



**E-CONTROL**

**Report to the European Commission pursuant to  
Directives 2003/54/EC and 2003/55/EC**

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## 1. Foreword

2004 saw major changes in the European Union's legislative requirements for the electricity and gas sectors. Two new directives entered into effect on 1 July of that year, and Austria was naturally obliged to transpose them into national law. It did so by amending the EIWOG (Electricity Industry and Organisation Act) in June 2004.

An important element of the new EU directives is the obligation to separate system operation from the other activities of vertically integrated electricity companies in legal, organisational and accounting terms. The main aims of unbundling are giving equal treatment to all market participants, eliminating opportunities for discrimination and avoiding cross-subsidisation of activities in which companies compete on the market by their regulated system operation businesses. This was a widely discussed issue, which commanded close attention not just from the entire energy sector but also from the regulatory authority, as has again been the case in 2005.

In Austria the network tariffs are determined by decree of the Energy Control Commission. In 2004 these orders and their legal foundations were the subject of a number of verdicts by the Constitutional Court which ultimately upheld the Commission's practice of setting the network tariffs by order — a highly gratifying outcome for the regulatory authority.

In autumn 2004 announced, and in part implemented electricity price increases affecting both the mass and business-to-business markets touched off a broad-based public debate on the competitive situation in the Austrian electricity market. In September 2004 this situation prompted the Minister of Economics and Labour to suggest to the Federal Competition Authority that it undertake a general investigation of the Austrian electricity industry under section 2(1)(3) Competition Act in conjunction with Energie-Control GmbH (E-Control) and in consultation with the Federal Cartel Prosecutor. The authorities concerned have since published two interim reports, and have extended the investigation to the Austrian gas market. This

has involved a great deal of hard work, which was still in progress at the time of preparation of this report.

E-Control's activities also focused on a comprehensive and detailed review of the network tariffs, as well as security of supply, improved consumer information, and renewable energy sources. We will continue to address all of these issues in 2005.

This report reviews the main changes in the electricity and gas markets as compared to the position in the previous year. It also centres on the following topics: a) electricity: balancing market, electricity price trends and labelling; b) gas: cross-border exchanges, unbundling of cross-border operations, and a comparison of European storage prices; c) cross-sectoral: investigations into competition in the electricity and gas sectors.

Walter Boltz  
Chief Executive  
Energie-Control GmbH

## 2. Summary / major developments in 2004

### Composition of the regulatory agencies

There are **two** regulatory authorities for electricity and gas in Austria.

**E-Control GmbH** is an independent company, though it is wholly owned by the federal government. The Minister of Economics and Labour is responsible for supervising the activities of Energie-Control GmbH and administering the government's shareholding in the company. Walter Boltz is the chief executive of E-Control GmbH which has a staff of about 60.

The **Energy Control Commission** is a "collegiate body with a judicial element" in the meaning of Art. 20 (2) Austrian Federal Constitution. Its members are not bound by any directions in the exercise of their office. The Commission consists of three members, one of whom must be a judge while the others must possess relevant technical, legal and business expertise. The judge chairs the Commission's proceedings.

### Statutory objectives and interaction of E-Control GmbH and the Energy Control Commission

The core duties of **E-Control GmbH** include:

- Supervising competition;
- Monitoring unbundling;
- Developing market rules;
- Arbitrating between consumers and market participants;
- Collecting statistical data;
- Preparing the Commission's decisions.

The principal duties of the **Energy Control Commission** are:

- Approving the general terms and conditions of system operators for access to electricity and gas transmission and distribution networks;
- Determining the network tariffs and other electricity and gas tariffs;
- Forbidding the use of contractual terms and conditions for final consumers that constitute breaches of legal prohibitions or good practice;
- Arbitrating in disputes between market participants in the electricity sector;
- Arbitrating in disputes relating to the settlement of balancing charges;
- Hearing appeals against decisions by Energie-Control GmbH.

## **Enforcement powers**

In performance of their regulatory duties E-Control GmbH and the Energy Control Commission are empowered to issue:

- Regulatory decisions;
- Orders; and
- Approval notices.

Decisions and orders take immediate effect. Appeals to the Administrative Court of Appeal and the Constitutional Court are permitted, and may be granted suspensive effect.

## **Independence of the regulatory agencies**

E-Control GmbH is to a large extent independent. Reasons must be given for any ministerial directives, and they must be made in writing and be published. No directions have been issued since E-Control GmbH came into being. E-Control GmbH must report to Parliament on an annual basis, and is subject to supervision by the Austrian Court of Audit and the Austrian Ombudsman Board.

The Energy Control Commission is not bound by directions and thus enjoys full independence.

## **New legal framework**

2003 brought far-reaching changes in Community electricity and gas law, with the passage of Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity, and of Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas, repealing the Electricity (96/92/EC) and Gas (98/30/EC) Directives, respectively.

The new legal framework became directly applicable in all member states when 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 entered into effect on 1 July 2004.

Austria implemented the mandatory unbundling provisions of the new Electricity Directive by amending the EIWOG (Electricity Industry and Organisation Act). The amended Act, Federal Law Gazette (FLG) I No. 63/2004, entered into effect on 22 June 2004. Unbundling was also a key issue for the Austrian gas industry in 2004, as the relevant statutory provisions came into force on 1 October 2003 (the so-called "gas year" starts on 1 October of each year) and 1 January 2004. In autumn 2004 E-Control GmbH posted a compliance report on its website. This deals with legal, organisational and accounting unbundling in the gas sector, and includes sample compliance programmes for use by integrated and unbundled companies.

## **Network tariffs**

A verdict of the Austrian Constitutional Court on the System Charges Order 2003 clarified the position for system operators and the Energy Control Commission. The System Charges Order 2003 determining the tariffs for network access was the subject of a number of cases brought before the Constitutional Court in 2004. The court upheld the Energy Control Commission's practice of setting the tariffs by order.

Following several years' discussions, in mid-2005 the regulator and the industry reached an agreement under which a multi-year, incentive based regulatory regime for **electricity network tariffs**, derived from a benchmarking analysis, is to be introduced on 1 January 2006.

## **Prevention of market abuse**

E-Control GmbH's market monitoring and supervision duties also include the prevention of discriminatory treatment of market participants by monopolists (system operators). If E-Control identifies abusive behaviour it must take all the steps necessary to achieve non-discriminatory behaviour without delay.

In 2004 E-Control about 30 abuse proceedings were heard. Most were brought by consumers or their suppliers. These cases concerned a wide range of issues including assignment to grid levels, system access provision and admission charges, use of system charges (for interval and non-interval metered consumers), application of the market rules and improper billing of administrative fees.

## **General investigation of the Austrian electricity and gas sectors under section 2 Competition Act**

In Austria as elsewhere, the electricity price increases for the mass market and large consumers announced by some suppliers and in part implemented in the autumn of 2004, and the possibility of further price rises led to a debate on competition in the electricity market.

In September the Minister of Economics and Labour suggested to the Federal Competition Authority that it undertake a general investigation of the electricity sector under section 2 Competition Act in cooperation with Energie-Control GmbH. The Federal Competition Authority and E-Control GmbH accepted this proposal and launched a joint investigation, also involving the Federal Cartel Prosecutor. As of the editorial deadline of this report the authorities concerned had published two interim reports on the electricity sector. These define the relevant geographical and product markets, and identify a number of companies with dominant positions in retail markets. The second interim report reaches the conclusion that dominant undertakings have special responsibilities with regard to transparency, and non-discriminatory and competition friendly behaviour, among other matters. The main finding of the investigation to date is that the narrow market boundaries in Austria reflect manifold barriers to entry, and that in the case of the retail market the underlying causes of these are often closely related to insufficient unbundling of

system operators. The incumbents are in a position to exercise a direct influence on the handicaps faced by alternative suppliers. A similar investigation, into conditions in the gas sector, is currently under way.

**In the interests of competition and providing Energie-Control GmbH with a full range of supervisory and petition rights, the regulator should be accorded the right — analogous to the petition rights under the Cartel Act — to apply for cease-and-desist orders prohibiting anticompetitive behaviour under the Unfair Competition Act 1984. These considerations should be reflected in future legislation.**

## Summary

**The Austrian energy market was liberalised at a very early stage, and experience of deregulation goes back three years. The electricity market was fully opened on 1 October 2001, and the gas market one year later. Since then all electricity consumers have been free to choose their suppliers, network access has been regulated, and the network tariffs have been fixed by order. There are few instances of difficulties in switching suppliers. All groups of consumers profited from reduced network tariffs and energy prices in the immediate aftermath of liberalisation. However all the main new suppliers are subsidiaries of the former monopolists. Independents have so far failed to establish a lasting foothold on the Austrian market. Instead, a number of mergers so strengthened the market positions of many incumbents that they were able to impose considerable price increases in 2004. The Federal Competition Authority responded by launching a probe into the competitive situation in cooperation with E-Control GmbH.**

Austrian legislation anticipated most of the provisions of Directives 2003/54/EC and 2003/55/EC long before they entered into effect. It only remained for an amendment to the EIWOG, enacted in 2004, to add provisions governing legal and organisational unbundling in the electricity sector to the federal enabling act. However by the time of the completion of this report there was still no provincial implementing legislation on the statute book. Since the federal act is only aimed at provincial legislators, at present the electricity companies are under no legal obligation to comply with the unbundling provisions, though some have done so on a voluntary basis. Rapid and complete implementation is required if the competitive environment is to improve.

In the gas sector the unbundling requirements of Directive 2003/55/EC were implemented in October 2002, i.e. before the directive came into force. Five supraregional transmission companies and one distribution system operator were legally unbundled, while the other system operators were only obliged to undertake organisational unbundling. Accounting unbundling is mandatory for all transmission and distribution system operators. However an analysis of Austrian gas companies' unbundling practices based on their compliance programmes under Art. 9.2(d) and Art. 13.2(d) Directive 2003/55/EC reveals considerable room for improvement, particularly as regards organisational unbundling. In the case of the transit pipelines, which are not regulated in Austria at present, there is still considerable international cross-ownership of marketing and system operation activities which is probably incompatible with the unbundling rules established by the EU directive.

Concerns are also raised by cases in which suppliers with dominant positions in their home markets own substantial interests in the transit pipelines upstream from those markets (e.g. Eni, GdF and Ruhrgas). Here, there are good reasons for suspecting that there is a conflict between the interest of the dominant company in the downstream market in excluding competitors and its obligation to provide non-discriminatory access to the upstream transit pipelines that it co-owns.

Since liberalisation alternative suppliers have entered both the electricity and the gas market. However there has been further increase in concentration in the small consumer and business-to-business markets in the electricity and — to some extent — the gas sector as a result of the EnergieAllianz marketing joint venture. Likewise, the part-merger of five gas suppliers (including EnergieAllianz shareholders) with the OMV Group's gas wholesale business significantly increased concentration in the business-to-business gas market. The Verbund/EnergieAllianz merger — which was cleared by the European Commission in June 2003 but had not yet been implemented as of July 2005 — would further strengthen the vertical integration of EnergieAllianz, and thus its dominance of the electricity market.

In 2004 there were four electricity suppliers independent of system operators serving the Austrian market from local or home country branches. At the time of completion of this report it was not yet possible to gauge the importance of Verbund's return to the electricity retail market at the start of July 2005. One new supplier has gone into the ring against the incumbents in the gas market.

A standardised administrative procedure for supplier transfers has been introduced under the Austrian market rules. Efforts have been made to minimise the administrative burden for consumers. The switching procedure is simple and there are no charges for final consumers. Large, interval metered electricity consumers are the group most likely to switch; the cumulative churn rate has been 25% since 2001. Separate analysis of the estimated cumulative switching rates for large electricity consumers with an annual demand of more and less than 5 GWh reveals no differences in 2004. "Other small consumers" (small businesses and farms) have recorded a cumulative switching rate of 6.4% and domestic consumers one of 2.8% since liberalisation.

The reasons for the relatively low switching rates in the small consumer segment have been found to be opaque price information on electricity bills (all-inclusive prices), unreasonable minimum agreement terms or agreement terms linked to differential pricing (sliding scale clauses), certain rebate systems (loyalty rebates), and bundling and tying (multi-utility rebates). The competitive situation in the electricity market is the subject of an ongoing sector investigation by the Austrian Federal Competition Authority and E-Control, launched in autumn 2004.

Full electricity market opening in 2001 led to marked retail price reductions, especially for large consumers. Overall, consumers' annual electricity costs fell by some €1 billion (bn) or 20%, due to lower energy prices as well as cuts in network tariffs.

However, despite a number of reductions in network tariffs, overall electricity prices have risen steadily since January 2003 as a result of the introduction of a single nationwide support payment system for green power, small hydro and combined heat and power (CHP) generating stations, an increase in the energy levy and several energy price increases by suppliers. The total prices paid by industrial consumers have in many cases returned to 1999 levels. The overall prices charged to domestic consumers are above pre-liberalisation levels in nominal terms, but below them in

real terms. Medium-sized enterprises are still paying less than they did before market opening.

Suppliers' announcements of energy price increases to coincide with reductions in network tariffs ordered by the regulatory authority (sometimes completely cancelling them out) point to continued cross-subsidisation by the regulated system operation area of activities in which companies compete on the market. This suggests in turn that unbundling, i.e. autonomous decision-making by the system operation and marketing activities of integrated electricity companies, has not truly taken hold.

Viewing the Austrian **wholesale electricity market** in purely domestic terms, concentration in the generation segment is relatively high. Only five companies have shares of over 5% of total generating capacity, and the top three control 54% of all capacity. It should also be noted that capacity accounting for about one-quarter of overall production is already at least partly shielded from competition, since at least part of the revenue derived from it comes from support mechanisms (e.g. green power and CHP subsidies). However, there is no congestion at present on the interconnectors with Germany and Switzerland. This means that the Austrian control areas form a **common wholesale market** with Germany, and wholesale price formation thus takes place not in Austria alone but in this wider market.

Most electricity transactions are carried out on a bilateral (OTC) basis. Transparency could be improved by making details of prices, volumes and power station use available so as to give all market participants access to the same information.

The Austrian balancing power system is based on balancing groups. Steps are currently being taken to **merge the German and Austrian balancing power systems**, which would enable foreign generators to offer electricity on the Austrian market.

There is power network congestion at the borders of the Austrian control areas with the Czech Republic, Hungary, Italy and Slovenia. Allocation at the most congestion-prone borders is by means of explicit auctions. Efforts are being made to enhance coordination and efficiency by introducing implicit auctions. There is potential for increasing the amount of marketable capacity by achieving closer cooperation on determining available capacity, and scaling down or terminating legacy contracts.

The internal network situation — marked by massive north-south congestion on the ultra high voltage grid — necessitates labour and cost-intensive congestion management in order to maintain operational reliability. Since the n-1 security rule is regularly violated Verbund APG is currently exempt (up to 2007) from compliance with the UCTE Operation Handbook/Multilateral Agreement. Following long delays due to difficulties in obtaining official approvals, the control area manager has now launched a drive to build the missing 380 kV line section from southern Burgenland to Kainachtal ("Styrian line").

Austrian **electricity supplies are highly reliable**, and the average duration of scheduled and unscheduled supply interruptions is only 30.33 minutes per year.

In the **gas** sector, too, there are wide variations in the willingness of consumer groups to switch. While 1.6% of domestic consumers have switched since liberalisation the cumulative churn rate (over three years) for “other small consumers” is 3.4% and that for large consumers 4.2%. These trends show similar switching behaviour to that of electricity consumers after three years of deregulation. The causes of the relatively low switching rates in the small consumer segment are presumably the same as with electricity.

In the Austrian retail gas markets as in their electricity counterparts, the factors working against switching are lack of alternative suppliers and opaque quotations (all-inclusive pricing and various sliding scale price clauses). These obstacles are favoured by insufficient separation of companies’ marketing and system operation activities.

Price trends on the retail gas market are largely driven by import prices (and thus by oil price movements), as procurement costs account for most of the price paid by final consumers. In contrast to the electricity market no significant price falls were witnessed after liberalisation, as gas import prices climbed sharply between October 2002 and April 2003. These price increases outweighed the cuts in network tariffs. Import prices declined in the second quarter of 2003, but have risen steadily since October 2004, pushing up overall retail prices despite further reductions in network tariffs.

Gas wholesaling takes place at two levels: on the wholesale market, on which OMV Gas GmbH which is the only Austrian importer with long-term supply agreements with foreign producers (Gazprom and Norwegian producers); and on the regional long and short-term markets where the large retailers procure their gas.

Unlike Belgium and the Netherlands, Britain or northern Germany, Austria and its Baumgarten hub do not have a short-term gas trading platform. However the balancing market is employed for trading purposes, and not merely as a means for control area managers to compensate for market participants’ forecasting errors.

In 2004 use of the balancing market as a “spot market” represented 2–3% of total demand in the Eastern control area. In addition, EconGas annually auctions 250 million (m) cubic metres under the gas release programme; however most of this goes to foreign buyers. These observations show that there is a demand for a short-term trading platform in Austria, and that there is a sufficient supply of gas. The conditions for establishing such a market should be rapidly created, and the obstacles to it removed.

There are barriers to entry to the national and regional wholesale markets. In particular, there is a shortage of transport capacity on Austrian transit routes. As in other EU countries, these are blocked by long-term agreements, although considerable amounts of physical capacity would otherwise be available.

