MARKET REPORT 2012
NATIONAL REPORT TO THE EUROPEAN COMMISSION

E-CONTROL

A better deal – wherever energy is exploring new paths

A BETTER DEAL –
WHEREVER YOU NEED ENERGY

Contents

Major developments in 2011

Electricity and gas markets in figures

In 2010 electricity made up 19.4% of final energy consumption (second-largest share after oil and oil products), and gas 17.1% (third-largest share).

Electricity industry: Key indicators

Total domestic electricity consumption edged down by 0.2% year on year, to 68,823 GWh in 2011. *Table 1* shows the supply and demand balance for the electricity industry in 2011 and the changes from 2010. Gross electricity generation shrank by 7.6%; generation by hydro and thermal power stations, as well as wind farms and photovoltaic arrays, decreased. As regards cross-border exchanges of electricity, physical imports were up by 25.4% to 24,972 GWh, while exports dropped by 4.0% to 16,777 GWh.

The fall-off in demand was relatively minor, and almost exclusively due to economic factors, as climatic influences alone would have resulted in a decline of 0.5-1.0%.

ELECTRICITY SUPPLY AND DEMAND BALANCE, 2011		
	GWh (2011)	Veränderung zu 2010
Gross electricity generation	65,688	-7.6%
Physical imports	24,972	+25.4%
Physical exports	16,777	-4.0%
Consumption for PSP	5,060	-
Domestic electricity consumption	68,823	-0.2%

Table 1: *Electricity supply and demand balance, 2011*
Source: E-Control

Gas industry: Key indicators

Table 2 sets out the gas industry's supply and demand balance in 2011, and changes compared with 2010. Total domestic natural gas supplies to consumers fell by 6.3% year on year, to 95,634 GWh.

Imports and exports rose sharply, by 17.1% and 14.1% respectively, while domestic production dipped by 1.9%. During the reporting period a net total of 22,069 GWh of gas was injected into storage, following net withdrawals of 7,934 GWh in 2010. Increased injection largely reflected the filling of the Haidach and 7Fields facilities.

GAS SUPPLY AND DEMAND BALANCE, 2011			
	m cu m (2011)	GWh (2011)	Change vs. 2010
Imports	43,628	488,199	+17.1%
Production	1,683	18,837	-1.9%
Withdrawals from storage	2,863	32,042	-16.4%
Exports	34,358	384,467	+14.1%
Injection into storage	4,836	54,112	+78.1%
Own use, losses and system losses; statistical adjustments	435	4,865	
Supplies to consumers	8,546	95,634	-6.3%
Max. daily consumption	46.7	523.0	
Min. daily consumption	9.1	102.2	

Table 2: *Gas supply and demand balance, 2011*
Source: E-Control

Price trends in 2011

After slowing in 2009 (as compared to the previous year), inflation accelerated in 2010 and 2011, averaging 3.27% in the latter year. Electricity prices rose by 0.1% and gas prices by 8.6% in 2011 *(Figure 1).* Gas prices played a growing role in stoking overall inflation, due to a wave of increases that began in April 2011.

CHANGE IN CPI VS. ELECTRICITY AND GAS PRICE INDICES

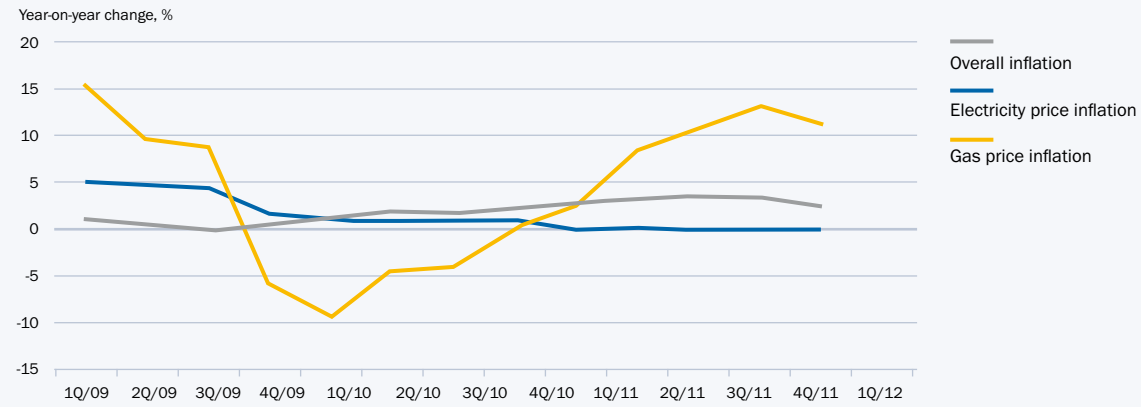

Figure 1: *Changes in the overall consumer price index (CPI), and the electricity and gas price indexes, year on year (2000 = 100)*
Source: E-Control

Key market developments in 2011

DEVELOPMENT OF THE REGULATORY FRAMEWORK

New legal framework for the Regulatory Authority: E-Control Act

The *Energie-Control-Gesetz* (E-Control Act)[1], replacing the *Energie-Regulierungsbehördengesetz* (Energy Regulatory Authorities Act)[2] , came into force at the same time as the *ElWOG* (Electricity Act) 2010.[3] The commencement of the *GWG* (Natural Gas Act) 2011[4] necessitated the first amendment to the E-Control Act.[5] Like the other two acts, the latter owes a strong debt to recent legislative developments at EU level. Both the third Electricity Directive[6] and the third Gas Directive[7] stipulate that only one national regulatory authority may be appointed. Before the E-Control Act took effect there were two regulatory authorities, in the shape of E-Control and the E-Control Commission.

The new legal position is that there is only one authority in charge of regulating the electricity and natural gas industries, namely Energie-Control Austria (E-Control). As E-Control is now a public authority it has three governing bodies – the Executive Board, the Regulation Commission and the Supervisory Board. This new structure brings Austria into line with the independence requirements of the third energy package.

Executive Board

Under the new legislation E-Control is run by an Executive Board with two members instead of a sole managing director. The Board was appointed by the Minister of Economy, Family and Youth on 25 March 2011, for a period of five years. Its remit covers all matters that are not the statutory responsibility of the Regulation Commission and Supervisory Board. The substantive legislation – the Electricity Act 2010 and Natural Gas Act 2011 – creates a wide array of new powers that are assigned to the Executive Board in this way. The Board is mandated with certifying transmission system operators, monitoring unbundling compliance, and approving and monitoring network development plans. It is empowered to issue various types of secondary legislation. These range from the ordinance laying down the procedure for supplier switching to those governing power labelling, some aspects of smart metering, and the quality standards for system services.

Regulation Commission

The Regulation Commission consists of five members appointed by the federal government, one of whom must be a judge. Like the Executive Board, the commissioners serve five-year terms. Their duties include arbitrating in disputes, prohibiting unlawful general terms and conditions (GTC), ruling on refusals of network or storage access, and determining storage charges. The Commission establishes the system charges by ordinance. It also acts as an appeals body in the procedure for setting system operators' allowed costs, and is assisted in this role by an independent unit within E-Control secretariat. The general function of acting in appeals against official decisions of the Executive Board (formerly Energie-Control GmbH) under the old legislation has been greatly restricted.

