction in subsidies for inefficient heating systems; and
- Awareness raising through consumer information tools (home energy checks).

Labelling

Austria has a statutory system for the indication on electricity bills of the mix of primary energy sources used to generate the power (power labelling). Suppliers are also obliged to make power labelling disclosures in their advertising (company mix). In Austria E-Control is the authority responsible for the oversight of power labelling.

Electricity retailers and other suppliers of Austrian final consumers must evidence their power mix in the manner required by the law. Guarantees of origin are mainly used for this purpose. If it is not possible to furnish proof of the origin of an amount of electricity then this must be reported according to the Europe-wide UCTE mix, and will thus be a statistical amount.

The Austrian renewable energy guarantee of origin (REGO) database is widely used as evidence in support of power labelling. This covers the entire life cycle of a guarantee of origin (issue, transfer and use for power labelling). Processing via a central national database has created a highly transparent and trustworthy system that effectively rules out fraudulent practices such as double issue and use. In spite of this, guarantees issued via the REGO database are not recognised in all European countries.

A single European power labelling system is crucial to increased Europe-wide electricity trading. As long as fundamentally different power labelling systems are in use there will not be sufficient comparability to support international trade.

Vorarlberg grid zone

The Vorarlberg provincial government wrote to E-Control enclosing its compliance report for 2006 on 22 June 2007. The report refers to the appointment of a compliance officer and preparation of a compliance programme by VKW-Netz AG. It summarises the company's compliance report and concludes on the basis of the existence of the report that VKW-Netz AG has adhered to the compliance programme. No other oversight measures were taken by the provincial government.

VKW-Netz AG simultaneously sent the compliance report by the compliance officer to E-Control and the Vorarlberg provincial government with a covering letter dated 28 March 2007. The report states that all group employees have been informed about the compliance programme, that there are biannual training courses on the programme, and that it is available for download on the corporate intranet and has been posted on the company's website. The system operator, VKW Netz AG now has separate premises from Vorarlberger Kraftwerke AG. VKW Netz AG has assigned appropriate access authorisations in order to protect commercially sensitive data. However there is no information as to how these authorisations are recorded.

Tyrol grid zone

The Tyrol provincial government sent E-Control its compliance report by e-mail on 27 June 2007. The report consists solely of the information that TIWAG Netz AG has sent the provincial government its compliance report, and that this is posted on the company's website. The provincial government also expresses the view that no special action is required in connection with its oversight duties, as to date it has received no complaints of discriminatory behaviour.

TIWAG-Netz wrote to E-Control on 18 June 2007 enclosing the compliance report by its compliance officer. The company has posted the report and the compliance programme on its website. The compliance report summarises developments during the period under review as follows:

- → Copies of the compliance programme have been distributed to all TIWAG-Netz employees, who have confirmed receipt in writing.
- → All staff members have been given training tailored to their duties.
- → Management has been supportive of monitoring by the compliance officer of adherence to the compliance programme.
- → Neither the management nor the compliance officer have received any complaints about the manner in which the compliance programme has been implemented.
- → There were no situations requiring the intervention of the compliance officer in 2006.

Salzburg grid zone

The Salzburg provincial government did not send its report to E-Control until the end of July 2007.

Salzburg Netz GmbH wrote to the regulator on 15 March 2007 enclosing a compliance report covering its electricity and gas businesses. The company's compliance programme is available for download from its website. According to the compliance report the contents of this programme are communicated to staff on an ongoing basis. Salzburg AG staff also take part in the training courses. Salzburg Netz GmbH commenced operations as a combined electricity and gas system operator on 1 January 2006. The company uses cross-business marketing for its gas, electricity, district heating, water and telecommunications network activities. Commercially sensitive data is protected by means of IT authorisations controlling access to given types of data. However there is no written access concept. As a means of preventing discriminatory behaviour when selling network connections, a standard information leaflet designed for nationwide use is handed out during initial customer contacts.

Upper Austria grid zone

The Upper Austrian provincial government wrote to E-Control on 26 June 2007 enclosing a summary report pursuant to the Upper Austrian Electricity Industry and Organisation Act. The provincial government states in this document that the two companies in Upper Austria subject to reporting duties have appointed compliance officers, and have drawn up compliance programmes and posted them on the internet. It also gives a brief description of the compliance programmes and action taken by the companies. There is no mention of additional action in connection with the provincial government's oversight duties.