The Austrian gas storage market is highly concentrated. There are only two storage operators — OMV and Rohöl-Aufsuchungs AG (RAG) — and the capacity is located in eastern Austria. Access to Austrian storage facilities is on a negotiated basis. The extent to which the Austrian storage system operators comply with the Guidelines for Good TPA Practice (GGP) differs. While the larger of the two, OMV, had already met the main requirements of the GGP by the time that they entered into effect, RAG's compliance still leaves a lot to be desired.

Much of the gas carried on the Austrian network is in transit. The ratio of transit volumes to locally consumed gas is about 4:1. A key objective for cross-border gas shipments, which are not regulated at present, should be non-discriminatory network access. There are still gaps in GGP compliance, particularly with regard to efficient utilisation of existing capacity through “use it or lose it” clauses and secondary market services, as well as some of the transparency requirements relating to publication of capacity. At the present there does not appear to be sufficient cooperation between the transit companies.

Major network expansion programmes will be necessary to maintain security of supply in the face of forecast demand growth. There is a particular danger of future network congestion in southern Austria and on the transit route to Italy. The planned expansion of the TAG pipeline system could make a significant contribution towards relieving congestion. Planned investments in infrastructure also include the WAG transit system expansion, the international Nabucco pipeline and the new Haidach storage facility. There are no forecasts of production capacity. The problem of the lack of a link between the pipeline systems in eastern and western Austria remains unsolved. The Tyrol control area currently imports all its gas from Germany, and there is therefore no gas-gas competition in Tyrol or Vorarlberg. The main reason for this is the fact that transit to Tyrol via the German network has hitherto been frustrated by lack of capacity — despite the very low volumes nominated — and excessive network tariffs.

To sum up, not only could competition in the gas and electricity markets be intensified by better implementation of the unbundling rules, but it would also be possible to create regional markets extending beyond Austria's frontiers.

### **3. Regulation and performance of the electricity market**

#### **3.1. Regulatory issues (Article 23[1] except h)**

##### **3.1.1 General**

The Austrian electricity market has been completely open to competition since 1 October 2001.

##### **3.1.2 Management and allocation of interconnection capacity and mechanisms to deal with congestion**

There is congestion at the Austrian control area boundaries with those in the Czech Republic, Hungary, Italy and Slovenia. In 2004 there were changes in the allocation procedures at a number of borders as a result of the entry into force of Regulation (EC) No. 1228/2003. The table below summarises the methods currently employed:

Figure 1: Congestion management methods in Austria and neighbouring countries

from	to	Congestion prevalent	Capacity in MW (baseload in 2005)	Already allocated under "legacy contracts" (2005)	Allocation mechanism (Austrian share of capacity) in 2005
Austria	Germany	no			
Germany	Austria	no			
Austria	Switzerland	no			
Switzerland	Austria	no			
Czech Republic	Austria	yes	450	400	joint explicit auction
Austria	Czech Republic	partly	600		joint explicit auction
Hungary	Austria	yes	100		joint explicit auction
Austria	Hungary	yes	100		joint explicit auction
Austria	Slovenia	yes	450	78	Slov. pro rata / Austria explicit auction
Slovenia	Austria	no	450		Slov. pro rata / Austria explicit auction
Austria	Italy	yes	220	110	Austria explicit auction of free capacity
Italy	Austria	no	220		

Source: E-Control

Free interconnector capacity at the border between the Czech Republic and Austria is allocated by means of joint explicit auctions, on an annual, monthly and daily basis. At present there are annual and monthly explicit auctions for the interconnector capacity at Austria's borders with Hungary and Slovenia (only 50% on the Austrian side, as Slovenia has a derogation until July 2007, and the requirement for market based allocation thus only applies to the Austrian half). At the interconnection point between Austria and Italy, arrangements for an explicit auction of free capacity on the Austrian side (50%) in 2005 are in place, but it has not yet been possible to agree on a mechanism for allocation of all the capacity that complies with the regulation.

The auctions are held in a transparent, non-discriminatory manner. Improved methods (joint procedures with Slovenia and Italy, and implicit auctions) are likely to result in efficiency gains. The situation as regards transparency is similar: the control area managers meet the main requirements, but there is still room for improvement. The "mini-fora" for Central Eastern Europe and Central Southern Europe should enable this potential to be progressively exploited.

The above table shows that although significant progress has been made as a result of the move to market based methods and reductions in the amount of electricity covered by long-term contracts (e.g. from 200 MW in 2004 to 78 MW in 2005 at the Austro-Slovenian interconnector point), the situation at some interconnector points requires further study and improvements. Examples are the long-term contract at the interconnector point between Austria and the Czech Republic, and the lack of a joint allocation mechanism with Italy). Since existing market distortions can only be eliminated by joint, coordinated allocation of transmission rights and a further reduction in the use of long-term contracts, it is essential to pursue these efforts within the framework of the EU legislation (especially Regulation [EC] No. 1228/2003) and to place this issue in a European context.

### **Domestic congestion**

The internal network situation is hallmarked by severe north-south congestion on the ultra high voltage system. The control area manager Verbund APG has been obliged to take draconian and costly congestion management measures to maintain system stability. It is largely relying on system control and, increasingly, redispatching. Nevertheless the n-1 security rule is frequently violated as the technical means available are no longer sufficient for constant compliance. The UCTE Operation Handbook/Multilateral Agreement therefore exempts Verbund APG up to 2007. Congestion management costs are likely to reach 7% of the total system costs of the APG control area in 2005. The possibility of introducing a market based congestion management system (for power station redispatching) is being looked into. However it is doubtful that there are enough suppliers (in given regions) for a functioning market. The feasibility of this approach is all the more questionable in that the congestion is caused not by market but by technical factors. Completion of the Austrian 380 kV loop will eliminate the bottleneck.

Projects aimed at overcoming domestic congestion problems are discussed in section 5.1 below.

### 3.1.3. Transmission and distribution

There are 136 system operators in Austria, three of which are transmission system operators and 133 distribution system operators. The three transmission system operators are also control area managers.

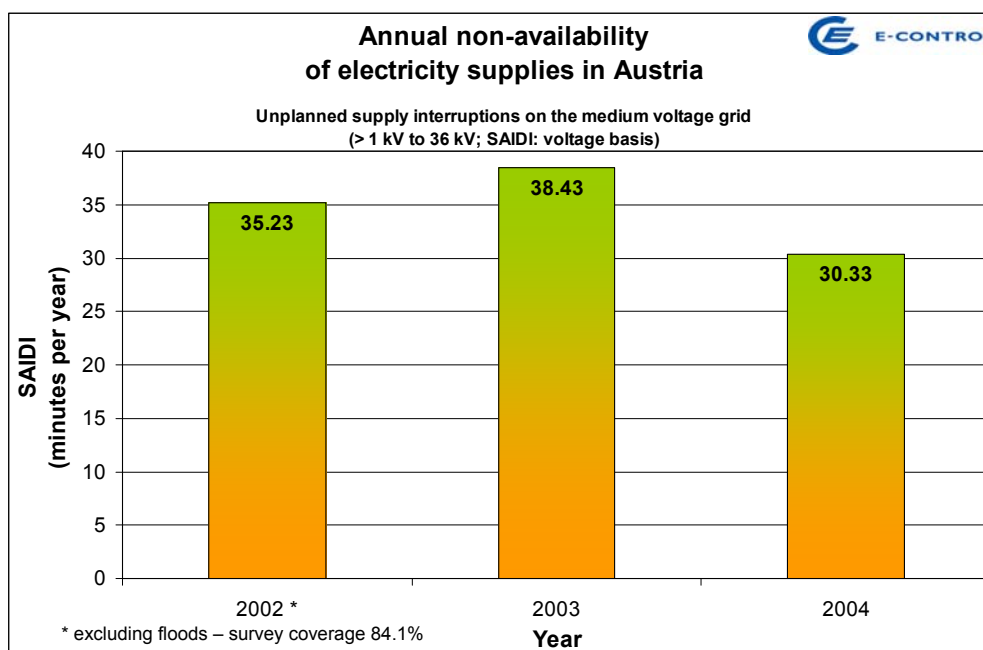
Pursuant to the Statistics Order, since 2002 E-Control has regularly carried out wide-ranging surveys of supply reliability in Austria. Since 2003 the so-called “failure and outage statistics” have covered all Austrian system operators.

The reliability analysis relates to the medium voltage networks (operating voltage greater than 1 kV, and up to and including 36 kV). The surveys include both scheduled and unscheduled outages. Outages are classed as scheduled when consumers are given advance warning of them (e.g. distribution network maintenance work). The causes of unscheduled supply interruptions include failures due to storms and lightning strikes.

The results of these studies show that supply reliability is very good in Austria compared to most European countries. **Austria is one of the countries with the least electricity supply interruptions.**

The chart below depicts the evolution of supply reliability over the 2002–2004 period.

Figure 2: Non-availability of electricity supplies



Source: E-Control

Supply quality is not explicitly taken into consideration when determining the network tariffs, as there is no legal basis for doing so.

Austrian network tariffs are set on a cost-plus basis. To date the cost reviews have taken place at intervals of about one-and-a-half years. In contrast to those European regulatory regimes that use revenue caps, in Austria the tariffs are set by the regulator, and take the form of fixed prices per tariff component and local grid zone. System operators are obliged to charge all consumers these fixed prices.

Cost reviews begin with requests to system operators for technical and financial information, using standardised questionnaires. This data is initially checked for its plausibility, and audits are then carried out *in situ*.

Agreement was recently reached between the regulator and the industry on the introduction of a multi-year (four-year) incentive based regulatory system depending on benchmarking (DEA and MOLS are the planned methods for determining company productivity offsets).

Tariff determination is aimed at a standard nationwide approach whilst taking account of differences in the types of areas served by system operators.

No other government agencies are involved in setting network tariffs.

The network tariffs are fixed prices set by orders of the Energy Control Commission, and are published in the official gazette supplement of the Wiener Zeitung newspaper. The network companies, for their part, are obliged to publish the network tariffs, and mostly do so on their websites or in their customer magazines.

The system provision charge, which covers part of the cost of necessary investments in upstream grid levels, is determined by an Energy Control Commission order which is published in the official gazette supplement of the Wiener Zeitung. The network companies are likewise required to publish this tariff, and generally use their websites or customer magazines for the purpose. The Commission does not set the system admission charge, but requires it to be cost reflective.

Apart from the three transmission system operators there are 133 distribution system operators that are not affiliated with each other. The latter are grouped in 16 grid zones with differing network tariffs. The tariffs must be calculated on the basis on the total costs of all the system operators active in the respective grid zones. The differences in operators' cost structures are offset by equalisation payments. These payments are calculated on the basis of the difference between the revenues and the recognised costs in the respective grid zone.

The network companies' general terms and conditions are published upon their approval by the Energy Control Commission.

**Tariff reviews** are carried out by E-Control on behalf of the Energy Control Commission, using questionnaires and *in situ* audits. The following principles are applied to **cost analysis**:

- The costs are calculated on a full average historic cost basis, taking finance costs into account.
- When calculating the cost of the construction, expansion, maintenance and operation of an electricity network, only such expenses as are deemed reasonable in their origin and amount are taken into account.
- Costs for a given tariff determination period are largely derived from the balance sheet and income statement contained in the operator's annual financial statements. The sustainability of the expenses and income for the tariff determination period is examined, and in exceptional cases they are normalised, giving reasons. Normalisation ensures that non-recurrent expenses and income are replaced by amounts corresponding to the long-term averages.
- The cost base for the network tariff is determined on a historic cost basis, meaning that increased valuations due to company disposals or reorganisations (e.g. goodwill) are eliminated. This prevents double counting of costs.
- Finance costs are calculated on the basis of the weighted average cost of capital (WACC), i.e. the weighted rate of interest paid by system operators on the debt and equity capital employed. This is currently put at about 6% before tax.

## Regulation of system operators

The network charges for the Eurostat Dc, Ib and Ig definitions of typical consumers are as follows (tariffs exclusive of tax and levies):

Figure 3: Network tariffs

### Regulation of network companies charges as at June 2005

	Number of regulated companies	Approx. network access charge (EUR/MWh)			Interruptions (minutes lost per consumer and year)
		Ig	Ib	Dc	
Transmission <sup>1</sup>	3	n.a.	n.a.	n.a.	
Distribution	133	10.40 <sup>3</sup>	51.18	52.72	30,33 <sup>2</sup>

<sup>1</sup> included in distribution charges

<sup>2</sup> medium voltage; unplanned SAIDI, 2004

<sup>3</sup> Please note: This table provides a figure for Ig as of June 2005, as opposed to table 3.2.2a from Annex, which provides a figures for access charge (Ib) as of Jan 2005.

Source: E-Control

## **Special feature: the Austrian balancing market and the control areas**

### **Technical control mechanisms**

As the Austrian control area managers are members of the UCTE interconnected system they apply the latter's technical control mechanisms (primary, secondary and tertiary control). The Austrian grid is divided into three control areas. The TIRAG and VKW-UNG control areas form part of the German control block, while the Verbund APG control area is a UCTE control block in its own right.

### **Balancing mechanisms**

Generating stations with a maximum electrical capacity of more than 5 MW are obliged to participate in primary control. Since few power stations are currently capable of fulfilling this obligation, and its legal basis is being questioned, the **functioning of primary control in Austria is severely impaired at present**.

Moreover, the manager of the Eastern control area, Verbund APG has been granted an exemption from compliance with the UCTE Operation Handbook and Multilateral Agreement until 2007.

Secondary control services are governed by bilateral agreements between generators and transmission system operators. Some of these agreements, which go back to 1999, also deal with the provision of other system services such as black start capability and coverage of system losses. Under their terms the generators are paid for providing standby capacity.

In order to subject secondary control to market mechanisms, *ex post* tendering for the necessary balancing power has been introduced. Under the market rules, secondary control power withdrawals and injections must be aggregated by the settlement agents APCS and A&B *ex post*, on a weekly basis, and the balances returned to generators in kind. The power required to recompense generators (withdrawals and injections) is publicly tendered and settled as standard products. During the tendering process these return delivery products are repriced. Electricity supplied for secondary control is returned to generators as peak load products. The generators must return half of secondary control power procured by them in the form of baseload products.

There are two different tendering mechanisms for the supply of tertiary control power. Authorised generators can make block offers of tertiary control power on a day-ahead market that closes at 4.00pm. In the event that power is called off the price paid is the unit rate bid. In order to ensure that sufficient tertiary control power is available in the Eastern control area, there is a so-called "market maker" product. This is tendered on a weekly basis, and it is thus possible for suppliers to make block offers of minute reserve for the coming week. Generators whose offers are accepted are paid a capacity rate for their standby capacity or, in the event of call-off, the unit

rate bid. There is no “market maker” product in the TIRAG and VKW-UNG control areas.

At present generators from other control areas cannot offer tertiary control power. However for some time now the four German and three Austrian control area managers have been holding talks aimed at enabling all the generators in these seven control areas to offer minute reserve in any of them.

### **Settlement system for primary, secondary and tertiary control power**

The balancing power costs/income in a balancing group are the quarter-hourly deviations between supply (generation and scheduled procurement from other balancing groups) and demand (consumption and scheduled deliveries to other balancing groups) times the balancing power prices (clearing prices). The total monthly costs of the balancing power system must be exactly equal to the cleared balancing power expenses and income of all balancing groups.

The clearing price — a pure kilowatt hour rate — and the deviations are calculated by the settlement agents at 15-minute intervals. The clearing prices may be positive or negative; this normally depends on whether the control area as a whole is long or short. For instance, a balancing group with a surplus will nevertheless face charges if its control area also has an overhang.

In 2004 control areas tended to be short, meaning that around two-thirds of the prices were positive. The average positive price was €44/MWh (as compared to an average spot baseload price of approx €29/MWh) and the highest price recorded was €140/MWh. The average negative price was €19/MWh. Settlement is on a monthly basis, at about the middle of the succeeding month. The clearing prices for the previous week are published each Thursday.

In the Verbund APG control area nominations may be both intraday and, within limits, *ex post*. Although it is not possible to revise physical injections and withdrawals, the system permits changes to paper transactions. Intraday trades across control area boundaries are only possible on the German border, and must comply with the rules of the control area managers concerned (permitted times for revisions, capacity limits, etc.) There are no binding gate closure times for power stations. Schedules must be submitted but these are only indicative in character.

## Summary and outlook

The Austrian balancing system is fragmented due to the existence of three control areas (two of which are assigned to the German control block). Greater integration, including freedom for foreign (German) generators to offer power on the Austrian market, would be desirable, and is the aim of current efforts to open the balancing market to suppliers from four German and three Austrian control areas.

Balancing groups that lack their own generating capacity (those of new market entrants) have not so far incurred significantly heavier balancing power costs — relative to supply to final consumers — than those with flexible capacity or larger volume sales. In other words, the prices do not reveal any preferential treatment for incumbents vis-à-vis entrants.

However a distinction must be drawn between actual balancing costs and imbalance risk. The barrier to entry lies not in current actual balancing costs, but in the risk of cost increases, which is difficult to assess for many balancing groups.