Supervisory Board

The Supervisory Board is charged with overseeing the E-Control Executive Board. It is made up of a chair, his/her deputy and two other members. It, too, is appointed for five years.

[1] Federal Act on the Regulatory Authority for the Electricity and Natural Gas Industries (E-Control Act), Federal Law Gazette (FLG) I No. 110/2010.
[2] Federal Act concerning the tasks of regulatory authorities in the electricity and natural gas sector and the establishment of Energie-Control GmbH and the Energie-Control Kommission (Energy Regulatory Authorities Act), FLG I No. 121/2000.
[3] Federal Act providing new rules for the organisation of the electricity sector (Electricity Act 2010), FLG I No. 110/2010.
[4] Federal Act providing new rules for the natural gas sector (Natural Gas Act 2011), FLG I No. 107/2011.
[5] FLG I No. 107/2011.
[6] Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, OJ L 211/55.
[7] Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC, OJ L 211/94.

Electricity Act 2010 and Natural Gas Act 2011

The *Elektrizitätswirtschafts- und –organisationsgesetz* [Electricity Act] 2010 (EIWOG 2010) came into force on 3 March 2011. The *Gaswirtschaftsgesetz* [Natural Gas Act] 2011 (GWG 2011) entered into effect on 22 November 2011. These new statutes aligned Austrian energy regulation law with the EU's third energy package, and in particular the third electricity and gas directives. The secondary ordinances provided for by the acts have either already been enacted or will come on to the statute book before the end of 2012. They concern the quality standards to be met by system operators and gas market monitoring, among other matters.

Like its predecessor, the Electricity Act 2010 reflects the devolution of powers in Austria, and therefore contains a large number of constitutional and framework provisions. The latter required provincial implementing legislation, for which the enactment deadline was 24 June 2011. The main changes introduced by the two acts relate to unbundling, the system charges and consumers' rights. The Natural Gas Act 2011 also makes significant changes to the market model.

New gas market model

The changes to the Austrian gas market model are also largely due to legal developments at European level. The second Gas Regulation[8] states that system charges may no longer be calculated on the basis of contract paths. This provision introduces the so-called "entry-exit" system, and entails a redesign of the entire gas market model which is to be implemented by 1 January 2013.

The former control areas are giving way to market areas. These will consolidate the systems of different operators, permitting flexible use of booked capacity at predefined entry/exit points. As a result, it is entry and exit capacity that will be booked, not transport routes.

The introduction of a virtual trading point (VTP) is designed to improve gas trading liquidity. VTPs are virtual points in market areas where gas can be traded after being injected into the latter and before being withdrawn from them. They are not assigned to physical entry or exit points, and enable buyers and sellers to trade gas without making transport capacity reservations.

New market participants have been created to manage this system: market area managers, which are responsible for market areas with transmission pipelines; distribution area managers, which assume the functions of the former control area managers in the distribution areas; and the VTP operator.

The legal basis of the new market architecture (rules for network access, capacity management and the balancing system) is set out by the *Gas-Marktmodell-Verordnung* [Gas Market Model Order] 2012 (GMMO-VO 2012), published in the Federal Legal Gazette (FLG) on 29 May 2012.

[8] Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005.

New balancing regime due for introduction on 1 January 2013
In future the virtual trading point will play a central role in balancing energy procurement. Under the new balancing model the call-offs, and hence pricing, will be the responsibility of both the market area manager and the distribution area manager (on behalf and for the account of the clearing and settlement agent), and will be made via the gas exchange at the VTP. The distribution area manager will have the option of meeting its balancing energy needs by means of call-offs from a merit order list (offers ranked by price) if too little balancing energy is offered on the VTP.

The new balancing energy model is based on the Framework Guideline on Gas Balancing in Transmission Systems, and introduces a daily balancing regime. Nevertheless, at the market area level there is still a need for hourly incentives for market participants to submit balanced schedules.

The model also provides for daily balancing for all consumers without load profile meters, in accordance with section 18(5) Gas Market Model Ordinance 2012. However, balancing for load profile metered consumers continues to be on an hourly basis (in accordance with section 18(6) Gas Market Model Ordinance 2012), and some of these consumers can elect to switch balancing regimes (under section 18[7] Gas Market Model Ordinance 2012).

Monitoring compliance of transmission and storage system operators with regulation (ec) no. 715/2009
Since 3 March 2011 transmission and storage system operators have been subject to stricter rules with regard to transparency and third-party access. During the reporting period E-Control investigated compliance with these rules for the first time. We developed interpretation principles for implementation in the storage market which reflect our legal opinion, and established minimum requirements. The Natural Gas Act 2011 also provides for the development by the market area manager of an online platform to be used to fulfil all of the transparency duties centrally.

In addition, E-Control assessed cooperation on the regional investment plans and drafting of the Community-wide ten-year network development plan drafted by the European Network of Transmission System Operators for Gas (ENTSOG).

Electricity balancing market
At the start of 2011 the Vorarlberg grid area – until then a separate control area – was merged with the Eastern control area; APG is now the only control area manager in Austria. At the same time a legal framework was created for the introduction of market-based procurement of secondary control in 2012. Balancing energy costs in the APG control area fell by € 4.3 million (m) year on year, mainly as a result of the low overall level of market prices.

System charges

The *Systemnutzungsentgelte-Verordnung* [System Charges Ordinance] 2012 cut the system charges in the **electricity market** by an average, across all network levels, of only 0.5%. The 2012 tariff review saved consumers about € 8m as compared to the previous year. Since the start of E-Control's regulatory activities in 2001, consumers' electricity bills have been cut by over € 600m in this way. After sliding in recent years because of the economic and financial crisis, sales volumes picked up somewhat, easing the upward pressure on tariffs. Nevertheless, continued investment needs will limit the leeway for reductions in the electricity system charges over the next few years, and a slight increase is likely instead.

The *Gas-Systemnutzungstarife-Verordnung* 2008 Novelle 2011 (2008 Gas System Charges Order [Amendment] Ordinance 2011) introduced adjustments to the system charges commencing at the beginning of 2011. The combined effect of the main variables in the calculation – investment activity, the change in the reference volume and the incentive regulation parameters – was a national average reduction of 1% in the system charges as compared to the previous year. The system charges for a typical household consumer with an annual consumption of 15,000 kWh have been cut by over 5% since full liberalisation of the Austrian gas market in October 2002.

Under the Natural Gas Act 2011, from 1 January 2013 the transmission charges will be based on an entry/exit system instead of the current contract paths. An evaluation of the approved methods for calculating transmission tariffs was also launched in 2011. The present system was introduced in 2007, and E-Control must conduct a review every four years.