The companies affected by legal unbundling in Upper Austria itself – Energie AG Oberösterreich Netz GmbH and Linz Strom Netz GmbH – have hitherto failed to send reports to the regulator. However the compliance programmes and reports of the companies concerned were enclosed with the communication from the Upper Austrian provincial government.

The compliance programme of Energie AG Oberösterreich Netz GmbH contains a description of the legal position, as well as rules governing the company's corporate identity, service provision by third parties, the position of the compliance officer, communications, monitoring and reporting. A positive aspect is the section entitled "Code of conduct" which gives staff precise guidance on some processes (transfer process, relationships between market participants, confidentiality, account settlement, new connections and meter reading).

The compliance programme of Linz Strom Netz GmbH comprises regulations governing training, monitoring, the switching process, relationships between market participants, data access, instructions for sales staff, and instructions on potentially discriminatory processes (new connections, campaigns aimed at winning back lost customers, data matching, and forwarding of annual consumption figures to retailers).

Vienna grid zone

The Vienna City Administration wrote on 2 July 2007 to submit the unbundling report required by the Vienna Electricity Industry and Organisation Act 2005. The report relates only to Wien Energie Stromnetz GmbH, and does not refer to Verbund-Austrian Power Grid AG which has also been granted an operating licence by the Vienna provincial authorities. The report gives an account of the approach taken to the formation of Energie Stromnetz. It also states that the company has appointed a compliance officer and drawn up a compliance programme. The latter provides for implementation, training and monitoring measures. The administration has taken no action beyond summarising the report from Wien Energie Stromnetz.

The latter has hitherto failed to send a compliance report to the regulator.

Verbund-Austrian Power Grid AG submitted its compliance report to E-Control with a covering letter dated 5 June 2007. The report states that a compliance programme has been drawn up and a compliance officer appointed. It also contains information on regulations governing the use and safekeeping of commercially sensitive data, data protection, and the use of information in the "shared service" areas of operations and by external service companies.

Burgenland grid zone

To date, neither the Burgenland provincial government nor the companies affected by the unbundling rules have reported on the action taken.

Carinthia grid zone

No reports have yet been received from the Carinthian provincial government or the companies subject to legal unbundling obligations.

Lower Austria grid zone

The Lower Austrian provincial government wrote to E-Control on 9 July 2007 enclosing the unbundling report pursuant to the Lower Austrian Electricity Industry and Organisation Act. The report deals with EVN Netz GmbH, Wien Energie Stromnetz GmbH and Verbund-Austrian Power Grid AG. It discusses the regulations relaing to compliance programmes and officers, the action taken by the companies to implement their compliance programmes, and the arrangements for monitoring and rules for system operators' corporate images. The Lower Austrian provincial government also states that neither it nor the companies' compliance officers have received complaints regarding adherence to the compliance programmes.

EVN Netz GmbH wrote to the regulator on 21 June 2007 enclosing the compliance report by its compliance officer. EVN Netz was formed on 2005. Once the legal requirements had been met EVN's electricity and gas network businesses were transferred to the company, which acts as a combined electricity and gas system operator. EVN AG transferred the properties and infrastructure necessary for a gas and power network operator to fulfil its responsibilities, as well as 1,505 employees, to EVN Netz. The latter has drawn up a compliance programme and appointed a compliance officer. The compliance programme regulates communication of its provisions, staff training, monitoring of compliance and the company's corporate image.