It should also be remembered that balancing groups can use their own internal generating capacity to match supply and demand. This depends on the availability of up-to-date information on current demand in the balancing group. Balancing groups that lack their own generating plant (mostly alternative suppliers) cannot perform such fine-tuning. It is unclear to what extent vertically integrated companies acting as balancing group representatives provide members with up-to-date demand information. **Effective unbundling will be essential if “local players” are to be prevented from enjoying an information lead.**

### **3.1.4. Effective unbundling**

#### **Statutory unbundling requirements**

Directive 2003/54/EC requires vertically integrated electricity undertakings to separate system operation from their other activities in legal, organisational and accounting terms.

The directive's legal and organisational unbundling provisions were transposed into Austrian law by FLG I No. 63/2004; accounting unbundling had already been implemented by then.

Since the act in question is enabling legislation (it is only binding for the provinces), and has not been implemented by any subordinate legislation, there are no binding rules for the electricity companies. Moreover, as Directive 2003/54/EC contains no provisions relating to ownership unbundling, transmission or distribution system operators are not subject to any such legal obligations.

#### **Majority state ownership**

The Austrian Constitution contains provisions governing the ownership of Austrian energy enterprises (see FLG I No. 143/1998). It prescribes that at least 51% of Verbund and the provincial energy utilities must be publicly owned. All three transmission system operators — Verbund Austrian Power Grid AG (Verbund APG), Tiroler Regelzone AG (TIRAG) and VKW-Übertragungsnetz AG (VKW UNG) — are subsidiaries of companies under majority state ownership. The same provisions apply to the distribution system operation businesses of the provincial utilities. Most of the other distribution system operators are owned by municipal utilities or small private businesses.

#### **Unbundling of the system operation, marketing and generation functions**

TIRAG is the only transmission system operator domiciled at a separate location from the generation and marketing subsidiaries of its parent (TIWAG).

The distribution system operators in the EnergieAllianz line-up (a retail joint venture between the five eastern electricity and gas utilities) are separately located from the various retail subsidiaries but not from the generating subsidiaries. Most of the other companies are integrated. The exception is the Carinthian provincial utility KELAG which formed a separate system operator at the start of 2005, though this has the same location as the integrated enterprise.

## **Corporate identity**

The EnergieAllianz partners (BEWAG, Energie AG OÖ, EVN AG, Linz Strom and Wien Energie) have their own brands, logos and websites. Some of distribution system operators owned by these entities have the same names as the generating subsidiaries. Though most of the system operators have their own names these sometimes associate them with the integrated companies (for instance, Verbund's system operator is called Verbund-APG).

At present separate websites for the subsidiaries are not the rule, and where these exist they are mostly linked to the parents' sites.

## **Accounting**

The system operators' accounts are generally audited by certified auditors. At present there is no requirement for wider audits, designed to prevent cross-subsidisation.

## **Overheads**

The allocation of overheads takes place at company level during the cost reviews performed by the regulator. Since the overheads are strongly influenced by corporate structures there is no generally applicable percentage allocation (the same is true of gas; see section 4.1.5). The proportion of total overheads allocated across other businesses ranges from 30% to 80%.

## **Sanctions available to the regulator**

The amendment to the EIWOG in 2004 (FLG I No. 63/2004) mandated the provincial governments with enforcing unbundling. However E-Control takes the view that this does not limit the regulator's responsibility for supervising unbundling (under section 10[1][2] E-RBG<sup>1</sup>). E-Control is also responsible for the overall supervision of competition, and thus for preventing any discriminatory practices.

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<sup>1</sup> Energie-Regulierungsbehördengesetz (Energy Regulatory Authorities Act).

## 3.2. Competition issues (Article 23[8] and 23[1]{h})

### 3.2.1 Description of the wholesale market

Liberalisation has made the wholesale market an integral element of the value chain. The largest Austrian electricity companies responded to liberalisation by establishing trading departments or subsidiaries with the task of marketing their own power stations' output and procuring electricity cheaply and efficiently to meet their customers' requirements.

There are three legally designated three control areas — Verbund APG, TIRAG and VKW-UNG. Two of these are assigned to the German control block.

The Austrian electricity market is organised according to a **balancing group model**. Settlement agents have been established for each of the control areas. These handle market participants' (i.e. balancing groups') internal schedule nominations, organise the supply side of the balancing market (see section 3.1.3) and bill the balancing group representatives for balancing power.

Austrian generating capacity is predominantly hydro power (over 60%). Most of the base and intermediate load demand is met by run-of-river generating stations (approx. 5,000 MW of installed capacity). The thermal capacity consists largely of gas and coal fired stations (total of approx. 6,000 MW of installed capacity). Most of these are combined heat and power (CHP) plants, meaning that they are largely operated with an eye to heating as well as electricity demand. CHP plants that meet certain conditions receive support payments in the form of injection premiums. There is 6,400 MW of storage power station capacity for peak load generation. These generating stations are mainly used for control power or fulfilment of spot contracts.

In addition, generous subsidies have recently led to the construction of a growing amount of renewable power capacity. This comprises small hydro (< 10 MW), wind, solid and liquid biomass, biogas, photovoltaic, landfill and sewage gas, and geothermal plant. Green power capacity currently totals 1,850 MW (including some 1,100 MW of small hydro and 600 MW of wind power capacity as of the end of 2004). The financial support is by way of guaranteed injection tariffs.

Due to the high level of support for renewable generating stations almost one-quarter of all the power generated in 2004 was not offered on the free market, and the revenue earned from it was — to varying degrees, depending on the primary energy sources — derived from support mechanisms.

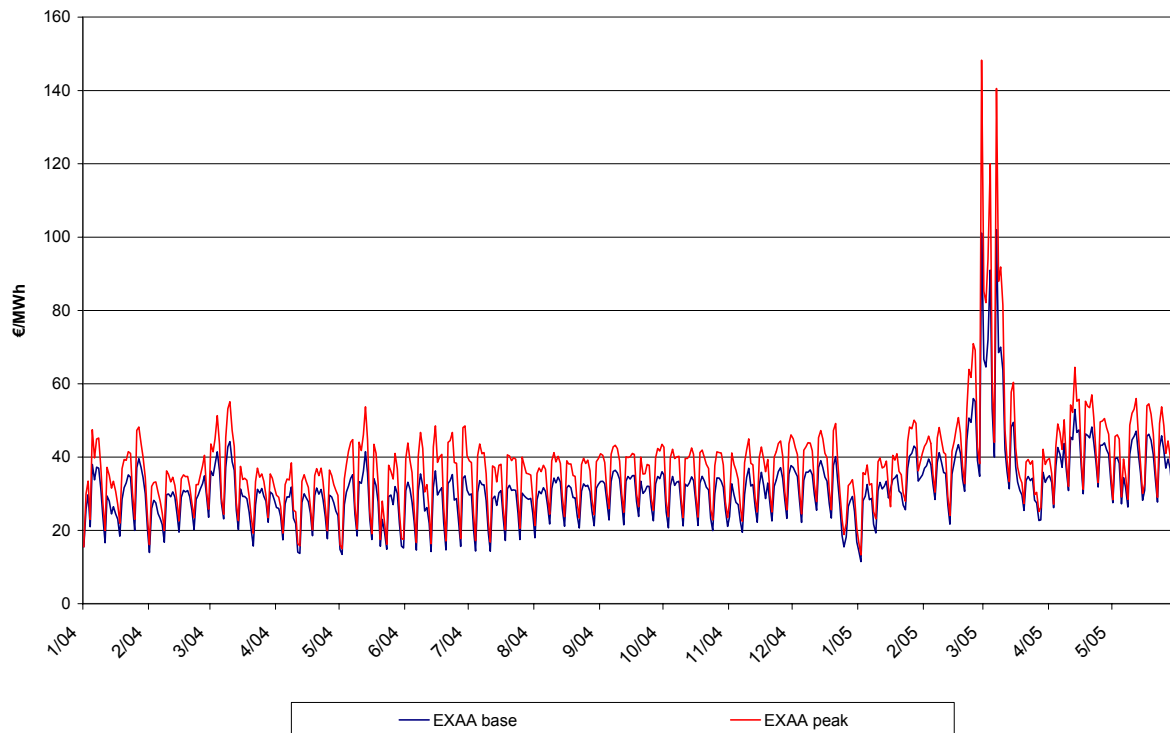
Only five Austrian generators own over 5% of total generating capacity, and the big three control 54% of national capacity.

Austria has an **installed capacity of approx. 18,700 MW**. The breakdown by control areas is as follows: Verbund APG approx. 14,200 MW (77%); TIRAG approx. 1,800 MW (10%); and VKW-UNG approx. 1,500 MW (8%). In all of the control areas generating capacity availabilities are confined to a few large companies.

**In 2004 total supply to the public grid (excluding pumped storage) was 56.7 TWh. Peak load was 8.962 MW.**

Viewed in isolation, the Austrian generation market exhibits a relatively high level of concentration. However, there is no congestion at present on the interconnectors with Germany and Switzerland (see section 3.1.2). Because of this Austria and Germany effectively constitute a single wholesale market for spot and forward products. The high degree of market integration is shown, among other things, by the fact that Austria's Energy Exchange Austria (EXAA) power exchange has set up "trading zones" (balancing groups) in the E.ON and RWE control areas. The spot prices in these zones are identical with those in Austria. Conversely, the German European Energy Exchange (EEX) electricity exchange launched a trading zone in the Verbund APG control area on 1 April 2005. The same applies to the prices as with the EXAA's cross-border trading zones. This situation means that spot prices in Austria largely reflect German price levels, and that other market conditions are also comparable. There are no separate Austrian forward or futures prices.

Figure 4: EXAA wholesale price in €/MWh (Jan. 2004 to May 2005)



Sources: EEX and EXAA

However there is neither a common market with Germany and Switzerland nor even a nationwide market in specialised products such as balancing power, which can only be supplied within given control areas. Here, the market remains highly fragmented (see section 3.1.3).

Because of the heavy congestion on the interconnectors linking Austria with its eastern and southern neighbours, integration with these countries' markets is considerably less developed.

In Austria most wholesale transactions are conducted bilaterally, on the OTC market, while the organised markets (power exchanges) play a lesser role. However Austrian traders do deal in short-term electricity contracts on the EXAA and EEX.

There are a variety of types of contracts between generators and retailers, with differing maturities. Short-term trades are generally used to fine-tune positions. On the EXAA, which opened in 2002, spot volume was 1.7 TWh, equivalent to about 2% of Austrian final demand, in 2004. The exchange has more than 25 members, two-thirds of which are international companies.

Most wholesale business is transacted on the OTC market, and the volumes and prices are thus not public knowledge (see Table 3.2.1.a). Meanwhile, Austrian power stations are not obliged to publish generation statistics (capacity availability and utilisation). As a result the Austrian wholesale market lacks transparency, which is crucial to confidence in the ability of commodity markets to function properly. **Existing arrangements do not enable market manipulation to be identified or excluded, and are in need of further development — preferably on a standardised basis and at European level.**

There were no major mergers in the generation or wholesale markets in 2004. There were a few mergers and acquisitions, but these were between local players and large incumbents. The largest transactions took place soon after liberalisation. The EnergieAllianz part-merger (between five large electricity companies in eastern Austria) was among the most important, but did not affect the generation market (see section 3.2.2). In 2003 the European Commission cleared the merger of the business-to-business and wholesale operations of EnergieAllianz and Verbund. At the time of writing it was still unclear whether this transaction would be completed, and the wholesale market has thus not been affected by any significant coordination of generation capacity. If implemented the merger would negatively impact competition due to the increase in vertical integration. The calculations of Austrian market shares and the Hirschmann-Herfindahl index (HHI) for generation in 2004, shown in Table 3.2.1, relate to the situation **in the absence of implementation of the joint venture.**

The mergers have resulted in sharp increases in concentration in both the large and small consumer markets. The HHI is well above 1,800 in all the relevant end-user markets, indicating a high level of concentration (see section 3.2.2). However the high degree of concentration in the generating and thus also in the wholesale market would only raise concerns if wholesaling were limited to Austria. **Due to the integration of the Austrian with German wholesale market the size of the Austrian companies is unexceptionable. However few of the large electricity undertakings are active on the common wholesale market. The problem of market power and potential abuse has thus merely migrated to another market.**

### 3.2.2 Description of the retail market

#### Austrian retail suppliers

The supply side of the Austrian retail market is shaped by an act of Parliament with constitutional status under which the main electricity companies must be majority owned by the federal government, the provincial governments or the municipal councils of the provincial capitals. Amendments to this act require a two-thirds parliamentary majority which is unlikely to be forthcoming in the short to medium term. As a result, Austrian federalism is reflected in the supplier market structure and ownership of the electricity industry. The Austrian market is largely controlled by Verbund — the country's largest generator, owned by the federal government — and the companies majority owned the nine provinces (the provincial utilities), as well as the three municipal utilities owned by provincial capitals. In 2004 these businesses supplied almost 95% of all Austrian final consumers. The remaining end-users are served by some 90 small electricity companies, mostly owned by local authorities. **Another structural characteristic of the Austrian electricity industry, apart from the high level of public ownership, is strong vertical and horizontal integration.**

In 2001 five large electricity companies entered into a horizontal merger in the shape of the EnergieAllianz retail joint venture. In 2003 EnergieAllianz attempted to strengthen its vertical integration by merging its business-to-business and trading activities with those of Verbund, in a company with the working name of "Energie Austria". The European Commission imposed a number of conditions for approval of this second merger. These included a requirement that Verbund sell its business-to-business sales company, APC to an independent third party. This key condition was fulfilled in July 2004, but a year later the "Energie Austria" joint venture was still not operational. At the time of writing remained unclear whether the "Energie Austria" merger would be implemented in the form approved by the Commission.

In July 2005 an entirely new Verbund subsidiary began selling to the mass market on a nationwide basis. It remained to be seen whether Verbund's return to the retail market would affect the European Commission's approval of the "Energie Austria" merger.

As of July 2005 there were only two independent suppliers, namely, Alpen Adria Naturenergie AG and oekostrom AG, operating alongside the — mostly fully vertically integrated — incumbents. Both specialise in supplying electricity derived from renewable energy sources. Three other suppliers — Unsere Wasserkraft, My Electric and switch — began operating as retail subsidiaries of integrated provincial utilities immediately after liberalisation, and have ownership links with system operators.

The only foreign electricity company with a local subsidiary, EnBW, closed its Austrian branch at the end of 2004. Since the start of 2005 **foreign entities' presence in Austria has been confined to investments in domestic electricity companies or, in the case of one supplier, servicing industrial consumers from**

**home country branches.** EnBW increased its holding in the Lower Austrian provincial utility EVN AG to almost 30% in June 2005.

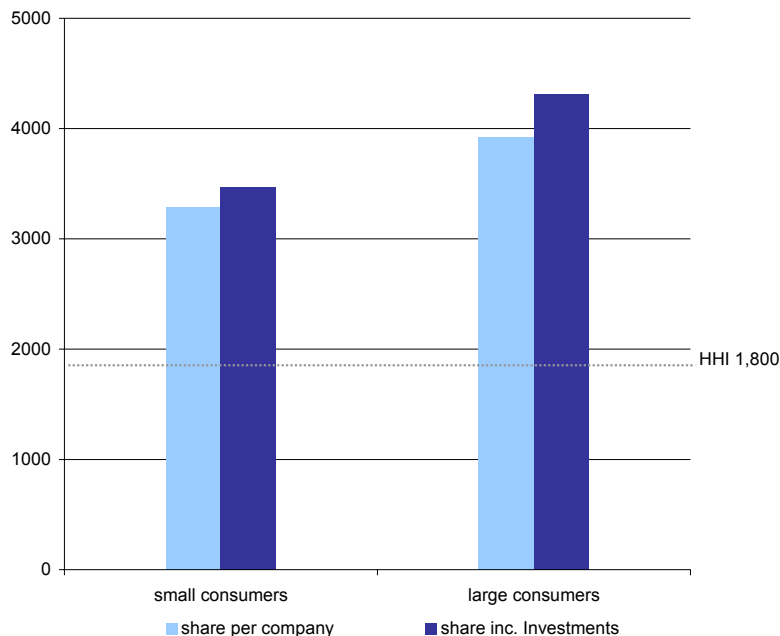
Calculations of market shares are only possible for the base year, 2001, as there is no statistical data for the part of the industry that has been open to competition since then. However the relatively low switching rates mean that the 2001 data closely approximates to current conditions. Since Verbund sold its retail business, APC to an independent third party in 2004 in due to the merger, aggregation of the market shares of EnergieAllianz and Verbund would not result in any changes in retail market shares. The market shares for 2001 are given below, but the EnergieAllianz merger parties are treated as a single company.

In 2001 the three largest suppliers on the small consumer market served about 70% of these consumers (i.e. non interval metered customers). Five suppliers had shares of over 5% of the Austrian small consumer market.

The three leading suppliers on the large consumer market together served some 70% of these consumers (i.e. interval metered customers). Five suppliers had shares of over 5% of the business-to-business market.

These market shares show that the Austrian electricity industry is dominated by a small number of companies, and that competition on the retail market is weak. The EnergieAllianz retail joint venture resulted in a marked increase in concentration in both the small and the large consumer markets, reflected in HHI readings of 3,145 and 3,872, respectively.