Intensive preparations are under way in the run-up to redesign of the systems for the upcoming incentive regulatory periods for gas and electricity distribution systems. Although top priority will again be given to key regulatory goals such as security of supply and efficiency, attention must also be paid to ensuring that energy companies can operate in a stable regulatory framework and a secure investment environment that offers reasonable returns on invested capital. While the parameters for the second regulatory period in the gas industry, due to begin in 2013, will be similar to those in the first, and the efficiency targets for the firms will be unchanged, the regulatory model for the electricity distribution networks is currently undergoing a rethink and a completely new approach will be taken in the third period.

PRICE TRENDS ON THE AUSTRIAN ELECTRICITY AND GAS MARKETS IN 2011

Wholesale price trends

Electricity market

Spot price volatility on the Austrian and German power exchanges was comparatively moderate in 2011. This was because prices were caught between opposing forces. Prices advanced on international energy markets, with oil leading the way, but a relaxed supply situation and good power station availability dampened electricity price expectations in the first quarter of 2011. Germany's energy policy overhaul and the shutdown of some of the country's nuclear power plants at the end of March pushed prices up in the spring. Prices on the day-ahead market fell back sharply with the onset of summer, while in the autumn there was no clear trend.

Fears of shortages and price run-ups at the start of the winter were soon calmed by above-average temperatures. As a result, spreads between 2011 one-year futures contracts and spot market prices were relatively narrow. The net result of the markets' mixed mood was that average day-ahead baseload prices for the year were almost identical to those for 2011 baseload futures (average for the 2009-2010 trading period).

On the **futures market,** prices are driven by traders' expectations. The rise in futures prices after the announcement of the German nuclear power moratorium was very pronounced, and was amplified by firming gas prices. For some days the volume of annual contracts traded on the EEX power exchange was very heavy because of the sudden uncertainty about the future course of German nuclear power policy and the high upside price risk.

At the start of the year electricity futures were given a lift by the carbon market. However, after a brief upturn the market for CO_2 emission allowances completely collapsed towards the end of the second quarter on reports of a huge overhang of allowances, and expectations that this would persist at least until the end of the second phase of the ETS in part due to EU energy efficiency initiatives.

Because of weak CO_2 allowances, mounting recession fears and the relaxed mood on the gas market due to the mild winter, electricity futures came off sharply in the second half of 2011. The tone on most of the energy futures markets was bearish in the autumn owing to the economic situation. Futures market prices for CO_2 allowances were again the strongest indicator of economic worries. The forecast demand for allowances slid further in the second half of 2011 as fears of a double-dip recession surfaced. A surplus of emission allowances for industry is expected in 2012, which in turn would depress prices. Electricity futures were also hit by the euro crisis and relatively low coal prices towards the end of 2011.

The spread between baseload and peakload contracts has narrowed markedly over the past few years. This is partly because the make-up of generating capacity has steadily changed, particularly as regards increased PV infeed. As a result, the noon peak has flattened out, especially in summer. It is also because baseload and peakload prices tend to be closer together at times of low prices than during high-price phases.

Gas market

Austrian wholesalers purchase most of their gas under long-term contracts. However, liquidity at the European trading hubs grew in 2011, and has done so again in 2012, making them a realistic procurement option. This trend is also influencing the long-term contracts. Following negotiations between the wholesalers and their upstream suppliers, in some cases prices at the hubs have been built into the price formulas in the long-term agreements.

Nevertheless, **overall import prices** were up 20% year on year in 2011. The increase largely reflected the trend in the prices under the oil-indexed long-term contracts.

Due to the direct transport links with Germany and Italy, prices on the Austrian CEGH market are driven by trends at the German NCG trading point and the Italian PSV. Over time, prices on the CEGH market are generally higher than those at the NCG, but well below PSV levels. Prices at the PSV tend to lift quotations on the CEGH market.

Gas spot prices initially advanced in 2011, on the back of oil price rises driven by the unrest in Egypt and Libya. The Japanese earthquake had a major impact at first, due to expectations that LNG would be diverted to Japan to make up for the lost output of nuclear power plants by boosting generation at gas-fired power stations. Market nerves over events in Libya and Japan did lead to a price run-up at the hubs, but this was mainly down to short-term psychological factors, and prices ebbed in the second quarter. Spot prices bounced back strongly at the start of August, gaining € 4/MWh at their peak, but the rally was driven by the financial crisis and lacked fundamental support.

The sharpest recent rise in spot prices, at the start of February 2012, was caused by a cold spell throughout Europe and cutbacks in long-term contract deliveries from the Russian upstream supplier. For several days prices on the CEGH market topped those under the oil-linked long-term agreements, but in terms of the average levels for February as a whole they were still lower. Increased withdrawals from storage prevented spot prices from taking off.

Futures prices rose year on year in 2011. Futures (month ahead) prices trailed spot tags in March due to the events in Japan, and backwardation reappeared in August and September. Gas for delivery in 2011 bought on the futures market in 2010 (one-year contracts purchased on the TTF market) was cheaper than spot gas procured in 2011.

Spot and futures prices remained far apart from those established by the long-term contracts, and the gap continued to put the Austrian wholesalers under pressure. In 2011 direct imports were 13% dearer than short-term procurement on the CEGH spot market. The cost of annual contracts on the TTF market was almost 30% lower than the average import price.

Retail price trends

The **electricity** suppliers raised their prices for household consumers in 2011. The price cuts in the first half of 2012 followed on from the reduction in the cost to retailers of their mandatory offtake of renewable electricity, which they charge on to their customers. Wholesale prices declined in 2011.

Both small and large **gas** consumers faced price rises in 2011. Some suppliers raised their prices for household consumers twice in the course of the year. Both the number and the size of the increases was much greater than in 2010; some retailers raised their prices by as much as 20%. The price increases in January 2011 and 2012 were accompanied by changes in the system charges. Overall, the gas retailers upped their rates more steeply than their electricity counterparts. Prices also climbed on the wholesale market.

COMPETITION TRENDS

Electricity market

The number of nationwide suppliers was unchanged in 2011. As of June 2012 a total of 16 retailers were serving the mass electricity market throughout Austria. The largest number of suppliers in a single grid area was 17. There are still no foreign suppliers in this market segment.

In the individual contract segment, consumers can choose between up to 12 suppliers in theory, but in practice they can only receive six quotations at most, due to a lack of interest on the part of the other companies. Foreign suppliers have little market presence, and only consider customers with an annual offtake upwards of 10–20 GWh, and even this only at particular locations.

The opportunities for household consumers to make savings by switching electricity suppliers decreased as compared to 2010 (except in the Energie Graz and Steweag Steg grid areas). The overall switching rate, for both large and household consumers, shrank from 1.8% in 2010 to 1.5% in 2011. Some 1.6% of “other small consumers” changed their electricity suppliers in 2011 – also less than in 2010. In 2011 only 4.6% of load metered consumers switched; not since 2001 and 2002 has the churn rate in this segment been lower. The reasons for this lack of interest were the economic crisis and the fact that the price level was stable and relatively low.

The concentration scores for some segments of the Austrian electricity market are above the threshold levels that indicate a highly concentrated market. Concentration in the household and small business consumer segments decreased slightly year on year in 2011. There was a slight shift in market shares. The local players still exercise strong market power, but alternative suppliers have been gaining ground by making attractive offers aimed at specific provinces and new customers.