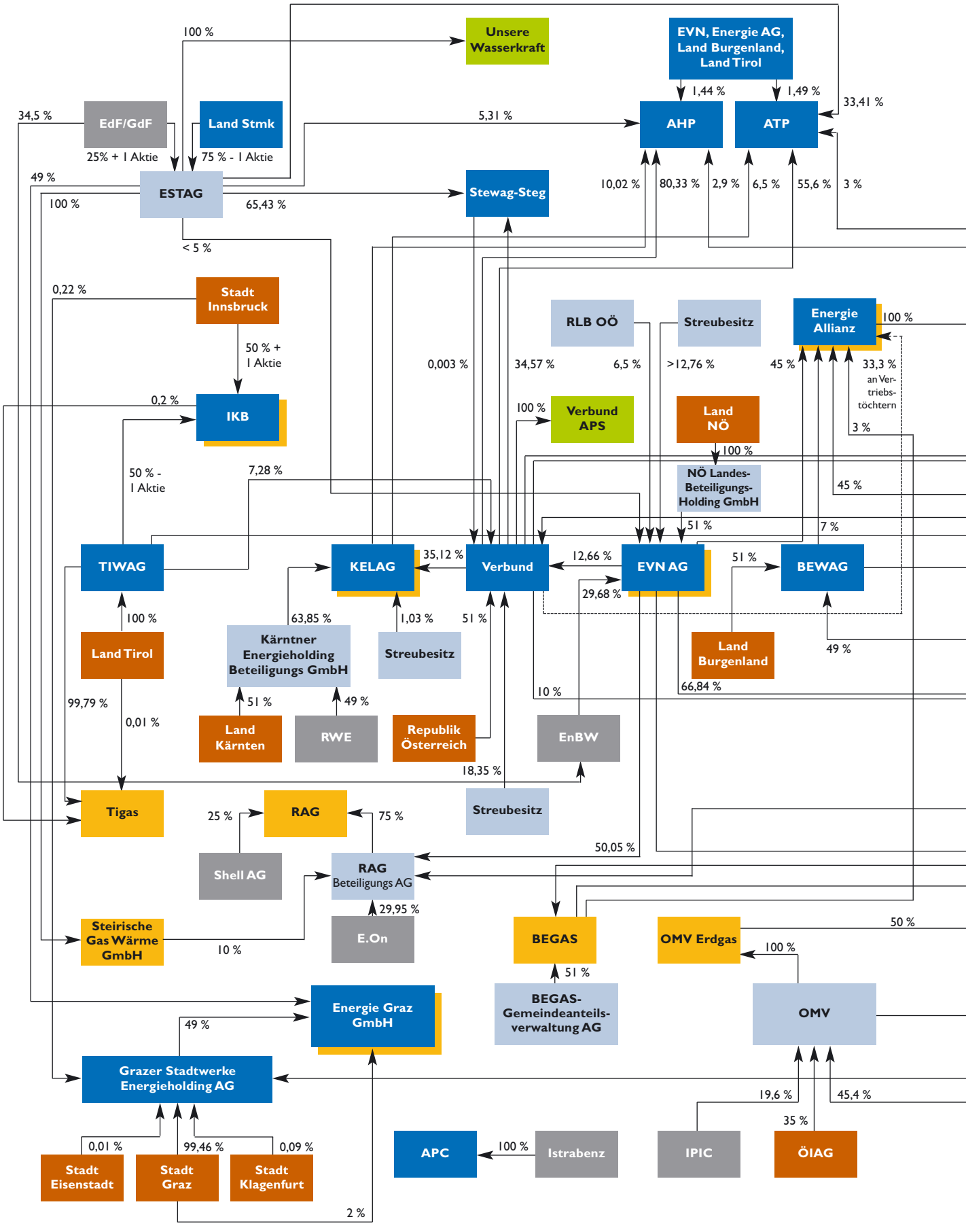
Styria grid zone

The Styrian provincial government enclosed the unbundling report pursuant to the Styrian Electricity Industry and Organisation Act with a letter to E-Control dated 19 June 2007. In the report the provincial government states that two companies active in Styria were subject to legal unbundling obligations, and that the electricity system operating licences were transferred to two new network companies by order. Both of these have appointed compliance officers, drawn up compliance programmes and submitted compliance reports to the Styrian provincial government. According to the Styrian provincial government, when implementing the respective compliance programmes particular attention was paid to communicating the vital importance of impartial treatment for all network customers in respect of connections, system access, fault rectification, the determination of property boundaries and the treatment of confidential data. The Styrian provincial government took no action beyond informing E-Control of the contents of the compliance reports and programmes.

Stromnetz Graz GmbH & Co KG sent its compliance report to E-Control on 29 March 2007. The report discusses organisational regulations and the compliance office, as well as action taken to implement the compliance programme, train staff, protect commercially sensitive information, create separate corporate images and monitor adherence to the programme.