Figure 5: Concentration in the Austrian electricity market



Source: E-Control

## Switching behaviour

Decisions to switch do not give rise to any transfer charges for final consumers. The transfer process may not take more than eight weeks. A standardised administrative procedure for supplier transfers has been introduced under the Austrian market rules. This is designed to minimise the administrative burden for consumers.

In 2004 there were some 5.12m Austrian electricity consumers; they were supplied with about 50 TWh of power. Of this amount 53% went to around 27,000 interval metered and 44% to non interval metered consumers (26% to domestic and 18% to other small consumers)<sup>2</sup>.

The overall switching statistics reveal that roughly the same number of consumers change suppliers each year (1.2–1.3%). A total of about 198,000 electricity consumers switched during the first three years after full liberalisation on 1 October 2001. This corresponds to a cumulative churn rate of 3.9%. However in terms of the amount of electricity involved there has been a marked increase over time (the rate

<sup>2</sup> The remaining 3% could not be reliably assigned to a given consumer group.

has trebled). By the autumn of 2004 a total of some 8.4 TWh of demand had changed hands.

The divergent switching rates of the various consumer segments over time point to differences in their switching behaviour. While the churn rate for domestic customers fell by about 20% between 2003 and 2004, the rate for larger consumers (“other” small consumers and interval metered customers) rose by 50% over the period. One reason for this may be the fact that many commercial and industrial consumers signed long-term agreements when liberalisation came into force, and did not renegotiate these until the 2003–2004 period.

A look at suppliers’ marketing practices shows that they only make an active effort to court large consumers. Domestic and small commercial consumers must research the market themselves. Only 30% of interval metered consumers have solicited offers and only half of those doing so have received more than one quotation in response. Large suppliers were over-represented among the bidders.

Domestic consumers account for about 52% of supplier transfers, “other” small consumers for 45% and interval metered consumers for 3%. However households represent 72% of all metering points, “other” small consumers 27% and interval metered consumers just 0.5%.

This disparity is reflected in the churn rates for the various consumer groups. Large, interval metered electricity consumers are the group most open to change, with a cumulative churn rate of 25% since 2001. Differentiating between the estimated cumulative switching rates of large electricity consumers with an annual demand of more than and less than 5 GWh reveals no differences in the 2003–2004 electricity year.

The “other” small consumers (small businesses and farms) are considerably less active switchers, and the cumulative churn rate was 6.4%. Domestic consumers show very little willingness to switch, and recorded a cumulative churn rate of only 2.8% over the period. The switching rate for small consumers declined from a low base in 2004, registering a particularly sharp fall among domestic consumers. This trend shows up in the switching rates according to both volume and numbers of metering points.

Figure 6: Switching by consumer segments (metering points)

Consumer category	Supplier transfers – electricity market				
	2001	2001-02	2002-03	2003-04	Total
Households	0	26,077	40,986	34,813	101,876
Other small consumers	181	37,776	20,102	31,314	89,373
Interval metered consumers	318	1,775	1,701	2,943	6,737
<b>Total</b>	<b>499</b>	<b>65,628</b>	<b>62,789</b>	<b>69,070</b>	<b>197,986</b>
Households	0.0%	0.7%	1.1%	0.9%	2.8%
Other small consumers	0.0%	2.7%	1.4%	2.3%	6.4%
Interval metered consumers	1.2%	6.6%	6.3%	10.9%	25.0%
thereof up to 5 GWh/y*	1.0%	7.0%	6.0%	11.0%	24.9%
thereof over 5 GWh/y*	2.0%	7.0%	4.0%	13.0%	26.5%
<b>Total</b>	<b>0.0%</b>	<b>1.3%</b>	<b>1.2%</b>	<b>1.3%</b>	<b>3.9%</b>

\* estimated

Source: E-Control

In all, 16.7% of total supply via the public grid has changed suppliers since liberalisation, and half of this shift occurred in 2003–2004. This corresponds to a total of about 8,400 GWh, with interval metered consumers accounting for the lion's share at 7,500 GWh. The switching rate for the latter group is the highest at 28.7%, followed by “other” small consumers at 6.5% and households at 2.3%.

Figure 7: Switching by consumer segments (volume)

Consumer category	Supplier transfers in GWh – electricity market				
	2001	2001-02	2002-03	2003-04	Total
Households	0	81	125	98	303
Other small consumers	1	267	126	207	601
Interval metered consumers	409	1,858	1,160	4,047	7,473
<b>Total</b>	<b>411</b>	<b>2,205</b>	<b>1,410</b>	<b>4,352</b>	<b>8,378</b>
Households	0.0%	0.6%	0.9%	0.7%	2.3%
Other small consumers	0.0%	2.9%	1.4%	2.2%	6.5%
Interval metered consumers	1.6%	7.1%	4.5%	15.6%	28.7%
thereof up to 5 GWh/y *	1.0%	8.0%	8.0%	12.0%	28.9%
thereof over 5 GWh/y *	2.0%	7.0%	3.0%	17.0%	28.6%
<b>Total</b>	<b>0.8%</b>	<b>4.4%</b>	<b>2.8%</b>	<b>8.7%</b>	<b>16.7%</b>

\* estimated

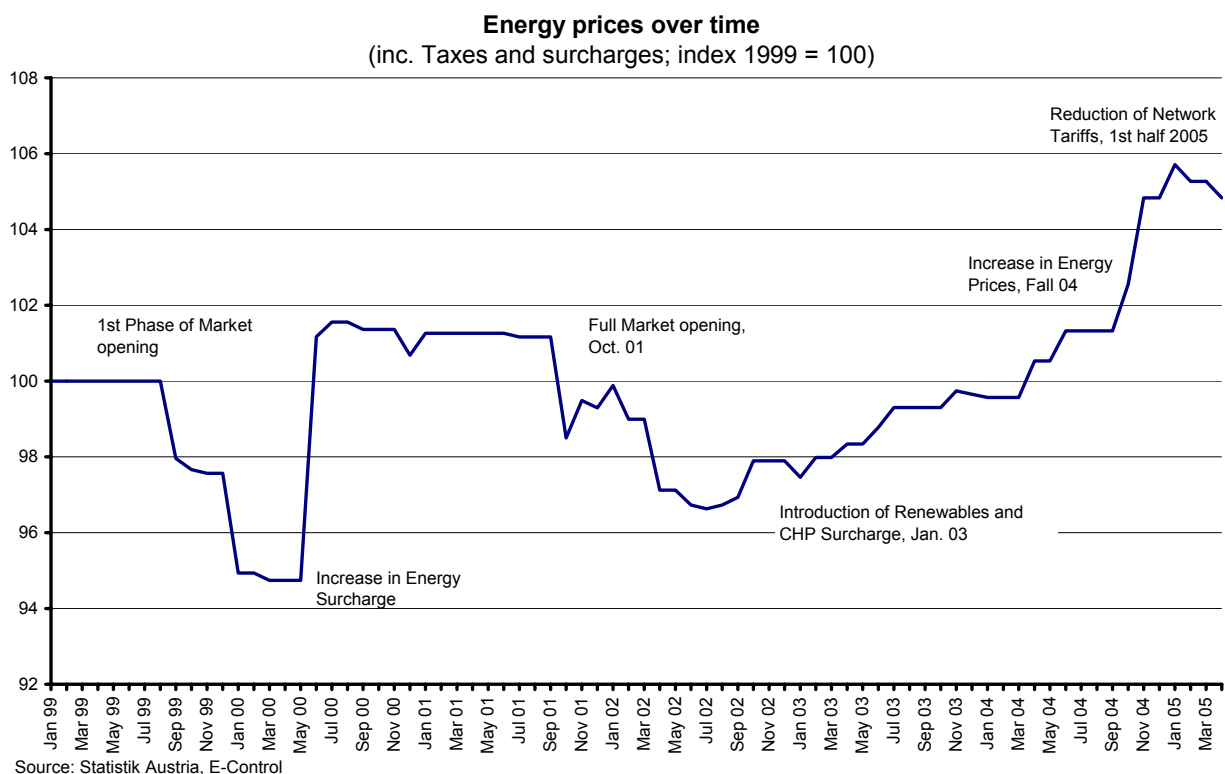
Source: E-Control

## Special feature: the structure and evolution of retail prices

Trends in overall electricity prices (energy and system charges, taxes and levies) reflect the impact of liberalisation as well as the introduction of new taxes and levies (e.g. the green power surcharge) and price increases imposed by the energy companies (see Figure 8).

There were sharp reductions in retail prices in the wake of the initial phase of liberalisation and of full market opening. These were due both to lower energy prices and to cuts in network tariffs. However, despite a number of reductions in network tariffs, overall electricity prices have risen steadily since January 2003 as a result of the introduction of a single nationwide support payment system for green power, small hydro and CHP generating stations, an increase in the energy levy and several energy price increases by suppliers.

Figure 8: Domestic electricity price index (1 January 1999 = 100)



Source: E-Control

Suppliers' energy price increases tend to coincide with regulatory reductions in network tariffs, and sometimes precisely cancel these out. The companies' pricing behaviour points to continued cross-subsidisation of activities in which companies compete on the market by the regulated areas of business due to ineffective unbundling.

The use of all-inclusive prices has shown itself to be anticompetitive. Local players mostly offer supply agreements based on all-in prices (combined energy and network charges). This usually makes it harder for consumers to work out the split between the energy and network costs. This lack of transparency, coupled with low levels of consumer awareness, enables the electricity companies to push through energy price increases unnoticed by consumers, since the all-inclusive prices do not change. Even if the energy price is not raised by as much as the network tariff is decreased, what is actually an increase can be sold to the final consumer as a price cut. Decisions to switch are further obstructed by the fact that consumers are unable to compare their current suppliers' all-inclusive prices with alternative suppliers' quotations, which only state the energy price.

Other aspects of electricity companies' pricing policies that invite critical examination are:

- unreasonable minimum agreement terms or agreement terms linked to differential pricing (sliding scale clauses);
- certain rebate schemes (loyalty rebates); and
- Bundling and tying (multi-utility offers).<sup>3</sup>

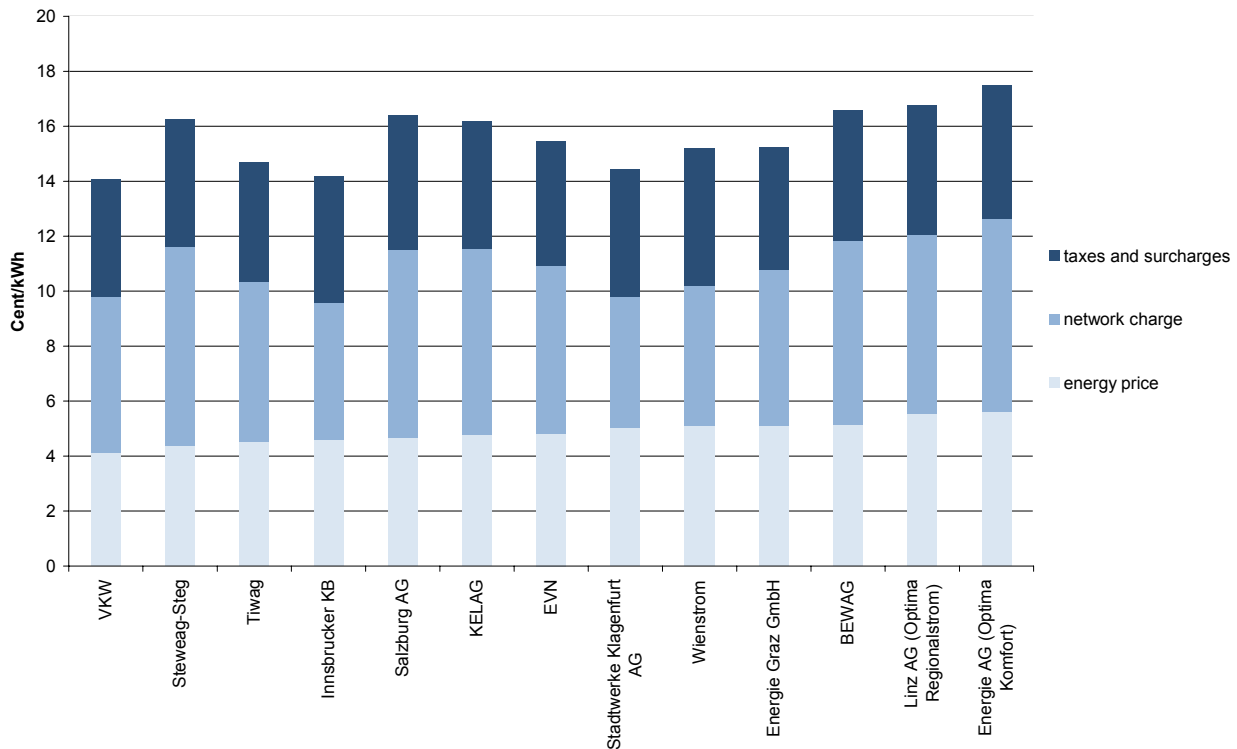
As Figure 9 shows, the energy price component accounts for only about one-third of the total price. Even a 10% difference between the energy price charged by a "local player" and that of an alternative supplier translates into an overall price differential of only about 3%. Due to the low price sensitivity and resultant reluctance to switch of domestic and commercial consumers, high potential savings are required to provide a sufficient incentive for a transfer. This also relates to the significant implicit switching costs faced by consumers, despite the absence of direct transfer fees. Consumers are generally ill informed at the outset, and are confronted with opaque price quotations (among other things, because of all-inclusive pricing), as well as uncertainties bred by the incumbents (e.g. by deliberate disinformation campaigns). Opting for a new supplier involves transaction, search and other costs. An alternative supplier must effectively make good these switching costs if it is to persuade consumers to change over to it.

Figure 9 shows that incumbents' energy prices differ. For instance Energie AG's price is about 35% higher than that of VKW. The price differentials are due to the lack of competition, which enables the companies' owners, most of which are in the public sector, to use their pricing policies for political ends.

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<sup>3</sup> Multi-utility rebates raise competitive concerns because they can serve to drive competitors that are unable to offer bundled services off the market. It is not always lawful for dominant suppliers to grant rebates on posted and generally applicable prices.

Figure 9: Overall domestic prices in cent/kWh (local players in the respective supply areas; 3,500 kWh/year; status: 1 June 2005)



Source: E-Control

International comparisons show Austrian energy prices to be extremely low relative to system charges. Not just in the domestic consumer segment but in the higher demand categories, too, Austria is one of the countries with the lowest energy prices and the highest network tariffs — further evidence of cross-subsidisation of other activities by network operation.

As can be seen from Fig. 8, it is not only energy price increases that have caused overall prices to rise. New or increased taxes and levies (e.g. the green power and CHP surcharges) have been contributory factors. Table 3.2.2.a sets out the average amounts of the various price components by consumer segments (the Ig, Ib and Dc categories as defined by Eurostat). The arithmetic averages for three provinces are taken in accordance with the Eurostat methodology. Individual price components may differ from one grid area or province to another due to the variations in network tariffs and consumption levies. Since full liberalisation in 2001 the energy prices have been formed by free competition. By then a degree of convergence between the prices paid by large industrial consumers was already apparent, whereas even today there are still substantial differences between the local players' prices for domestic consumers (see Figure 9).

About a quarter of all Austrian power generation capacity is subsidised by way of different support mechanisms, and is thus mostly shielded from market forces. Apart from renewable and small hydro generating stations this includes thermal power stations that produce heat for public district heating systems as well as electricity (CHP support payments). Support payments totalled some €330m in 2004. All electricity generation — with the exception of the small proportion represented by electricity from non-CHP thermal power stations and electricity from CHP stations excluded by sections 12 and 13 ÖkostromG (Green Electricity Act) — probably attracts support payments when generating costs exceed market prices. This means that **about 25% of all electricity generated in Austria is paid for not by market prices but largely by support mechanisms. These subsidised generating stations are thus shielded from competition with other capacity.**

Most of the capacity excluded from the support systems (largely hydro power stations) is competitive at current market prices. Hydro generating stations have high fixed costs and extremely low variable costs. This gives the many older plants an advantage over those built after liberalisation, as the high investment costs were financed by the accelerated depreciation made possible by ring-fenced retail markets. Legacy hydro power stations would thus be able to sell electricity at prices covering only their low variable costs (e.g. maintenance costs) but none of their financing costs. However on today's liberalised market they receive the same wholesale prices as capacity that must be entirely financed out of revenue earned in a deregulated environment.

### **3.2.3. Measures to avoid abuses of dominance**

The conduct of generating companies on the Austrian wholesale market is not governed by any rules other than general contract law and the conditions for membership of power exchanges (the Graz EXAA and the Leipzig EEX). Generators must merely provide annual retrospective non-availability statistics for emergency planning purposes and notify the regulator of planned maintenance at half-yearly intervals. Information used for emergency planning is not published.

Generators are not subject to any special market surveillance rules.

Neither virtual power plant auctions nor other capacity release measures have taken place to date.

Apart from the general consumer protection legislation and contract law, there are few explicit rules for Austrian electricity suppliers with regard to transparency, contract formulation or information duties. Electricity companies are legally obliged to state the cost of system use on their bills, but need not itemise the energy prices on which they compete. They are obliged to disclose the breakdown of primary energy sources used by them during the past year on their annual statements (so called "labelling", discussed in the special feature in Chapter 6).