In the past few years many of the power utilities have formed sales subsidiaries that specialise in renewable electricity. Examples of green power subsidiaries set up by vertically integrated companies are Enamo Ökostrom GmbH, Linz Öko-Energievertriebs GmbH, Naturkraft (Energie Allianz), Salzburg Ökoenergie GmbH, Solar Graz, VKW-Ökostrom GmbH, and Wels Strom Öko, an Energie Graz operation established in June 2012.

Gas market
Key trends on the gas market were a larger number of suppliers and increased interest in market entry from new players, mainly from Germany. This reflected the fact that the incumbents are purchasing their gas on less favourable terms than new suppliers, due to conventional procurement under long-term contracts. The entrants can source gas from the trading hubs, and this allows them to undercut the incumbents' prices. There are seven nationwide suppliers on the household consumer market.

Consumer switching activity was also affected by sharp price increases – in some cases more than once in the course of the year – and the churn rate rose to 1.1% in 2011.

Nevertheless, the Austrian **small consumer market** (non-load metered consumers) remains highly concentrated. EnergieAllianz still dominates this segment, with a market share of over 60%, through its sales companies BEGAS, EVN and Wien Energie. EconGas remains the dominant player on the **large consumer market.**

The Austrian gas suppliers are still under pressure owing to the gap between prices at the trading points and those under long-term contracts. While the day ahead spot price on the CEGH market averaged € 23.84/MWh in 2011, the average import price was about 13% higher at € 26.10/MWh. The average futures price (month ahead) on the CEGH Gas Exchange was also below the mean import price, at € 24.53/MWh.

Like other European wholesalers locked in to oil-indexed long-term contracts, the Austrian gas suppliers are trying to overcome this handicap in a number of ways. EconGas is among the suppliers that have won price reductions during the regular price reviews that the long-term contracts provide for. STGW has pushed for cartel proceedings with a view to obtaining a contract containing more market-based elements. Other gas companies have reportedly taken their upstream suppliers to arbitration.

The Austrian electricity market

Network regulation

OVERVIEW OF THE ELECTRICITY GRID

At year-end 2011 the total length of the high voltage power lines in the Austrian public electricity grid was 17,624 km (system lengths), of which overhead lines made up 96% and underground cables 4% *(see Table 3)*.In 2010 there were three control area managers (APG, TIWAG Netz AG and VKW Netz AG) and some 130 distribution system operators, but with effect from 1 January 2011, the number of control area managers was reduced to two.[9]

OVERVIEW OF SYSTEM LENGTHS IN THE AUSTRIAN TRANSMISSION SYSTEM

Route lengths*

Voltage levels	Overhead lines		Underground cables		Total km
	km	% of total	km	% of total	
380 kV	1,374	0.6%	55	0.0%	1,429
220 kV	1,854	0.8%	3	0.0%	1,857
110 kV	6,004	2.5%	507	0.2%	6,511
1–110 kV	29,253	12.4%	36,272	15.4%	65,525
Up to 1 kV	37,614	16.0%	122,719	52.1%	160,332
Total	**76,099**	**32.3%**	**159,555**	**67.7%**	**235,654**

System lengths*

Voltage levels	Overhead lines		Underground cables		Total km
	km	% of total	km	% of total	
380 kV	2,783	1.1%	55	0.0%	2,838
220 kV	3,671	1.5%	5	0.0%	3,676
110 kV	10,460	4.2%	650	0.3%	11,110
1–110 kV	29,890	11.9%	37,798	15.0%	67,688
Up to 1 kV	38,546	15.3%	127,477	50.7%	166,023
Total	**85,350**	**34.0%**	**165,984**	**66.0%**	**251,335**

*including high and ultra-high voltage lines operated by publicly owned generators

Table 3: *Overview of system lengths in the Austrian transmission grid as of July 2012*
Source: E-Control

[9] TIWAG Netz AG and APG signed a partnership agreement in 2010, transferring TIWAG's duties as the control area manager to APG and merging the two control areas with effect from 1 January 2011.

UNBUNDLING OF SYSTEM OPERATORS

E-Control compliance report for the gas and electricity sectors

Pursuant to Art. 26 of Directive 2009/72/EC (Electricity Directive) and Art. 26 of Directive 2009/73/EC (Gas Directive), E-Control is empowered to monitor compliance with the unbundling requirements. The gas and electricity distribution system operators were required to submit their compliance reports for 2010 to E-Control by the end of the second quarter of 2011. In line with the statutory requirements, reports on all gas and electricity distribution system operators were published on the E-Control website. The unbundling requirements established by the Electricity Act 2010 and the Natural Gas Act 2011, which entered into force in March 2011 and November 2011, respectively, now apply, and there was no transition period. Sections 42 Electricity Act 2010 and 106 Natural Gas Act 2011 determined the focus of the regulator's assessment of compliance in the 2011 calendar year. This was mainly the degree of differentiation between distribution system operators and vertically integrated undertakings with regard to **communications activities and branding** (sections 42(6) Electricity Act 2010 and 106(3) Natural Gas Act 2011), and the **resources** at the distribution system operators' disposal (sections 42(3)(3) Electricity Act 2010 and 106(2)(3) Natural Gas Act 2011).

Communication activities and branding (corporate identity)

A distribution system operator must take steps to ensure that its corporate identity is clearly distinguishable from that of the retail business of the vertically integrated undertaking. When assessing the level of distinctiveness, the factors taken into account include the degree of similarity of the respective signs and logos used, and goods and services provided, the similarity of the sectors in which the respective companies operate, the distinctiveness of the respective brands, and any barriers to entry arising from the level of brand awareness. The likelihood of confusion is decisive in this regard. Logos and brands may judged to be similar in terms of the images used, and the meanings and sounds of words.

The impression made by the company name, wordmark and logo, patent-protected graphics and colour scheme must not lead the average consumer to believe that services are provided by the same company.

In 2011, **Vorarlberger Energienetze GmbH**, **LINZ STROM Netz GmbH** and **Austrian Power Grid AG** all stood out as positive examples of the design of logos and company names in the electricity sector. In the gas sector, **LINZ GAS Netz GmbH**, **Gas Connect Austria**, **Trans Austria Gasleitung GmbH** and **Baumgarten Oberkappel Gasleitungs GmbH** deserve praise for their distinctive corporate identities. It should also be noted that a number of system operators had plans to relaunch their communications and branding policies in 2012. The new policies were due to be presented in the second half of the year.