Stromnetz Graz GmbH sent its compliance report to E-Control on 30 March 2007. The report deals with the organisational arrangements for the formation of a system operator, action taken to implement the compliance programme and monitor adherence to it, and rules for authorisations for electronic access to billing and energy data management programs. According to the report no problems with the implementation of the compliance programme have been brought to the notice of the compliance officer.

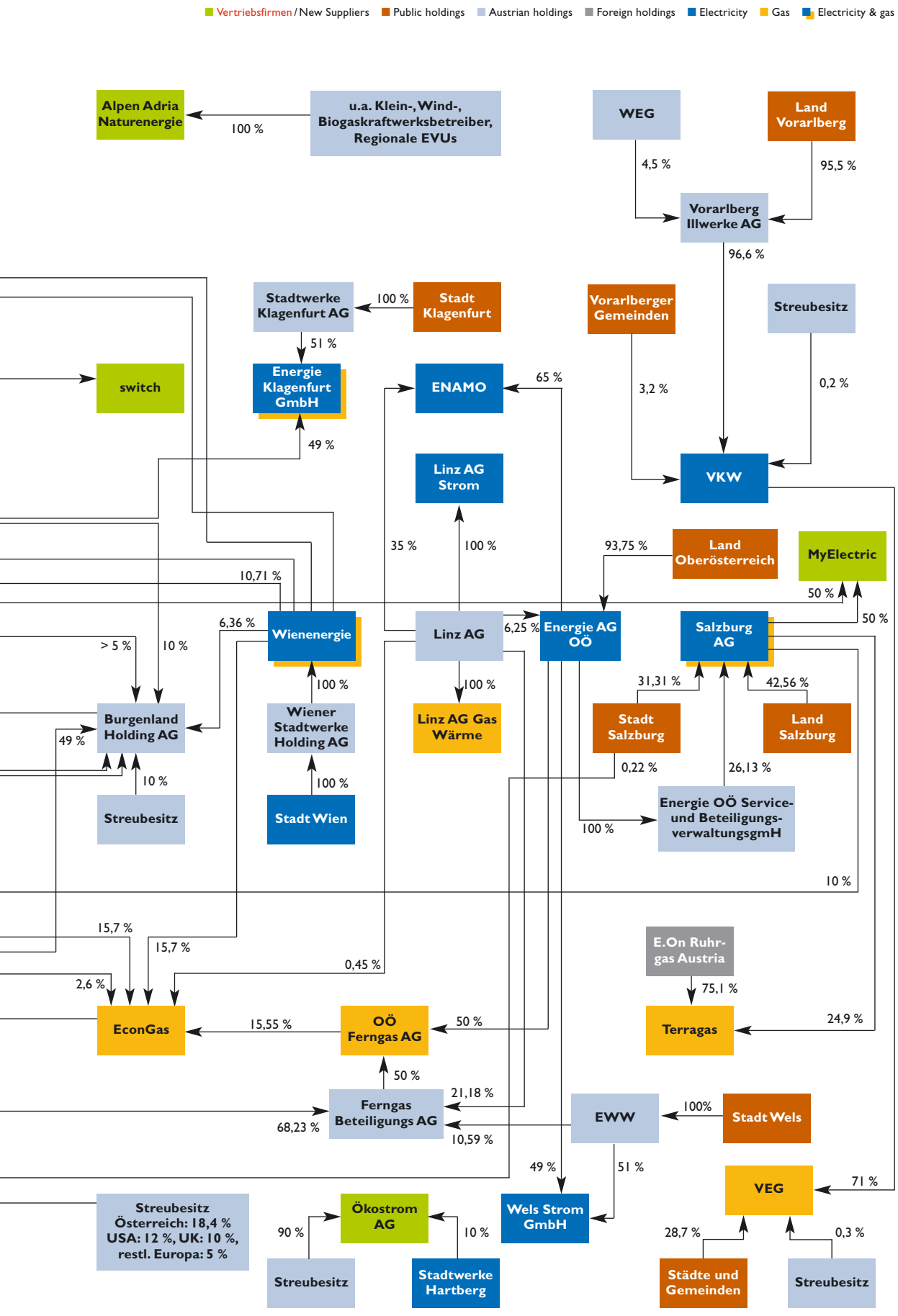
→ Ownership structures in the Austrian electricity and gas markets



Source: E-Control; July 2007

Vertriebsfirmen (Übers.)

Chart 69



Annex

→ Charts and graphics