Since the energy regulator has a duty to make price comparisons available to small consumers, energy suppliers are to a certain extent obliged, though not legally compelled, to provide this information in a comparable form. Consumers are enabled to make price comparisons by a tariff calculator on E-Control's website or information provided on its hotline.

### **Special feature: sector investigation**

In response to public discussion of the competitive situation on the Austrian electricity market in the second half of 2004, the Federal Competition authority launched a wide-ranging probe ("General investigation of the Austrian electricity industry") which is being carried out in close cooperation with E-Control. The findings to date have been presented in two interim reports which have identified the following competition issues relating to the Austrian retail market.

Concentration in the Austrian retail market increased greatly in the aftermath of liberalisation, as result of two large mergers (EnergieAllianz and "Energie Austria") and other smaller ones. There has been virtually no sign of the anticipated integration of retail markets, which was a key assumption behind clearance of the two large mergers. The incumbents are still able to behave as quasi-monopolists in their traditional supply areas, at least in dealings with small consumers.

The sector investigation has found that the narrow market boundaries in Austria reflect manifold barriers to entry, and that in the case of the retail market the underlying causes of these are often closely related to ineffective unbundling of system operators. In consequence the incumbents are in a position to exercise direct leverage over the handicaps faced by alternative suppliers.

The investigation has shown that the impact of the various barriers to entry increases in inverse proportion to consumers' demand. It is virtually impossible for alternative suppliers to survive on the Austrian market for the following reasons:

#### **→ Switching costs**

Though customers do not incur any switching charges during the transfer process itself, an alternative supplier must compensate new customers for their implicit costs by offering lower prices than those of incumbents. Examples of switching costs are transaction costs arising from the need to conclude a new agreement, search costs when consumers look for cheaper suppliers, and uncertainty costs due to doubts about the reliability of the new supplier.

#### **→ Higher selling costs of alternative suppliers**

The reasons for alternative suppliers' higher selling costs include difficulty in obtaining access to customer information (particularly on metering points and new connections), the lack of standardised processes, data formats, etc. common to the

130 or so system operators in Austria, and misleading information fed to consumers by former regional monopolists.

➔ Additional risks

New entrants face additional costs due to the virtually incalculable price risks caused by incumbents' dominant positions in the provision of certain upstream services.

➔ Low margins

The incumbents' low energy prices due to cross-subsidisation by other areas of business make it difficult to undercut their retail prices due to the low margins that would result.

**At the time of writing an action package aimed at stimulating competition was being drawn up.**

## 4 Regulation and performance of the natural gas market

### 4.1. Regulatory issues (Article 25[1])

#### 4.1.1 General

The Austrian gas market has been fully liberalised since 1 October 2002 when the Natural Gas (Amendment) Act 2002<sup>4</sup> came into effect.

#### 4.1.2 Management and allocation of interconnection capacity and mechanisms to deal with congestion

Under current legislation third-party access to Austrian transport capacity is governed by a **dual system**. While system access for shipments for the home market is regulated, access to the transit systems is still on a negotiated basis. The regulator's powers with respect to system access and charges cover distribution and transmission pipelines where these are used for domestic transportation; however cross-border exchanges and transits are subject to negotiated access (so-called "pipe-in-pipe" system for transit pipelines).

#### Domestic transportation

The Eastern control area is largely reliant on Russian imports. Gas travels via the Trans-Austria-Gasleitung (TAG) and West-Austria-Gasleitung (WAG) transit lines into the domestic transmission and distribution systems (see Figure 10). Parts of these volumes are imported via Germany, entering Austria at Oberkappel and passing through the WAG system in the opposite direction to the Austrian networks.

The **allocation of domestic transport capacity** is governed by the Natural Gas (Amendment) Act. Allocation is according to the "use it or lose it" principle, and the "portability" principle whereby transport capacity required to supply end-users belongs to the customer and cannot be lost as a result of a supplier transfer provided that the injection point remains the same. The capacity thus "belongs" to the customer, not the retailer, and dominant companies are thus prevented from "hoarding" capacity. Capacity is always allocated by the control area manager, Austrian Gas Grid Management (AGGM).

The control area manager also has a statutory obligation to perform **gas flow and congestion management** for the domestic grid. As part of these activities it contracts the transmission system operators to provide the necessary capacity. In order to combat future **congestion** the control area manager is also legally obliged to

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<sup>4</sup> Gaswirtschaftsgesetz (Natural Gas [Amendment] Act), FLG I No. 148/2002.

draw up long-term plans aimed at identifying bottlenecks, which must be approved by the Energy Control Commission. AGGM's 2004–2008 plan notes that “considerable investments will have to be made by the system operators to maintain security of supply in Austria”, and that “at peak loads some transmission pipelines are operating at the limits of their capacity”. The plan warns that gas shipments to Styria, Carinthia and parts of Burgenland are at particular risk from congestion, and expansion of the capacity on the TAG earmarked for domestic supplies is already “essential” because of a power station project in Styria.<sup>5</sup>

Where domestic shipments are concerned, the necessary **transparency** is provided by the publication of the general terms and conditions of access, and of the network tariffs. The control area manager is also legally obliged to publish details of available and booked capacity for domestic shipments at the injection and withdrawal points on the transmission system<sup>6</sup>. The booked capacity is published together with the transit availabilities.

## Transit

More than 70% of Austria's import capacity is earmarked for transits, and is not currently regulated. Capacity allocation, congestion management and related disclosures are matters for the transit companies. Gas is transported through Austria to downstream markets on the following transit systems:

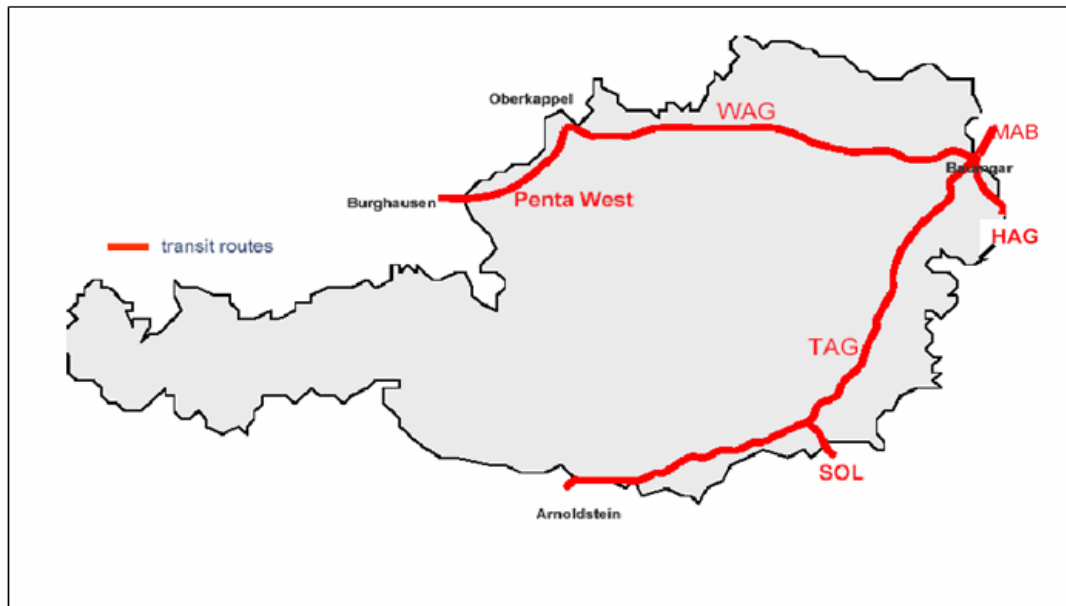
- The Trans-Austria-Gasleitung (TAG), running southwards;
- The West-Austria-Gasleitung (WAG), running westwards;
- The March-Baumgarten-Gasleitung (MAB), running northwards;
- The Hungaria-Austria-Gasleitung (HAG), running to the south-east;
- The Penta-West-Gasleitung (PW), running westwards; and
- The Süd-Ost-Leitung (SOL), running southwards.

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<sup>5</sup> AGGM press release on the 2004–2008 long-term plan, posted on the company's website: [www.aggm.at/](http://www.aggm.at/).

<sup>6</sup> See AGGM website: [www.aggm.at/](http://www.aggm.at/).

Figure 10: Transit pipelines in Austria



Source: E-Control

**Transit capacity** on the TAG and WAG systems is fully booked. Published historical data indicates that though capacity on the WAG from Baumgarten in the east to Oberkappel in the west is heavily booked it is not actually entirely used. Moreover, the published figures are drawn solely from schedules, and are not adjusted for switches or counterflows. The physical flows are not published by the operating company, BOG GmbH.

In the past the TAG pipeline has been almost completely booked out, and this is the case with future periods. However historic capacity utilisation statistics are not published. It is likely that the congestion on this link is “contractual” rather than physical. The transit companies do not publish statistics on physical flows.

A precise analysis of transit flows is not possible because of the lack of regulatory control over this area.

### **Special feature: cross-border exchanges**

Under current Austrian legislation third-party access to transit systems is negotiated, and does not fall within E-Control’s powers. Statements in this report about the terms and conditions of access to transit systems are based on the findings of monitoring

by the regulator. The yardstick applied is the degree of compliance with the Guidelines for Good TPA Practice (GGP2)<sup>7</sup>.

There is room for improvement in the transparency of negotiated access to interconnector capacity. The table below summarises compliance with the main GGP2 requirements by Austrian transit systems.

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<sup>7</sup>The GGP2 contain rules of conduct for European transmission system operators, and deal, *inter alia*, with system access, publication duties, capacity allocation and tariff determination. The GGP are voluntary guidelines agreed between the European Commission, European transmission companies, network users and energy regulators within the Madrid Forum framework. An amended version was published in September 2003.

Figure 11: GGP2 compliance by Austrian transit systems

	BOG1	TAG2	OMV3
<b>GTC</b>			
<b>System use rules and procedures</b>	GTC; Standard Contract	GTC, Standard Contract	GTC, Standard Contract
<b>Non-interruptible services</b>			
<b>Interruptible services</b>			
<b>Additional services</b> e.g. additional balancing, ex post/ex ante pooling/ trading imbalances	residual balancing (+/-2%)	residual balancing (+/-2%)	residual balancing (+/-2%) wheeling, matching, monitoring, Documentation (SLA))
<b>Gas quality, pressure</b>			
<b>Network map inc. Injection, withdrawal points</b>			
<b>Disruption Management</b>			
<b>Tariffs and their derivation</b>			
<b>Current available capacities</b>			Only Penta West, SOL
<b>Future available capacities (18 months ahead)</b>			Only Penta West, SOL
<b>Historic capacity use statistics (3 years back)</b>			
<b>UIOLI</b>			
<b>Method for calculation of available capacities</b>			
<b>Tariff calculator</b>			
<b>Capacity allocation rules</b>			
<b>Congestion management</b>			
<b>Secondary market</b>			
<b>Free info (where available)</b>			
<b>Info available</b>	Website	Website	Website

Source: E-Control (drawn from information posted by the transit companies concerned on their websites).  
Key: Green fields indicate GGP2 compliance, red fields non-compliance and orange fields partial compliance.  
Footnotes:  
<sup>1</sup> Baumgarten-Oberkappel Gasleitungsgesellschaft mbH: the transit company that operates the WAG system  
<sup>2</sup> Trans-Austria Gasleitungsgesellschaft mbH: the transit company that operates the TAG system  
<sup>3</sup> Operator of the SOL, Penta West, HAG and MAB systems

While the publication of current and future transit capacity is largely performed in a transparent manner there are **information gaps**, especially with regard to historical capacity utilisation data. The disclosure of this information would permit *ex post* comparisons of contractually reserved — and hence unavailable — capacity and actual usage.

Such comparisons are of particular relevance to competition in the event of refusals of system access. If system access is refused on the ground that there is no free capacity due to contractual commitments, and if scrutiny of the **historical capacity utilisation data** reveals unused reserved capacity during the period of the application for access, then this constitutes capacity hoarding and hence **foreclosure**. A specific instance of such behaviour, by the BOG GmbH transit company, has been observed. In the absence of published historical capacity utilisation data it is not possible to comment on the practices of TAG GmbH. As for the transit systems operated by OMV Gas GmbH, such disclosures are only made for the SOL and Penta West lines, but not for the HAG and MAB.

Apart from the necessary transparency and non-discriminatory access to unused capacity, a competitive gas market also depends on **overcoming congestion**, which is the responsibility of the transmission and transit system operators. Functioning gas-to-gas competition is only possible if established competitors and alternative suppliers are offered enough transport capacity to supply any consumers. The Austrian transit companies make insufficient use of the congestion management tools available to them. These include the reallocation of reserved but unused (hoarded) capacity, promotion of trading of unused capacity on the secondary market, the offer of temporarily unused capacity on an interruptible basis, and the expansion of infrastructure in the event that increasing demand for capacity cannot be met by mechanisms for its efficient utilisation. It is unclear whether swaps are used as a congestion management tool rather than for purely financial reasons, and whether such transactions are non-discriminatory. Figure 11 shows that the transit operators do not reallocate reserved but unused capacity on the TAG, WAG, HAG, MAB, SOL or Penta West systems. Only the TAG pipeline has a secondary market supported by an internet platform. There is no information on the operators' charges for capacity sold on the secondary market. Interruptible capacity on all the transit systems is marketed.

**The Austrian transit companies' GGP2 compliance record has been largely positive in terms of non-discriminatory system access and use. However there are still gaps in compliance, particularly with regard to efficient utilisation of existing capacity through “use it or lose it” clauses and secondary market offerings, as well as some of the transparency requirements relating to capacity disclosures. Moreover, there appears to be insufficient cooperation between the transit companies at present.**

#### 4.1.3. Transmission and distribution

The Austrian gas market is divided into **three control areas** — the Eastern (Burgenland, Carinthia, Lower Austria, Upper Austria, Salzburg, Styria and Vienna), Tyrol and Vorarlberg control areas. These are not linked by any interconnectors at present. The following transmission and distribution system operators are active on the Austrian market:

Figure 12: Austrian transmission and distribution system operators

	Number	System	Licensed operator	Owner of transport rights <sup>1</sup> /system
<b>Regional distribution companies</b>	19		identical	
<b>Supraregional transmission companies</b>	5		identical	
<b>National transmission companies</b>	3	TAG	OMV Gas GmbH	TAG GmbH [shareholders: 89% Eni s.p.A., 11% OMV Gas GmbH]
		WAG	OMV Gas GmbH	BOG GmbH [shareholders: 51% OMV Gas GmbH, 44% Gas de France, 5% E.ON-Ruhrgas AG]
		MAB, HAG, SOL, Penta West	OMV Gas GmbH	OMV Gas GmbH

<sup>1</sup> on primary market

Source: E-Control

#### Role of the regulatory authority: infrastructure and security of supply

The Austrian regulatory authority's involvement in infrastructure issues includes Energy Control Commission **approval of the control area managers' long-term plans** (see section 4.1.2) in order to identify future capacity shortages. The investment cost of expansion projects is covered by the network tariffs, and is determined by the regulatory authority in the course of its tariff review procedures.

See section 5.2 for an account of the regulator's role in short and long-term security of supply.

## **Tariff determination methodology and procedure**

Current legislation restricts the regulator's role to that of determining the network tariffs for domestic transportation, while carriage on transit systems is still on a negotiated basis. The following comments therefore relate solely to **domestic tariffication**. The latter also encompasses the portion of transit capacity used to supply the domestic market (see section 4.1.2 on the "pipe-in-pipe" system).

**Network tariff determination** is based on a distinction between three grid levels, which are essentially defined by the operating pressures of given parts of the grid.

The three grid levels are:

- Level 1: Transmission lines

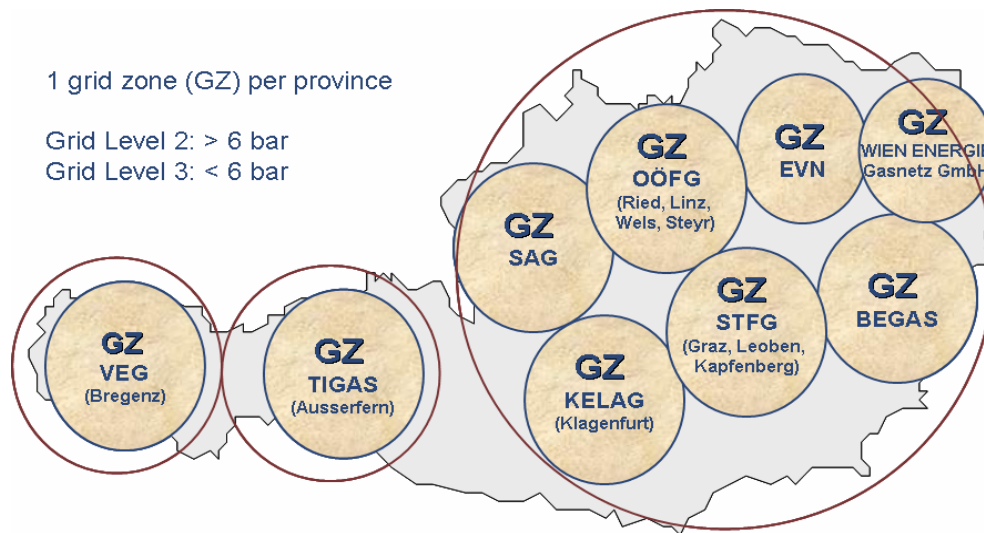
The pipelines listed in an annex to the Natural Gas (Amendment) Act, as well as any lines linking the entry and exit points of a grid zone or control area with each other, and extensions of distribution pipelines where these create links with other distribution or transmission systems, or control areas;

- Level 2: Distribution pipelines with a pressure of > 6 bar;
- Level 3: Distribution pipelines with a pressure of < 6 bar.