OVERVIEW

Gas			Electricity		
Group brand	2010 brand	2011 brand	Group brand	2010 brand	2011 brand
BEGAS Energievertrieb GmbH & Co KG	BEGAS Netz GmbH		BEWAG	BEWAG Netz GmbH	
Wien Energie Vertrieb GmbH & Co KG	Wien Energie Gasnetz GmbH		Wien Energie Vertrieb GmbH & Co KG	Wien Energie Stromnetz GmbH	
Linz AG	Linz GAS Netz GmbH		Linz AG	Linz STROM Netz GmbH	
Salzburg AG	Salzburg Netz GmbH		Salzburg AG	Salzburg Netz GmbH	
TIGAS-Erdgas Tirol GmbH	TIGAS-Erdgas Tirol GmbH		TIWAG-Tiroler Wasserkraft AG	TIWAG-Netz AG	
EVN Energievertrieb GmbH & Co KG	EVN Netz GmbH		EVN AG	EVN Netz GmbH	
KELAG Kärntner Elektrizitäts-Aktiengesellschaft	KELAG Netz GmbH		KELAG Kärntner Elektrizitäts-Aktiengesellschaft	KELAG Netz GmbH	
OÖ. Gas-Wärme GmbH	OÖ. Ferngas Netz GmbH		Verbund AG	Austrian Power Grid AG	
Steirische Gas-Wärme GmbH	Gasnetz Steiermark GmbH		Energie Steiermark AG	Stromnetz Steiermark GmbH	
OMV Gas & Power GmbH	OMV Gas GmbH (Gas Connect Austria)		IKB AG	IKB AG	
Eni International B.V. OMV Gas GmbH	Trans Austria Gasleitung GmbH		Vorarlberger Kraftwerke AG	VKW-Netz AG (Voralrberger Energienetze GmbH)	
E.ON Ruhrgas AG (15%) GDF SUEZ S.A. (34%) OMV Gas GmbH (51%)	Baumgarten Oberkappel Gasleitungs GmbH		Energie Graz GmbH & Co KG	Stromnetz Graz GmbH & Co KG	
			Energie AG Oberösterreich	Energie AG Netz GmbH	

Figure 2: *Differentiation of the branding of the retail operations of vertically integrated undertakings (VIUs) Status: 30. June 2012*

Allocation of resources

Arts. 26(2)(c) Electricity Directive and 26(2)(c) Gas Directive, and sections 42(3)(3) Electricity Act 2010 and 106(2)(3) Natural Gas Act 2011, specify that distribution system operators must have at their disposal the human, technical, physical and financial resources required to fulfil their functions (network operation, maintenance and development) efficiently, and have real decision-making powers, independent from the vertically integrated undertaking. The discriminatory disclosure of information related to system operators' activities, in particular to the benefit of the vertically integrated undertaking, must be avoided (section 11 Electricity Act 2010 and section 11 Natural Gas Act 2011), and the principle of non-discrimination observed pursuant to section 9 Electricity Act 2010 and section 9 Natural Gas Act 2011. This means that distribution system operators must avoid all potentially discriminatory processes.

By way of exception, vertically integrated undertakings may perform activities on behalf of their distribution system operators that are non-critical in terms of non-discrimination and the confidentiality of commercially sensitive data, in the same way as an independent third party (see explanatory notes to section 42(3) Electricity Act 2010 and section 106(2) Natural Gas Act 2011).

However, a distribution system operator wishing to outsource activities that are critical in terms of commercially sensitive data and non-discrimination may only do so to an independent third party and on the basis of a confidentiality agreement. Such tasks must under no circumstances be performed by the VIU.

The following are activities which **may** impinge on commercially sensitive data in the meaning of section 11 Electricity Act 2010 and section 11 Natural Gas Act 2011, and the principle of non-discrimination in the meaning of section 9 Electricity Act 2010 and section 9 Natural Gas Act 2011:

> Legal services and the activities of legal departments;
> Internal financial control, bookkeeping and accounting;
> Call centres, billing, receivables management and processing the termination of supply agreements;
> Human resources matters;
> Reading, maintenance and replacement of all meters and other equipment required for billing and system operation.

This does not preclude the creation of coordination mechanisms to protect the financial authority of the parent undertaking and its supervisory rights with regard to the profitability of a subsidiary pursuant to sections 42(4) Electricity Act 2010 and 106(2)(3) Natural Gas Act 2011. However, the procurement of a substantial number of processes and services from a vertically integrated undertaking may not make a system operator heavily dependent on the VIU.

In order to assess the actual allocation of resources to legally unbundled distribution system operators, in early 2012 E-Control distributed a questionnaire on the engineering, operational and organisational activities of distribution system operators. The companies were asked to state which activities were performed by the VIU, the distribution system operator or independent third parties as of 1 April 2012, and the technical and financial resources required to perform those activities (e.g. the structure of the distribution system operator's fixed assets).

In 2012 the Unbundling and Reporting Task Force (UR-TF), previously known as the Unbundling Benchmarking and Reporting Task Force (URB-TF), will carry out a cross-border survey of the resources available to and the branding of gas and electricity distribution system operators by means of a questionnaire which will be sent to the regulators in all EU member states. This survey will be aimed at ascertaining the current status of unbundling in the light of the national regulatory authorities' experience. The initial results are expected in autumn 2012.

MARKET MECHANISMS

Balancing market

Balancing of electricity generation and consumption in Austria is carried out in accordance with standard rules for transmission systems, by injecting and withdrawing control and balancing energy. It uses:

- Primary control energy (adjustments to generation within 30 seconds);
- Secondary control energy (adjustments to generation within five minutes);
- Tertiary control energy or "minute reserve" (adjustments within 10 minutes);
- Unintentional electricity exchanges with neighbouring control areas in the ENTSO-E interconnected grid where adjustments within a control area are insufficient or impossible.

A deviation from forecast supply or demand in a balance group gives rise to balancing energy. The net balancing energy in all the balance groups in a control area is the control energy demand that the control area manager must meet.

In 2011 the Austrian control and balancing energy market consisted of two control areas. The Vorarlberg grid zone (Vorarlberger Übertragungsnetz GmbH) formed a separate control area which belonged to the German ENTSO-E control block. The rest of Austria previously made up the Eastern control area (also known as the APG area) – an independent ENTSO-E control block. However, this sub-division of the Austrian grid ceased on 1 January 2012 when a cooperation agreement between Vorarlberger Übertragungsnetz GmbH and APG, making the latter the sole control area manager in the country, entered into force.

In contrast to the situation in most other EU member states, balancing energy in Austria is accounted for by an independent clearing and settlement agent appointed by the control area manager. In 2011 Austrian Power Clearing and Settlement AG (APCS) was responsible for this task in the APG control area, while *Ausgleichsenergie- und Bilanzgruppenmanagement AG* (A&B) fulfilled this function in Vorarlberg. The agreement between *Vorarlberger Übertragungsnetz GmbH* and APG will result in APCS assuming full responsibility for the financial settlement of balancing energy.

The balancing energy market is governed by the Gas Market Code, and the clearing and settlement agent's general terms and conditions (GTC). The latter also cover balancing energy pricing. The Gas Market Code is drawn up by the regulator in consultation with market participants, but responsibility for approving GTCs rests exclusively with the former. As these arrangements have been governed by section 11 *Verrechnungsstellengesetz* [Clearing and Settlement Agencies Act], it was not necessary to independently transpose Art. 37(8) Electricity Directive. These approval duties also applied to APG's procurement rules for secondary control until the end of 2011. At the start of 2012 this procurement mechanism was replaced by a competitive tendering procedure in accordance with section 69 Electricity Act 2010. APG began holding tenders for the primary control capacity required by its control area in 2010. The technical requirements that Austrian power stations must meet (e.g. the link with the controller and the response speed) make for a limited number of potential tenderers on the Austrian control energy markets.