The distinction between grid levels concerns the regional and national transportation of natural gas.

The tariffs for grid levels 2 and 3 follow a postalised system, and also include the costs of the transmission system level. In other words the Austrian gas grid is treated as a single "gas pool", and pricing is distance independent. Each of the nine federal provinces is a separate grid zone. Under the Natural Gas (Amendment) Act the Energy Control Commission must set a single use of system charge for domestic supplies in each zone.

Figure 13: Grid zones



Source: E-Control

E-Control carries out **tariff reviews** on behalf of the Energy Control Commission, using questionnaires and audits as with electricity (see section 3.1.3). **Cost analysis** is also performed in the same way as with electricity.

### Network tariff levels

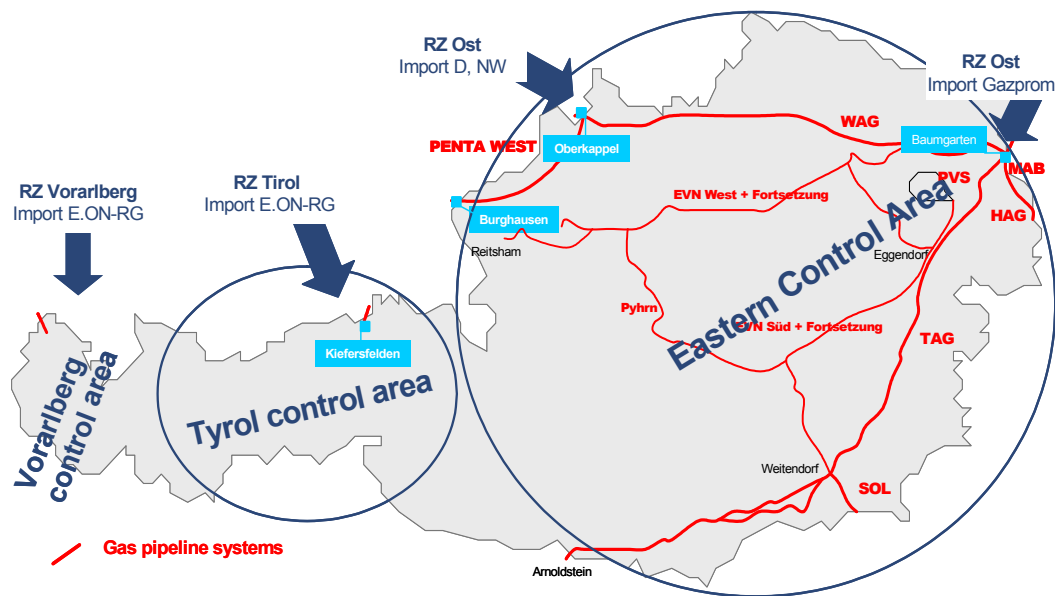
During the most recent reporting period the average network tariffs were 0.97 cent/kWh for the Eurostat I1 demand category and 1.43 cent/kWh for the D3 category<sup>8</sup>.

### Balancing group model and balancing energy

There are three independent control areas in Austria — the Tyrol, Vorarlberg and Eastern areas. The Eastern control area is the most important as it accounts for some 90% of total Austrian gas demand. The Tyrol and Vorarlberg control areas are entirely supplied from Germany.

<sup>8</sup> Exclusive of taxes and levies. The average charges were calculated using the E-Control tariff calculator ([www.e-control.at](http://www.e-control.at)). In accordance with Eurostat requirements to date, only the charges for the Vienna grid zone were calculated. There are no category I4-1 consumers in this grid zone.

Figure 14: Control areas and imports



Source: E-Control

Pressure control and balancing are performed by the control area manager AGGM. The **balancing interval** is one hour. In other words, the balancing energy (the difference between injection and withdrawal) for each balancing group is determined on an hourly basis. The balancing group coordinator Austrian Gas Clearing Settlement (AGCS) calculates the previous month's hourly balancing energy prices and amounts for each balancing group at the start of each month.

The **hourly price of balancing energy for hours when the control area manager calls off physical balancing energy** is the weighted average of the prices offered for the energy utilised by it. The price for hours during which no physical balancing energy is called off is the average of the last seven hourly selling or buying prices.<sup>9</sup>

These prices apply both to negative and to positive imbalances. Thus if a balancing group has injected more gas than was withdrawn by its customers AGCS pays it the balancing price for the hour in question multiplied by the precise oversupply volume during that hour. In the event of undersupply the amount is due to AGCS.

<sup>9</sup> If there have been net withdrawals from the grid by system operators forming a separate balancing group, then the average of the last seven balancing energy selling prices becomes the price for the hour in question. Conversely, if there have been net injections into the grid by the system operators, then the average of the last seven buying prices becomes the price for the hour.

There are no **tolerance bands** for domestic balancing. All hourly under or oversupply caused by a balancing group is precisely recorded and is settled at the hourly balancing energy price. However balancing groups have the option of using internal schedules for *ex post* settlement with each other. Every improvement in the accuracy of demand forecasting reduces the balancing energy price risk exposure of a balancing group.

The offers of balancing energy available to the control area manager are transmitted to AGCS by the suppliers on a daily basis. The price and volume offered for every hour of a given calendar day can thus be revised every day.

At present there are **five suppliers** on the balancing market. The market shares of these companies ranged from 2% to 49% in 2004. The balancing energy offered for an hour must be injected into or withdrawn from the system within 30 minutes of call-off. Hourly balancing energy prices ranged from €11–18/MWh in 2004.

Such information as is published indicates that tolerance bands of plus or minus 2% are common in the deregulated **transit** market, which has a balancing interval of one day.

#### **4.1.4. Access to storage, linepack and other ancillary services**

##### **Legal basis**

In Austria access to storage facilities is governed by the Natural Gas (Amendment) Act. As permitted by the relevant European legislation<sup>10</sup>, which gives member states a choice between negotiated or regulated access to storage, access is on a negotiated basis, and must be provided according to non-discriminatory and transparent terms and conditions.

Access to storage may only be denied on the following grounds, stating the reasons:

- Technical malfunction or failure;
- Lack of capacity;
- Absence of reciprocal arrangements with the applicant's EU member state;
- Incompatible technical specifications;
- Unreasonable expense.

The Energy Control Commission rules on disputes relating to the granting of access to storage.

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<sup>10</sup> Directives 98/30/EC and 2003/55/EC concerning common rules for the internal market in natural gas.

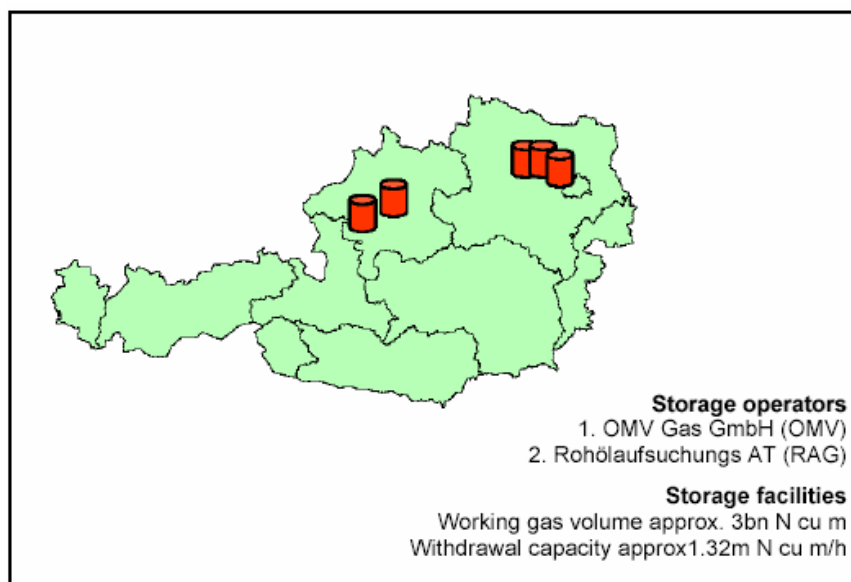
In cases of insufficient capacity the provision of balancing energy takes precedence over all other withdrawals. Other contractual storage obligations must be ranked chronologically in the event of congestion or shortages. Storage tariffs must be non-discriminatory and cost reflective. All storage contracts must be submitted to the regulator.

**The regulatory authority's powers** in relation to storage are limited to the enforcement of non-discriminatory treatment (upon application of a party eligible for access) and monitoring of average European storage tariffs. In the event that the Austrian charges exceed those of comparable European facilities by more than 20% the regulator is entitled to determine which cost components shall be taken into account in pricing (see special feature).

### Gas storage in practice

Most of the large-scale storage capacity in Austria takes the form of pore storage facilities (former gas fields). The capacity is concentrated in Lower and Upper Austria, in the Eastern control area.

Figure 15: Storage facilities in Austria



Source: E-Control

**The storage operators** in the Eastern control area are OMV Gas GmbH (four storage facilities) and Rohöl-Aufsuchungs AG (RAG) (one facility). OMV Gas owns some 75% of the available capacity. Both companies use depleted reservoirs for storage. Capacity totals 2.8bn cu m (volume) or 1.3m cu m/h (withdrawal). The storage facilities used by the Eastern control area are all within its boundaries.

Figure 16: Storage capacity in Austria, 2004

Storage facility	Injection capacity in N cu m/h	Withdrawal capacity in N cu m/h	Working gas volume in m cu m
OMV – Schönkirchen	650,000	740,000	1,570
OMV – Tallesbrunn	125,000	160,000	300
OMV – Thann	115,000	130,000	250
RAG – Puchkirchen	290,000	290,000	700
<b>Total</b>	<b>1,180,000</b>	<b>1,320,000</b>	<b>2,820</b>

Sources: RAG and OMV Gas

While OMV Gas concludes both **long and short-term storage contracts** RAG offers no storage services for terms of under three years.

In theory **capacity allocation** is according to the first come, first served principle. However capacity significantly exceeds demand in Austria at present. The regulator has not received any information regarding refusals of access to date.

In the case of OMV Gas the **posted prices** of “bundled services” correspond to the actual prices, whereas in that of RAG it can be assumed that contract negotiations are not based on the published prices<sup>11</sup>. The prices of unbundled services are not disclosed. **Interruptible storage services** are irrelevant in Austria due to the presence of adequate capacity.

Customers are not offered access to linepack in Austria. Linepack is used by the control area manager as a system control method, and is marketed as a “bundled” transport service.

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<sup>11</sup> RAG has announced that its published information will be revised in November 2005.

## **Compliance with the Guidelines for Good Practice<sup>12</sup> by Austrian storage system operators<sup>13</sup>**

The larger of the two Austrian storage system operators, **OMV Gas** had already met the main requirements of the GGPSSO by the time that it entered into effect on 1 April 2005. However the company did not yet conform to the transparency requirements regarding the recycling of unused capacity, auction terms, secondary market rules and penalties, and aggregated inflows and outflows. The reason given for non-compliance was the availability of adequate storage capacity. OMV Gas has promised to upgrade its online information system for registered storage customers by November 2005.

As to compliance with the GGPSSO by the other Austrian storage system operator, **RAG**, the requirement for transparent and user-friendly information on the full range of services offered is largely unfulfilled. The only information given is a fixed price per withdrawal. It can be taken that contractual negotiations are not carried out on the basis of the posted prices. Moreover, details of the storage products offered (e.g. duration, bundled services, etc.) are completely absent.

### **Special feature: comparison of Austrian storage service prices**

An exception to the general principle of negotiated access is the regulator's legal entitlement to determine which cost components are to be taken into account when setting storage charges. This is conditional on Austrian storage charges' exceeding those of comparable European facilities by more than 20%.

E-Control is obliged to make price comparisons in order to ascertain whether Austrian storage charges diverge from the average tariffs of comparable facilities. The first such **storage tariff comparison** was carried out in December 2004. The chart shown below is based on companies' posted prices, and on information from national regulators, as well as relevant publications where the data available was inadequate or unavailable.

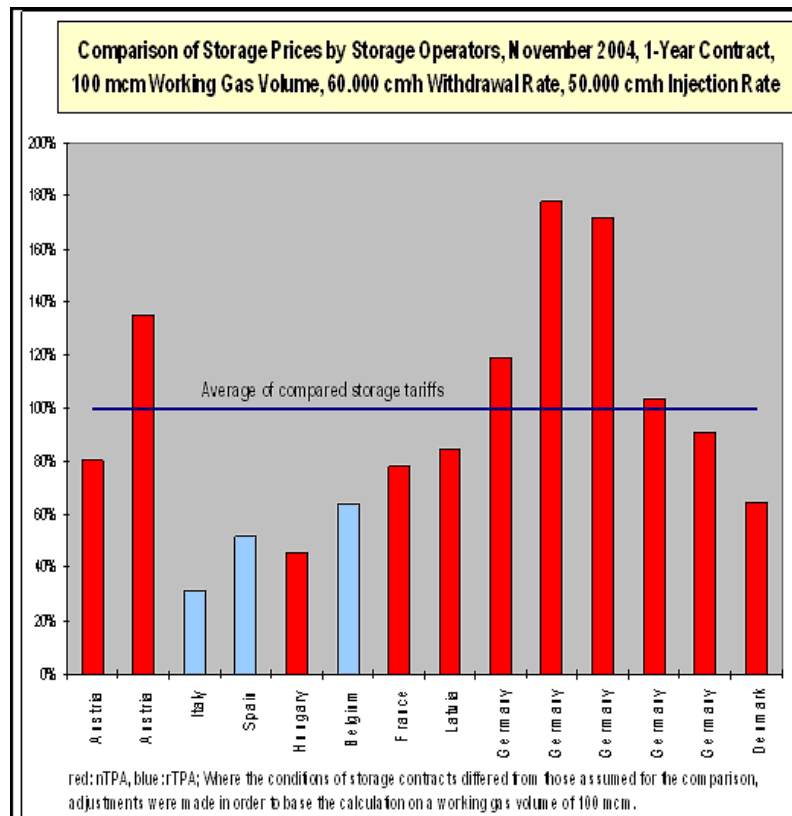
Apart from the price data, the comparison yielded information on the publication practices and transparency performance of Austrian and other European storage system operators. In particular, as regards Austria, serious deficiencies were identified in the practices of RAG (see section on GGPSSO compliance above). The chart shows that OMV's storage charges are roughly equal to or slightly below the European average. **However RAG's posted prices are significantly higher than any of those for comparable products.**

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<sup>12</sup> Guidelines for Good Practice for Storage Operators (GGPSSO) of 18 March 2005

<sup>13</sup> The 2005 Monitoring Report of the European Regulators Group for Electricity and Gas (EREG) contains a detailed account of GGPSSP compliance by Austrian storage system operators.

Figure 17: European storage price comparison



Sources: Storage system operators' websites, European regulators and E-Control

#### 4.1.5. Effective unbundling

##### Statutory unbundling requirements

Directive 2003/55/EC requires vertically integrated gas companies to separate their system operation activities from their other areas of business in legal, organisational and accounting terms (so-called “unbundling”). The directive was largely implemented by the Austrian Natural Gas (Amendment) Act. The accounting unbundling requirements had already been met beforehand. Some detailed provisions of the directive have not yet been transposed into national law. The existing unbundling provisions of the Natural Gas (Amendment) Act entered into force on 1 October 2003 and 1 January 2004 — earlier than those for the electricity sector.

Directive 2003/55/EC does not provide for ownership unbundling, and it is thus not required of Austrian system operators. The Natural Gas (Amendment) Act prescribes **legal unbundling for all transmission system operators and for distribution system operators with more than 50,000 domestic connections**. At present five national transmission companies and one distribution system operator are affected. **All the other system operators are obliged to undertake organisational unbundling. Accounting unbundling is mandatory for all transmission and distribution system operators.**

The regulator has not made any detailed requirements for accounting unbundling (e.g. on precise cost allocation).

Current legislation exempts **transit system operators** from the unbundling rules.

There are no **combined system operators** on the Austrian market, and the European rules requiring such companies to draw up and publish separate accounts are thus inapplicable.

##### Ownership of Austrian transmission and distribution system operators

The following table provides information on the ownership of Austrian transmission and distribution companies.

Figure 18: Ownership of Austrian transmission and distribution system operators

	Number	System	Ownership
<b>Regional distribution companies</b>	20		Subsidiaries of partly publicly owned (at least > 51%) integrated regional gas companies
<b>Supraregional transmission companies</b>	5	Domestic / supraregional transmission system	<b>EVN AG</b> Ownership: 51% state interest, currently 15% EnBW <sup>1</sup> ; rest Verbund, RLB OÖ, float
		Domestic / supraregional transmission system	<b>Oberösterreichische Ferngas AG</b> Ownership: 50% Energie AG OÖ, 50% Ferngasbeteiligungs AG <sup>2</sup>
		Domestic / supraregional transmission system	<b>Steirische Gas Wärme GmbH</b> Ownership: 99,994% Energie Steiermark Holding AG, 0.006% Steirische Wasserkraft- und Elektrizitäts AG
		Domestic / supraregional transmission system	<b>OMV Gas GmbH</b> Ownership: 100% OMV AG <sup>3</sup>
		Domestic / supraregional transmission system	<b>BEGAS</b> Ownership: 51% Begas Gemeindeanteilsverwaltung AG, 49% Burgenlandholding AG
<b>National transmission companies (transit)<sup>4</sup></b>	3	TAG	<b>TAG GmbH</b> Ownership: 89% Eni s.p.A., 11% OMV Gas GmbH
		WAG	<b>BOG GmbH</b> Ownership: 51% OMV Gas GmbH, 44% Gas de France, 5% E.ON-RG AG
		MAB, HAG, SOL, Penta West	<b>OMV Gas GmbH</b> Ownership: 100% OMV AG <sup>3</sup>

<sup>1</sup> Increase to 29% planned

<sup>2</sup> Approx 68% of Ferngasbeteiligungs AG owned by OMV AG

<sup>3</sup> Ownership of OMV: 31.5% state, 17.6% private shareholders, 50.9% float

<sup>4</sup> Owners of transport rights

Source: E-Control

## Separation of the system operation, marketing and generation functions

Gas **production** and system operation come under different central functions at OMV AG. OMV Gas GmbH, the subsidiary responsible for system operation, is separately located from OMV's production business.

The five regional gas and electricity utilities in the Eastern control area (BEGAS, Energie AG OÖ, EVN AG, Linz Strom and Wien Energie), which have merged their supply businesses (**EnergieAllianz**), have unbundled their distribution system operation and supply functions at local level. Most of the local sales companies serving small consumers do not have separate offices. The same applies to the geographical separation of the premises of the system operator Gasnetz Steiermark GmbH from the other areas of business of the vertically integrated Styrian gas company. The system operator KELAG Netz GmbH is not headquartered apart from the other activities of the Carinthian provincial utility, and neither have the other integrated companies taken such steps.

The gas companies in the Eastern control area (BEGAS, EVN, Oberösterreichische Ferngas AG, Linz Gas Wärme GmbH, OMV Gas GmbH and Wien Energie), which have merged their business-to-business retail activities (**EconGas**), have separated their distribution system operation functions from these operations at local level.

EnergieAllianz and EconGas are **separate retail brands** with their own logos and websites. However according to the latest annual report of EnergieAllianz Austria GmbH — the vehicle for the joint venture — it generated no gas revenue. Small consumers continue to be supplied by the regional sales companies of the EnergieAllianz founders, and the names of these subsidiaries are derived from those of their parents. Though the vast majority of the system operators have separate company names, these are also usually closely related to those of the integrated companies. Separate websites are not the rule, and where they exist they are generally linked with those of the integrated parents.

## Monitoring

The gas companies' accounts are normally audited by registered auditors. The regulator carries out separate audits, aimed at identifying and preventing cross-subsidisation, during the tariff review procedure.

In the experience of the regulator compliance officers are seldom involved in the audit process; they largely focus on non-discrimination issues. As mentioned in section 3.1.5, the Electricity Industry and Organisation (Amendment) Act 2004 put the provincial governments in charge of enforcing unbundling; however they are themselves the owners of the companies they are monitoring.

## Overheads

The allocation of overheads takes place at company level during the cost reviews performed by the regulator. Since the overheads are strongly influenced by corporate structures there is no generally applicable percentage allocation.

## Special feature: unbundling of cross-border operations

In safeguard non-discriminatory network access and prevent conflicts of interest, Article 9 of Directive 2003/55/EC requires the separation of transmission system operation from the other activities of integrated companies.

While the unbundling rules have largely been implemented at national level, in the case of transit pipelines there are still close links between marketing and system operation activities. Cases in which suppliers with dominant positions in their home markets own substantial interests in the transit pipelines upstream from those markets raise particular concerns. Here, there are good reasons for suspecting that there is a conflict between the interest of the dominant company in the downstream market in foreclosure and its obligation to provide non-discriminatory access to the upstream transit pipelines that it co-owns.

Companies with dominant positions in downstream markets hold significant interests in the Austrian transit system operators **TAG GmbH** and **BOG GmbH** (TAG GmbH: Eni 89%; BOG GmbH: GdF 44%, E.ON-Ruhrigas 5%).

Although Art. 9 Directive 2003/55/EC must also apply to cross-border operations, effective regulatory monitoring of unbundling compliance is impossible because regulators' powers are limited to their respective national territories.

## 4.2. Competition Issues (Article 25[1][h])

### 4.2.1 Description of the wholesale market<sup>14</sup>

Gas wholesaling takes place at **two levels** with Austrian involvement<sup>15</sup>. Foreign and domestic producers supply the Austrian first-level wholesalers, e.g. OMV Gas GmbH and RAG Beteiligungsgesellschaft. The first-level wholesale market extends beyond Austrian borders.

These deliveries are passed on to large distributors and traders in the second-level wholesale market. A distinction can be drawn between short-term and long-term second-level wholesale markets. The large distributors and traders supplied by wholesalers are: EconGas GmbH, Steirische Gas Wärme GmbH, Kelag, Terragas GmbH and CE Oil and Gas Trading GmbH in the Eastern control area; Tigas in the Tyrol control area; and VEG in the Vorarlberg control area. The control areas are the relevant geographic markets for long-term second-level wholesaling, whereas the market is wider in the case of short-term wholesaling.

In 2004 **total natural gas demand** in Austria was some 8.58bn cu m/95,016 GWh<sup>16</sup>. The main source of Austrian imports is Russia, with a market share of approx. 60% (status in 2003), followed by Germany and Norway, with some 10.5% each. About 19% of demand was met by domestic production in 2003. OMV AG and RAG account for over 90% of domestic gas production.

Austria is divided into three control areas, which are not linked by interconnectors (see section 4.1.3). The Tyrol and Vorarlberg control areas are currently only served by German networks.

In 2004 **consumption in the Eastern control area** was 8.12bn cu m/89,862 GWh (2003: 8.09bn cu m/89,645 GWh).

Maximum **import capacity** for domestic use in the Eastern control area is approx. 17 GWh. Austrian imports totalled approx. 400 TWh in 2004. With domestic consumption in the Eastern control area running at some 90 TWh, the ratio of transit volume to locally consumed gas was around 4:1.

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<sup>14</sup> This is defined as the market for all gas transactions between market participants other than final consumers.

<sup>15</sup> The European Commission has also identified this two-level structure in the case of the German gas industry. As the Commission puts it: "There are two levels of gas wholesale transmission companies: ... long distance wholesale transmission companies and ... short distance wholesale transmission companies." The Commission reached the conclusion that these levels represent different product markets. See Commission decision of 29/09/1999 in Case No. IV/M.1383 – Exxon/Mobil, p. 12, paragraph 49 and p. 12, paragraph 71.

<sup>16</sup> Supplies to final consumers; total domestic consumption including own use and system losses (2004): approx. 8.99bn cu m/99,553 GWh (source: E-Control).

Companies with rights to transit capacity include OMV, Eni, E.ON-Ruhrgas and GdF. Neither the operator of the Central European Gas Hub (CEGH<sup>17</sup>) nor the transit pipeline operators and traders disclose any information as to whether, and if so to what extent wholesale transactions are concluded at the CEGH or what other companies trade there.

Insufficient transport capacity presents obstacles to entry to both levels of the wholesale market. Since the Austrian transit systems and those in neighbouring countries (e.g. the Megal system in Bavaria) are almost completely booked out traders are excluded from supplying Austrian customers. So far the pipeline operators and capacity owners have made no noticeable efforts to promote the emergence of a transparent market for volumes and capacity. There is also little sign of direct shipments to Austrian customers by foreign companies.

In contrast to Belgium and the Netherlands, northern Germany or the United Kingdom, there is no transparent trading or market price information at the **Baumgarten hub** and in Austria as a whole. There is no price reporting.

An exception to this rule is the Gas Release Programme run by EconGas. During the investigation into the part-merger of BEGAS, EVN, Oberösterreichische Ferngas AG, Linz Gas Wärme GmbH, OMV Gas GmbH and Wien Energie which created the largest Austrian gas trader, EconGas (market share over 70%), the parties committed themselves to an annual gas release programme involving the sale of 250m cu m of gas ex Baumgarten. The gas release programme is managed by CEGH, and will remain in place until a sufficiently liquid market emerges in Baumgarten. The gas is sold by means of online auctions which began in 2003. So far hopes that the programme would stimulate the Austrian market have largely been disappointed, as strong prices in Italy meant that most of the highest bidders came from there in 2003 and 2004. Only 13% resp. 8% of the auctioned amounts was traded in the Eastern control area. The selling prices are believed to have been about 14.05 cent/cu m in 2003, 14.62 cent in 2004 and 24.35 cent in 2005 — in each case higher than the purchase prices paid by EconGas<sup>18</sup>. However neither the auctioneers nor EconGas have provided specific information about the selling prices or the identity of the successful bidders.

The Austrian balancing market plays a special role in the wholesale market (see section 4.1.3). Though the intended purpose of the market is that of providing the control area manager with a structured balancing mechanism, it is not exclusively used to compensate for forecasting errors, and has developed into a means for gas suppliers to trade and adjust their positions. It is not possible to ascertain how much turnover arises from forecasting inaccuracies and how much from strategic decisions. However it is safe to assume that **use of the balancing market as a spot market**

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<sup>17</sup> CEGH is a wholly owned subsidiary of OMV Gas GmbH.

<sup>18</sup> Sources: EnerGate, 18 July 2003 (2003 price); EnerGate, 13 July 2004 (2004 price); EnerGate, 14 July 2004 (2005 price); [www.energate.de/](http://www.energate.de/).

was equivalent to 2–3% of total demand in the Eastern control area. The role of the balancing market thus goes well beyond its function as a balancing mechanism for control areas. These observations show that there would be sufficient supply and demand for a short-term trading platform in Austria provided that the conditions could be created for it and the obstacles removed.

Since the spot market function represents a “misuse” of the balancing market, the regulator must weigh the positive effects of the related trading volume against the risks — such as the acute price risk (even for participants that are not active players) — and the potential damage to the stability of the Eastern control area.

#### 4.2.2 Description of the retail market

In calendar 2004 the total volume of gas supplied to final consumers was approx. 8.6bn cu m.

The following table sets out the relative shares of gas consumption of the various market segments in 2003.

Figure 19: Segment shares of gas demand in 2003

Sector	Share of gas demand
Power stations, district heating stations and heating stations	33.4%
Households	21.1%
Transport, services and other	14.0%
Industry	31.5%

Source: Statistics Austria

#### Market definition

The end-user market comprises small and large consumers. The end-user market can be broken down into four segments on the basis of the product features.

##### Small consumers

- End-users with an annual demand of up to 100,000 cu m (non interval metered consumers: households and small businesses)
- End-users with an annual demand of between 100,000–500,000 cu m (interval metered consumers: commercial and small industrial consumers)

### Large consumers

- End-users with an annual demand of over 500,000 cu m (industrial consumers)
- Power stations

The relevant geographic market for supplies to small consumers is the respective local player's network.

Figure 20: Grid areas and local players in Austria

Networks	Local Players
Wienenergie Gasnetz	Wienenergie Vertrieb
Begas	Begas Energie Vertrieb
Linz Gas	Linz Gas Vertrieb
EVN	EVN Vertrieb
Oberösterreichische Ferngas	Erdgas Oberösterreich
Salzburg AG	Salzburg AG
Kelag	Kelag
Tigas	Tigas
Gasnetz Steiermark	Steirische Gas Wärme
VEG	VEG
Municipal utilities	Stadtwerke Klagenfurt, Stadtwerke Steyr, Energie Ried, Stadtwerke Leoben, Energie Graz, Stadtwerke Kapfenberg, Stadtwerke Bregenz, Energieversorgung Ausserfern

Source: E-Control

**New entrants** from abroad are not present in these market segments. Some local players have formed subsidiaries under new names (e.g. STGW's Unsere Wasserkraft and Salzburg AG's MyElectric) to market their services outside their grid areas. Kelag markets across the entire Eastern control area, while Erdgas Oberösterreich sells in selected networks. The local players in the other grid areas (EnergieAllianz) do not have a presence elsewhere.

The **market for supplies to industrial consumers** with an annual demand in excess of 500,000 cu m is control area wide. The large distribution companies EconGas GmbH, STGW, Kelag and Terragas GmbH, and the second-level wholesaler CE Oil and Gas Trading are active in this market. Wingas GmbH also serves some customers in this segment, but the volumes involved have so far been small. In the other control areas Tigas and VEG are active in this market segment.

The **market for the supply of power stations** is likewise control area wide. EconGas GmbH and STGW are the major players.

## **Market shares**

### **First-level wholesale market**

There are two domestic **gas producers** — RAG and OMV. OMV's share of domestic output is higher, at about 65%. The Austrian gas producers' shares of the wholesale markets they supply are not known.

OMV Gas GmbH is the only Austrian company on the wholesale market with long-term supply agreements with foreign producers (Gazprom and Norwegian companies). The volumes concerned are small compared to amounts imported by E.ON Ruhrgas, Eni and GdF.

No other companies have begun importing gas since full market opening on 1 October 2002. Under Austrian legislation gas supply agreements with terms of over one year and involving the import of more than 250m cu m/y from EU member states or third countries must be reported to the regulator. With the exception of OMV Gas GmbH no such notifications have been received since 1 October 2002.

### **Second-level wholesale market**

OMV Gas holds the lion's share of the **long-term second-level wholesale market**. Other suppliers are E.ON Ruhrgas (supplies to Terragas GmbH) and RAG Beteiligungsgesellschaft which markets RAG's domestic production.

### **Storage market**

Austrian **storage capacity** is concentrated in the Eastern control area (Lower and Upper Austria). The storage operators are OMV Gas GmbH (four facilities) and RAG (one facility). OMV Gas owns 75% of the total injection and working gas capacity, and 78% of the withdrawal capacity. The remaining 25% and 22%, respectively, are accounted for by the other supplier, RAG (status as of 2004).

There are two kinds of **storage products**:

- Seasonal storage: OMV Gas and RAG offer seasonal storage (injection in the summer and withdrawal in the winter). The market, which is control area wide, is divided between OMV Gas and RAG, the former being the larger supplier of the two.
- Short-term, flexible storage: OMV Gas is in a position to offer more short-term, flexible withdrawal and injection services from its storage pool. RAG is unable to do so for technical reasons. OMV Gas is thus the sole supplier of these storage products in the Eastern control area.

## **Balancing market**

The suppliers on the balancing market are EconGas, RAG AG, Steirische Gas-Wärme GmbH, Salzburg AG and Kelag. The three largest suppliers meet about 85% of market requirements (status as of 2004), EconGas being the market leader by a wide margin.

## **Final consumers**

- Small consumers: the local players hold over 90% of the relevant geographic markets — namely their grid areas. This is true both of supplies to end-users with an annual demand of up to 100,000 cu m (non interval metered consumers, i.e. households and small businesses) and of supplies to end-users with a demand of 100,000–500,000 cu m/y (interval metered consumers, i.e. commercial and small industrial consumers).
- Large consumers: in the large consumer segment the control areas are the relevant geographic markets. EconGas leads the market for the supply of end-users with an annual demand upwards of 500,000 cu m (industrial consumers) and power stations in the Eastern control area, followed by STGW. Tigas and VEG are the market leaders in the Tyrol and Vorarlberg control areas, respectively.

## **Integration with transmission and distribution operations**

Non-integrated newcomers to the Austrian transmission and distribution markets are not CE Oil and Gas Trading and Germany's Wingas. All the other suppliers are affiliated with Austrian transmission and distribution operators. Wingas is a German integrated company which operates in the transmission and storage markets.

## **Integration with production and trading operations**

OMV Gas is the only Austrian gas producer integrated with a trader; it holds 50% of EconGas. RAG only markets its own gas output. RAG is 75% owned by RAG Beteiligungsgesellschaft, in which the Austrian gas retailers EVN AG (50.05%), STGW (10%) and Salzburg AG (10%) hold interests — a case of backwards integration.

## **Switching rate and transfer process**

The switching rate (in volume terms) was approx. 4.7% during the 2003–2004 gas year.

There were variations between grid areas and customer segments. The highest switching rate was in the Vienna grid area, while Tyrol and Vorarlberg registered no supplier transfers at all. The churn rate for the domestic segment was below 1%, but was considerably higher for interval metered consumers.

The transfer process in the domestic transportation market (excluding transit<sup>19</sup>) is governed by a regulatory order (the “Transfer Order”) issued under the Natural Gas (Amendment) Act. The transfer process takes at least five and not more than eight weeks.

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<sup>19</sup> Not regulated.

## **5. Security of supply**

### **5.1. Electricity (Article 4)<sup>20</sup>**

#### **Current and forecast electricity demand**

Last year total electricity demand excluding pumped storage was 66,776 GWh. Peak load was approx. 9,000 MW in 2004.