Until the end of 2011 secondary control energy was supplied under bilateral agreements with power station operators. Generators were compensated retroactively for the secondary control energy called off by means of redelivery programmes, under which energy was procured on the EXAA power exchange. The supply of minute reserve has been subject to competitive tendering since late 2001. Bids are ranked by price in ascending order in the merit order list (MOL) and called off by the control area manager as required. Weekly market maker auctions are also held to ensure that the minute reserve market remains sufficiently liquid. Unintentional exchanges of electricity within the ENTSO-E interconnected grid are settled by way of a compensation scheme, run via the EXAA.

Balancing energy prices are established by the clearing and settlement agent at 15-minute intervals. They are made up of the following four components:

> Minute reserve called off from the MOL;
> The cost of the compensation for the secondary control energy provided by the control area manager's automatic load frequency control system;
> ENTSO-E exchanges (unintentional exchanges of electricity with neighbouring control areas);
> The market maker's fees.

Figure 3 shows the composition of the monthly balancing energy prices for the APG control area. The cost components are allocated to quarter-hourly balancing energy volumes using a predetermined price formula, and invoiced to the balance responsible parties. Suppliers must take account of balancing energy costs and the associated risk when setting their retail prices. However, none of the balancing energy cost components are directly charged on to consumers.

In 2011 total balancing power costs in the Eastern control area (excluding primary control energy) were € 18m, compared to € 22.3m in 2010. The lower overall market price level impacted the balancing market, reducing both costs and revenue.

AMOUNT AND COMPOSITION OF BALANCING ENERGY COSTS

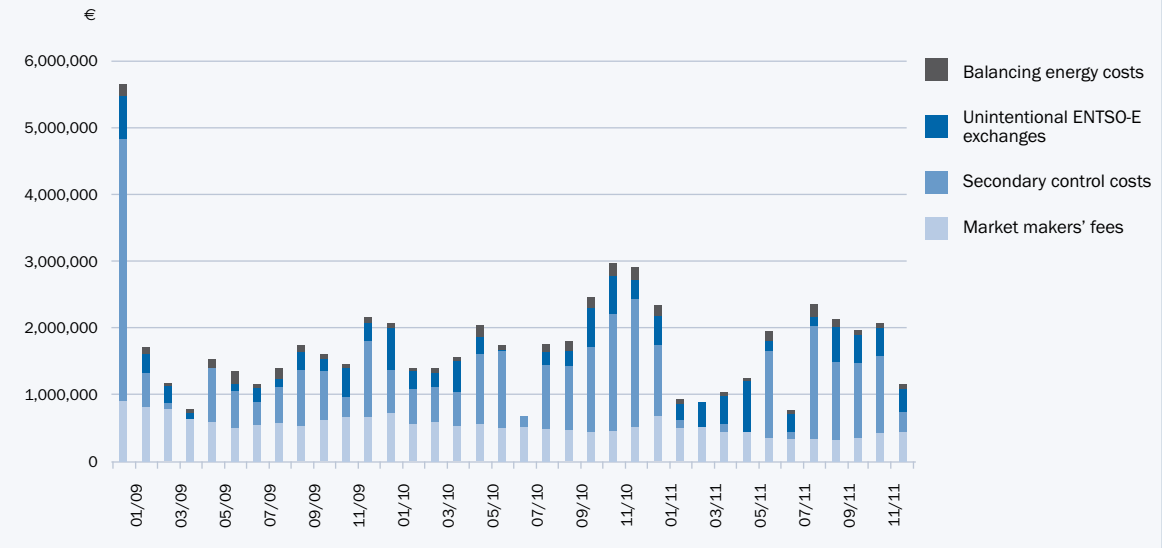

Figure 3: *Amount and composition of balancing energy costs in the APG control area (€)*
Sourcen: APCS, E-Control

Reliability and quality standards

Disturbance statistics

In line with the requirements of the Elektrizitätsstatistikverordnung [Electricity Statistics Ordinance], each year E-Control publishes the results of its analysis of the disturbances (i.e. supply interruptions) recorded in Austrian grid zones. Since 2002 the data required for these reports have been collected in collaboration with the country's system operators and the Austrian electricity industry association, Oesterreichs Energie. All of the country's system operators have participated in the survey since 2003, permitting comprehensive monitoring of supply reliability. A decline in performance in a given year is quickly spotted, triggering a rapid response.

Austria comes out very well in international comparisons. *Figure 4* gives an impression of the widely varying results of reliability surveys in Europe. However, differences in data collection methods, and in some cases incomplete data, mean that there are limits to the usefulness of such comparisons.

UNPLANNED ELECTRICITY SUPPLY INTERRUPTIONS (SAIDI), 2009–2011

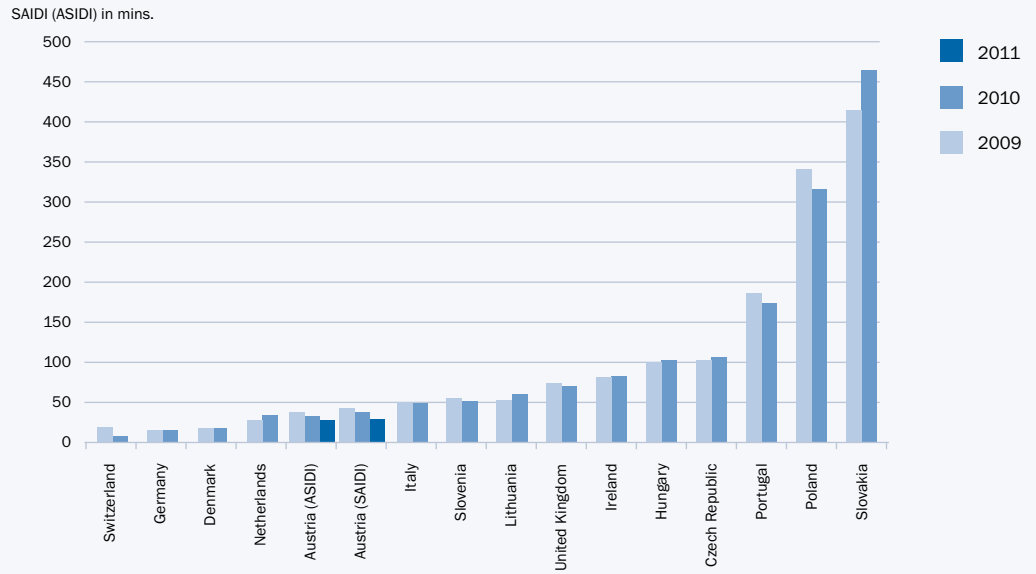

Figure 4: *Unplanned electricity supply interruptions affecting medium voltage networks in Europe (SAIDI; ASIDI for Austria only)[10], 2009–2011*
Source: 5th CEER Benchmarking Report and E-Control

In 2011 Austria experienced **electricity supply interruptions as measured by the average system interruption duration index (ASIDI)** totalling **48.73 minutes** (excluding natural disasters). The reference value for this calculation is the interrupted installed nominal apparent power of the country's transformers. Planned interruptions amounted to 21.26 minutes, and unplanned interruptions to 27.48 minutes.

[10] The traditional measure for the Austrian survey is transformer apparent power (see ASIDI). The reliability figures related to system users have the weakness that at present some system operators merely estimate the number of system users affected. Efforts are being made to improve the accuracy of this indicator (SAIDI) as it is the usual yardstick for international comparisons.

Electricity supply interruptions in Austria in 2011 according to the system average interruption duration index (SAIDI) yardstick came to **44.96 minutes** (excluding natural disasters). This figure is based on the total number of system users and the number affected by the interruption. Planned and unplanned interruptions amounted to 16.89 minutes and 28.07 minutes, respectively.

Comparing interruptions with annual hours of power supply highlights the excellent level of supply continuity in Austria in 2011 – further confirmation of the country's strong performance.

Figure 5 shows the annual unplanned interruptions for the period from 2004–2011. Natural disasters, such as the severe flooding in Austria in 2005 and 2011, the Europe-wide interruption on the ultra-high voltage grid on 4 November 2006, the Kyrill storm in 2007, the Paula and Emma storms in 2008, and the wet snow in Styria in 2009, are reported separately. The 2011 survey results show yet another drop in non-availability compared with previous years.

ANNUAL UNPLANNED SUPPLY INTERRUPTIONS (ASIDI)

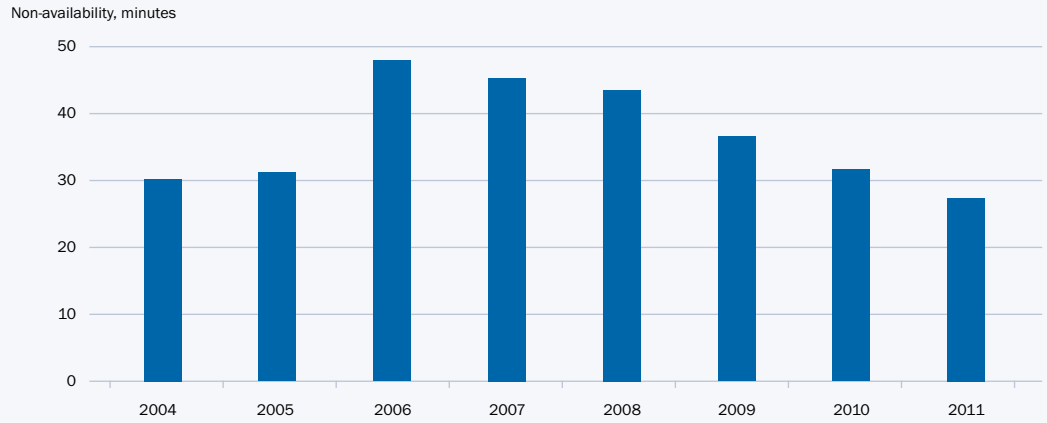

Figure 5: *Annual unplanned electricity supply interruptions in Austria (ASIDI)*
Source: E-Control

Quality standards – transposition of Art. 37(1)(h and m) into national law
The requirements for assuring quality and reliability standards were transposed into Austrian law by section 19ff Electricity Act 2010.

In addition to the tasks and duties set out in the Act, the regulator is also required to determine by ordinance the safety, reliability and quality standards that system operators must meet when providing services to system users and other market participants, and define the indicators used to monitor compliance with those standards. The ordinance must also include provisions for compensation and refunds in the event that system operators would otherwise not be in a position to comply with the specified standards in full. The ordinance is enacted following a consultation procedure, during which the system operators concerned must be given an opportunity to comment.

The standards may include the following:
1. Network reliability, including the duration and frequency of supply interruptions;
2. Deadlines for establishing of system connections undertaking repairs work and announcing of supply interruptions;
3. Deadlines for responding to queries relating to the provision of system services;
4. Complaint management;
5. The voltage quality standards to be complied with.

The standards for system operators set out in the ordinance must be included in their general terms and conditions, insofar as they govern the rights and duties of system operators vis-à-vis parties entitled to system access. The system operators are also required to submit their performance according to the indicators determined by the ordinance to the regulatory authority and publish it annually.

The regulator is obliged to establish the standards by order and the indicators used to monitor compliance. The standards applicable to a system operator must also be included in its GTCs, which are subject to approval by E-Control pursuant to section 47 Electricity Act 2010.

The necessary ordinance was not enacted in 2011, but E-Control plans to establish quality standards for system operators by ordinance in 2012. The system operators will then be required to amend their GTCs accordingly.

Smart Meters

The introduction of smart electricity meters, provided for by the annexes to the Electricity Directive, was transposed by section 83(1) Electricity Act 2010. Under the latter, the Minister of Economy, Family and Youth is empowered to make a decision on the roll-out of smart meters after a cost-benefit analysis has been conducted. This means that the Minister may issue an ordinance obliging system operators to provide non load metered customers with smart meters. Section 83(2) Electricity Act 2010 empowers E-Control to determine the minimum requirements for smart meters by ordinance. This provision is of significance for system operators, as only the expenses related to meters that meet the requirements of the ordinance issued under section 83(2) Electricity Act 2010 can be included in the allowed cost for the system charges in accordance with section 59 of the Act.

Section 84(4) Electricity Act 2010 also empowers E-Control to determine by ordinance the format to be used by the system operators when transmitting data to suppliers, and when providing customers with consumption information.

Pursuant to section 83(2) Electricity Act 2010, in October 2011 the regulator issued the *Intelligente Messgeräte-AnforderungsVO* [Requirements for Smart Meters Ordinance 2011]. This establishes the minimum functionality that system operators will have to comply with when smart meters are introduced. The ordinance is designed to ensure that smart meters offer identical functionality for all Austrian consumers.

The legal framework for the introduction of smart meters is established by the *Intelligente Messgeräte-Einführungsverordnung* [Smart Meter Rollout Ordinance] enacted by the Minister of Economy, Family and Youth in April 2012. The ordinance provides that at least 95% of all Austrian electricity consumers will have smart meters by the end of 2019. Implementation will be phased, with 10% of consumers having smart meters by the end of 2015, rising to 70% by the end of 2017.

The Smart Meter Rollout Ordinance imposes extensive reporting and monitoring obligations on the system operators and the regulator, and also includes transitional arrangements for smart meters already in service.

In September 2012 E-Control enacted the *Datenformat- und VerbrauchsinformationsdarstellungsVO* [Data Format and Presentation of Consumption Information Ordinance] pursuant to section 84(4) Electricity Act 2010.