Imports were 16,629 GWh and exports 13,548 GWh during the period.

Maximum electric capacity was 18,610 MW.

Electricity demand is currently forecast to grow by an annual average of 2.5% up to 2010.

#### **New generating capacity**

Investment in thermal power stations is expected to total some €630m and spending on large hydro generating stations (run-of-river and pumped storage) about €800m up to 2010. This spending will create about 800 MW in additional large hydro (nine projects) and 1,300 MW in new thermal capacity (three projects).

Apart from these large schemes, renewable capacity is currently being massively expanded. This type of capacity (small hydro, wind, biomass, etc.) is predicted to grow by some 1,300 MW over the 2004–2010 period. The table below shows authorised projects and new plants under construction.

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Figure 21: Evolution of installed capacity in Austria, 2000–2010 and 2005–2010 scenario<sup>21</sup>

Table 5.1

Security of supply evolution

	Peak electricity demand (GW) <sup>1</sup>	Available capacity (GW)	Forthcoming new plant (GW)		Plant completed minus plant closed in the year (GW)				
			authorised	under construction	coal and oil	gas	RES 2	CHP 3	nuclear
2000	9.22	18.24	n.a.	n.a.					no plant
2001	9.34	18.16	n.a.	n.a.			- 0.08		no plant
2002	8.91	17.81	n.a.	n.a.	- 0.3	- 0.19	0.14		no plant
2003	8.79	18.10	n.a.	n.a.			0.29		no plant
2004	8.96	18.70	0.04	0.59		0.10	0.50		no plant
2005	9.27	19.02	1.89	0.04					
2006 **	9.58	19.08	0.06	1.90					
2008 **	10.19	20.90	0.09	0.06					
2010 **	10.50	22.01	-	0.09					

<sup>1</sup> Peak demand without pump storage

(Leistungsmaxima des Inlandsstromverbrauchs an 3.Mittwochen ohne Verbrauch für Pumpspeicherung in der gesamten Versorgung)

<sup>1\*</sup> Total installed capacity

<sup>2</sup> Estimated

<sup>3</sup> Included in others

\*\* Estimate for 2010: from 10,0GW to 10,5GW

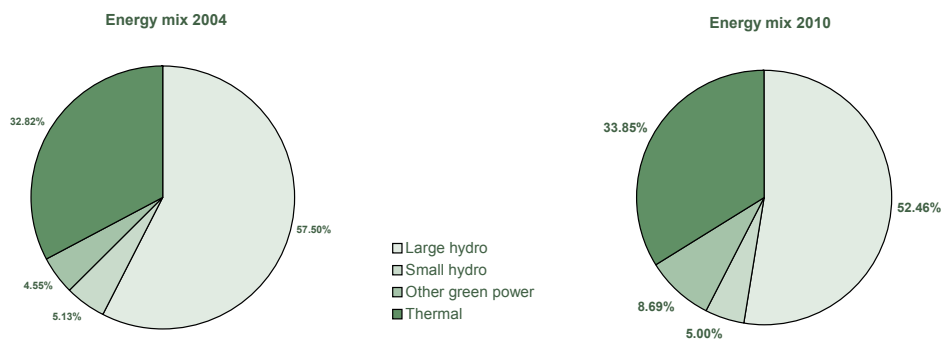
Source: E-Control

E-Control anticipates that the increase in capacity will be offset by about 350 MW in fossil fuel fired thermal power station retirements over the same period. Hydro power developments are subject to uncertainty due to the Water Framework Directive (2000/60/EC).

The charts below show the expected trend in the Austrian generation energy source mix.

<sup>21</sup> Estimated from 2005 onwards.

Figure 22: Energy source mix scenario, 2004–2010



Source: E-Control

### Role of the regulator in security of supply

As the Austrian supervisory and regulatory authority, E-Control regards security of supply as a central issue in the post-liberalisation environment. Representatives of Austrian electricity companies and experts working at international level are contributing to an ongoing study entitled “Security and quality of supply in the liberalised electricity market”. E-Control carries out annual supply reliability surveys in cooperation with the industry (see section 3.1.3).

E-Control is aware of the importance of the planned “Styrian line” (to fill the gap in the 380 kV loop) and supports its construction (see below).

Pursuant to the Energielenkungsgesetz (Energy Emergency Powers Act), E-Control prepares annual ten-year supply forecasts. These are based on demand estimates and existing generating capacity. The 2003 forecast indicated that Austria would not need large amounts of additional capacity until near the end of this period.

### Activities related to security of supply

- Long-term forecasts;
- Regular market monitoring;
- Monitoring of unbundling with a view to ensuring that adequate levels of investment are maintained;
- Monitoring of supply reliability;

- Expert cooperation on the formulation of joint action plans at national and international level;
- An active coordinating role in the preparation of emergency supply measures under the Energy Emergency Powers Act.

### **Power station construction and approval procedures**

E-Control is not responsible for power station planning or approval. So-called “coordinated expansion planning” ceased with liberalisation. In other words there is no longer any mechanism for joint planning of network and generating capacity. The rehabilitation or expansion of generating capacity is a matter for the investors to decide.

Numerous formal and substantive requirements must be met to build and operate generating stations. The legal basis for the necessary approvals lies in the relevant substantive legislation. In line with the separation of powers under Austria’s federal constitution, this may either be federal or provincial legislation, and its enforcement may be a federal or provincial responsibility. Some projects are subject only to reporting duties. Projects requiring approvals under the General Administrative Procedure Act may be affected by a variety of areas of law, from water and electricity through to trade, construction, regional planning or employee protection law. This means that in the course of assessments in accordance with the various substantive laws a variety of procedural provisions may be applied, and hence different authorities may be responsible for the procedures in question.

There are simplified procedures for new plants that fall below certain capacity thresholds. These mainly apply to renewable generating stations. The approval process normally takes between six and 18 months. The length of the procedures is undoubtedly unsatisfactory from a security of supply perspective.

### **Current infrastructure projects**

Action is urgently needed to upgrade Austrian network infrastructure. Of particular importance are the South Burgenland-Kainachtal and St.Peter-Salzach projects.

The control area manager is hoping to start on work on the construction of the missing 380 kV line section from southern Burgenland to Kainachtal (“Styrian line”, see section 3.1.2) in the near future. The environmental impact assessment was favourable, but appeals against the approval notice are pending. The proceedings are currently before the court of last instance. Completion is said to be possible by 2008.

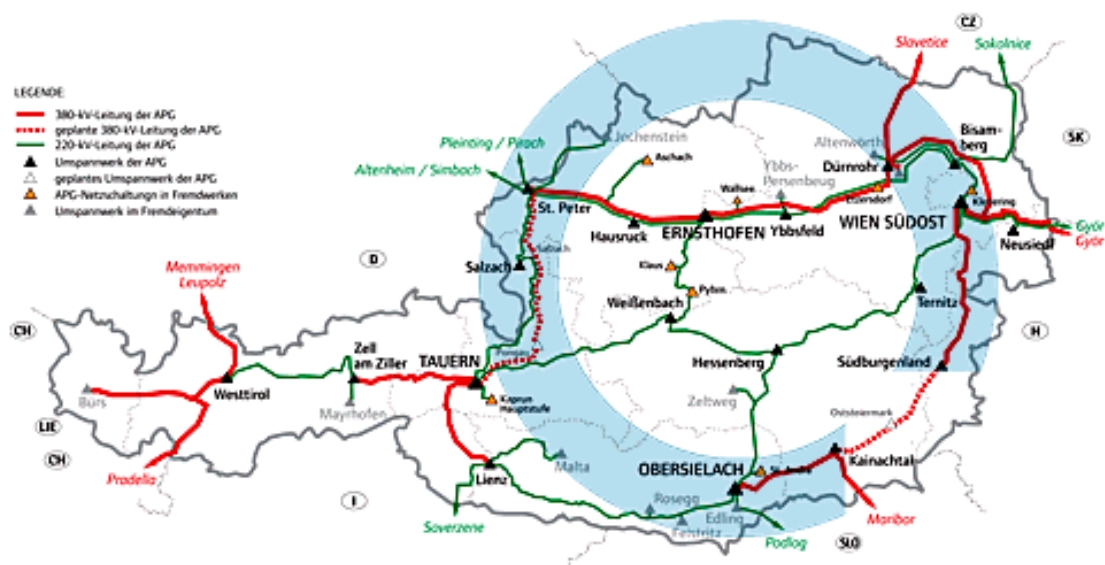
Another step towards closing the gaps in the 380 kV loop in the Verbund APG control area would be an additional north-south line (“Salzburg line”) which is currently at the planning stage. The approval procedure was recently initiated.

The main arguments for the national network expansion projects are electricity demand growth and new wind power capacity.

Various projects for 380 kV interconnectors with neighbouring countries are under discussion, but action on these lines has not yet been taken.

The planned “Styrian line” is particularly vital in the light of Austria’s role in UCTE interconnected system and of international security of supply considerations.

Figure 23: Gaps in the 380 kV loop



Source: APG

## **5.2. Gas (Article 5)**

### **Current and forecast domestic gas demand**

In 2004 total natural gas demand in Austria was some 8.58bn cu m/95,016 GWh<sup>22</sup>. An increase of 0.5% in comparison with forecast demand in 2005 is predicted for 2006. If planned gas fired power stations are actually built demand is likely to jump by 10% in 2008 and 9% in 2010 (in both cases, on the basis of the forecast for 2006)<sup>23</sup>

### **Current and forecast transport capacity**

Maximum import capacity for domestic use in the Eastern control area is approx. 17 GWh. Austrian imports totalled some 400 TWh in 2004. With domestic consumption in the Eastern control area running at some 90 TWh, the ratio of transit volume to locally consumed gas was around 4:1 (see section 4.2.1).

According to AGGM congestion is anticipated on the following transportation systems:

- TAG                                from the 2005 gas year onwards
- Upper Austria                from the 2006 gas year on
- South                              from the 2006 gas year on
- Styria                             from the 2007 gas year on

About 19% of demand was met by domestic production in 2003. There are no production capacity forecasts.

### **Projects**

Implementation of the long planned project for a link between the WAG transit line (Bad Leonfelden branching point) and Linz will ease congestion in Upper Austria.

AGGM has carried out a feasibility study on measures to increase transport capacity in southern Lower Austria, Styria, Burgenland and Carinthia in cooperation with the transmission system operators concerned.

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<sup>22</sup> Supply to final consumers; total domestic demand including own use and system losses in 2004: approx. 8.99bn cu m/99,553 GWh (source: E-Control).

<sup>23</sup> Estimates by AGGM.

The capacity of the TAG transit system is to be further expanded. Under a commitment given to the European Commission<sup>24</sup>, the TAG's capacity is being increased by 6.5bn cu m/y. Studies on possible further expansions — aimed, among other things, at meeting growing Austrian demand — have not yet been carried out.

A capacity expansion project for the WAG transit system is at the planning stage. Gazexport has contracted OMV to carry an annual 4.4bn cu m of Russian gas across Austria from Baumgarten on the Slovak border to Überackern (near Burghausen) on the German border up to 2027. OMV will invest about €260m in the massive expansion of the capacity of the WAG system required by this agreement. The project will be executed in three stages, and will raise the pipeline's capacity from 7 to 11bn cu m/y. The first expansion stage, adding to 1.9bn cu m/y to capacity, is due to come online in autumn 2007. Commissioning of the second stage, which will step up capacity by a further 0.6bn, is scheduled for 2008, and the final 1.44bn cu m/y stage is to be completed in 2011.

An international project is the planned construction of the 3,300 km Nabucco pipeline. The partners are OMV (Austria), MOL (Hungary), Bulgargaz (Bulgaria), Transgaz (Romania) and Botas (Turkey). Commissioning is planned for 2011. The purpose of the pipeline is to transport gas from Azerbaijan, Turkmenistan or Iran via Turkey to Baumgarten in Lower Austria.

RAG AG plans to build a new storage facility at Haidach. RAG, Germany's Wingas and Russia's Gazprom signed the agreement on Austria's largest gas storage project to date on 13 May 2005. At 2.4bn cu m the capacity of the facility, to be built and operated by RAG, would be equal to one-third of annual Austrian gas demand. Commissioning is planned for 2007. Implementation depends on construction of the Austria-Bavaria-Gasleitung pipeline from Haidach to Burghausen in Bavaria, where there is a German gas hub. The investment would total some €250m.

### **Role of the regulatory authority**

The Austrian regulatory authority's involvement in infrastructure issues includes approval by the Energy Control Commission of the control area managers' long-term plans (see section 4.1.2) in order to identify future capacity shortages. The cost of investments in expansion projects is covered by the network tariffs set by the regulatory authority. The regulator determines these costs during its tariff review procedures.

The network tariffs also cover the cost of reliable operation and maintenance of the pipeline systems. Beyond the short-term issue of reliable system operation at current supply levels, E-Control and the Energy Control Commission also have a limited role

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<sup>24</sup> Settlement between Eni and DG Competition (Case Comp/E-4/37.881 – Territorial Restrictions).

in the area of long-term security of supply (as defined by ability of the industry to supply final customers with the full amount of gas demanded at reasonable prices at all times). This mainly relates to their market monitoring functions, and neither is empowered to intervene actively to safeguard security of supply. The authority to intervene in the gas industry is the sole preserve of the Minister of Economics and Labour, on the basis of the Energy Emergency Powers Act. The Minister can take action by decree in response to an impending or existing disruption of Austrian energy supply. Beyond the recognition of operators' costs during network tariff review procedures, explicit regulatory incentive systems are not used to promote the construction of new infrastructure and/or production increases.

The average frequency of supply interruptions per consumer is not at present calculated on the basis of the statistical data available to the regulator in order to monitor **security of supply as an aspect of service quality**. However, starting in 2005 these figures will be calculated pursuant to section 4(1)(h) Gas Statistics Order.

## **6. Public service issues and consumer protection — labelling (Article 3[9] electricity and 3[6] gas)**

### **Special feature: labelling**

Power labelling was made compulsory for electricity retailers in 2000. Amendments to the labelling provisions made when the Green Electricity Act was passed in 2002 entered into effect on 1 July 2004 (see sections 45 and 45a EIWOG).

The main features of the Austrian arrangements are:

- An obligation on the part of all suppliers to inform consumers as to the previous year's mix of primary energy sources, at least on the annual statement;
- An obligation to report the primary energy mix as a retailer mix;
- Supply to final consumers during the reference period as the basis of calculation;
- Freedom to furnish proof of origin exclusively by means of certificates of origin or certificates issued by accredited bodies (mainly for electricity derived from fossil fuels).
- Application of the UCTE mix to electricity of unknown origin.

Due to the high proportion of renewables in the Austrian power mix, certificates of origin (in the meaning of Article 5 Directive 2001/77/EC and section 8 Green Electricity Act) are the main basis for power labelling.

In order to exclude fraudulent behaviour, such as the double issue or use of certificates, the Austrian regulator maintains a database that enables system operators to issue certificates of origin and retailers to perform their labelling electronically. Although use of the database is voluntary, the certificates for most electricity generated from renewable sources are managed in this way.

Foreign certificates can also be employed for power labelling provided that they meet the legal requirements. Since many EU member states have not yet fully implemented the Community rules on certificates of origin and power labelling, foreign certificates represent a relatively small proportion of the total.

E-Control has been appointed as the watchdog for the power labelling system. In the run-up to the introduction of the labelling regime the regulator developed rules in conjunction with the companies affected, certification bodies and NGOs. These rules and best practice recommendations are set out in a handbook for market participants. Apart from the national legislation this document also reflects European Commission's power labelling recommendations. For instance, it was possible to agree on a standardised mode of presentation (tabular and graphical), so as to make it easier for consumers to compare suppliers.

In May and June 2005 the regulator carried out a comprehensive review of power labelling, and reached highly positive conclusions.

Initial experience has shown that suppliers are increasingly using power labelling as an opportunity to differentiate themselves in terms of quality. Active power labelling (use of certificates as opposed to statistics or other evidence) is essential if the information is to be credible for consumers. This naturally depends on the existence of an appropriate information system such as the Austrian certificate database.

The Austrian system is highly advanced in terms of the source of the information (certificates of origin) and the manner in which it has been implemented. However database supported information exchanges with other countries have made less progress, and need to be improved in future in order to prevent fraud and competitive distortions.

### **Compliance with Annex A Directives 2003/54/EC and 2003/55/EC**

No special measures were taken to protect consumers after liberalisation of the Austrian electricity and gas markets as Annex A of Directives 2003/54/EC and 2003/55/EC had already been transposed by general consumer legislation. However specific legislation designed to enhance consumer protection and transparency is currently being drafted.

At present there is no system in Austria for the reimbursement or compensation in cases of justified complaints.

In the interests of the transparent, simple and inexpensive settlement of disputes there is a separate arbitration panel which is located at the regulator's premises.

In the gas industry the general duty of system operators to provide connections is limited to the extent that customers' installations must be connected to the distribution network at a technically suitable point, and that connections may not be detrimental to the economic interests of the system operator.

### **No retail price regulation**

Due to full market opening there is no regulation of electricity or gas retail prices. Neither is there a supplier of last resort. By the same token suppliers are not obliged to make supply agreements with consumers who have been turned down by other suppliers.