Technical cooperation between community and third country transmission system operators (TSOs)
The only third-country transmission grid to which Austrian TSOs are connected is that of Switzerland. Negotiations between Switzerland and the EU regarding the former's adoption of EU internal energy market legislation are currently in progress. It is impossible to predict when these talks will be concluded. However, owing to the technical requirements for transmission system operation, an extensive range of partnerships involving Swiss and European Union TSOs are currently in place, similar to those between TSOs within the EU.

The most prominent of these is the Transmission System Operator Security Cooperation (TSC), through which 12 European TSOs are collaborating closely on operational planning and the exchange of wind power generation data, as well as early recognition and rectification of critical network situations and the IT systems required to support these activities.

In addition, the amounts of capacity available for trading between Swiss and Austrian TSOs are jointly determined to permit annual, monthly, daily and intra-day capacity allocations between the two countries. The two sides are also working together to implement bilateral capacity auctions, and allocations via the Capacity Allocating Service Company (CASC), the auction office for the Central-West (CWE) region. This will require further progress towards flow based allocation procedures, which in turn will intensify cooperation.

Emergency response measures in accordance with Art. 42
Under the *Energielenkungsgesetz* [Energy Intervention Powers Act 1982] as amended by FLG I no. 106/2006, E-Control is responsible for the preparation and coordination of the main intervention measures to be taken in response to emergencies in the electricity and gas sectors. The necessary data are collected under the *Energielenkungsdaten-Verordnungen* [Energy Intervention Data Ordinances].

E-Control also carries out regular trial data transfers in collaboration with public authorities in order to prepare for congestion. These are designed to evaluate the processes linking federal, provincial and district authorities, particularly with regard to general restrictions on provincial consumption and the implementation of rationing for some industrial facilities. A test like this was carried out in the province of Salzburg in the first quarter of 2012. It involved representatives of all of the organisations concerned in the province – the provincial government and its offices, and electricity generators, suppliers and system operators, as well as gas system operators – and participants at national level ranging from the ministry responsible to the control area manager and E-Control. The insights gained from the exercise were discussed and will influence future activities.

SYSTEM CHARGES FOR CONNECTIONS AND ACCESS

Transposition of Arts. 37 (1)(a), (6)(a), (8), (10) and (12), and Art. 37 (3)(c and d) Electricity Directive into national law

The Electricity Directive was transposed into Austrian law by the Electricity Act 2010 and the Energy Control Act. It is difficult to relate transpositions to specific sections of the acts, since the various aspects are covered separately by different provisions in the aforementioned acts. Sections 48 et seq. Electricity Act 2010 govern the procedure for determining the system charges, thereby implementing Arts. 37(1)(a), (3)(d), (8) and (10) of the Directive.

Also relevant to this procedure is section 22 E-Control Act, which sets out the framework under which E-Control performs its regulatory duties. The provisions relating to system connections and access and the relating charges in Art. 37(6)(a) of the Directive are transposed by sections 44, 54 and 55 Electricity Act 2010. The complaints procedures provided for by Art. 37(12) of the Directive are transposed by section 9 E-Control Act. Sections 38 and 39 Electricity Act 2010 contain provisions regarding the approval and monitoring of the network development plan, and thus transpose Art. 37(3)(c) Electricity Directive. However, sections 24 and 25 E-Control Act are also relevant in this regard. They govern the regulator's monitoring and market oversight functions, which are particularly significant in terms of unbundling and the treatment of cross-subsidisation. Sections 8 and 59 Electricity Act 2010 are germane to the prevention of cross-subsidisation.

SETTING THE SYSTEM CHARGES

E-Control has determined the network tariffs for the electricity transmission and distribution systems each year since the market was liberalised in 2001. Although the transmission grid is still governed by a cost-plus regulatory regime (where revenues follow costs), at the start of 2006 the distribution systems switched from a cost-plus approach to stable, long-term incentive regulation. In this form of regulation the link between system operators' actual costs and their allowed revenue is broken for the duration of the four-year regulatory period. The audited cost base is adjusted annually, using markups and offset factors which essentially reflect price increases in the industry (i.e. inflation), as well as industry and company-specific productivity trends.

Distribution companies are expected to overcome any inefficiencies identified in the course of a benchmarking analysis within two four-year regulatory periods (i.e. by the end of 2013). The adjusted cost base is translated into annually redetermined tariffs, taking account of factors that influence capital and operating costs during the regulatory period. Under the regulatory regime outlined above, the system charges in the 15 electricity network areas are adjusted annually, with effect from 1 January of each year, and the new rates announced in amended ordinances. As uniform system charges are set for each network area, there is a compensation payment mechanism to iron out the differences in the system operators' revenue (cost coverage).

Transmission system operators are not subject to individual benchmark based productivity requirements, and their costs are adjusted each year on the basis of a generally applicable factor. The budgeted cost of large-scale investment projects is included in the regulatory asset base.

This system is based on section 59 Electricity Act 2010, which requires the allowed cost from which the system charges are derived to be reflective of actual costs and to be determined separately for each network level. Only costs that are reasonable in terms of their origins and amount are allowable. Reasonable investment costs must be allowed, taking account of both historical costs and the cost of capital. The cost calculations must be based on targets aligned to the potential efficiencies achievable by the companies. The costs determined must be adjusted for general targets reflecting productivity trends, and for changes in the network operator price index. Individual targets may be set on the basis of the efficiency of each system operator. In its allowed cost decisions, the regulatory authority can divide the time allotted (target attainment period) to meet the targets into one or more regulatory periods. If amounts charged on by a vertically integrated electricity undertaking influence the costs of a system operator, the latter must furnish adequate evidence that the parent's charges are justified. To prevent cross-subsidisation, the VIU must submit documentation evidencing the basis of calculation underlying the charges in question at the request of the regulatory authority.

Setting network tariffs for the transmission and distribution systems
With effect from 1 January of each year, the annual audited costs of the transmission grid are converted into transmission system tariffs. As required by the Electricity Act 2010, during the 2011 system charges review procedure the costs and volume situation of all electricity distribution system operators that supplied over 50 GWh in 2008 were determined, and the tariffs for 2012 calculated. For the first time, this took the form of a two-stage procedure which gives the distribution system operators greater legal security. During the first stage E-Control established the system operators' costs and volumes by official decision. These lay the basis for computation of the system charges, which represents the second step.

The adjustments to the system charges (system utilisation and system losses charges) brought about by the *Systemnutzungs-Tarife-Verordnung 2010 Novelle 2011* (2010) [System Charges Amendment Ordiance 2011] resulted in an average reduction of 0.95% (for the whole of Austria, across all network levels, on the basis of supply volumes in 2008). The System Charges Ordiance 2012 led to an average reduction of 0.5% for all network levels. The 2012 tariff review saved consumers about € 8m as compared to the previous year.

Since the start of E-Control's regulatory activities in 2001, consumers' bills have been cut by over € 600m in this way. After falling in recent years because of the financial and economic crisis, sales volumes picked up slightly, easing the upward pressure on tariffs. Nevertheless, continued investment needs will limit the leeway for reductions in the electricity system charges over the next few years, and a slight increase is likely instead. *Figure 6* gives an overview of the changes in system charges since market liberalisation.

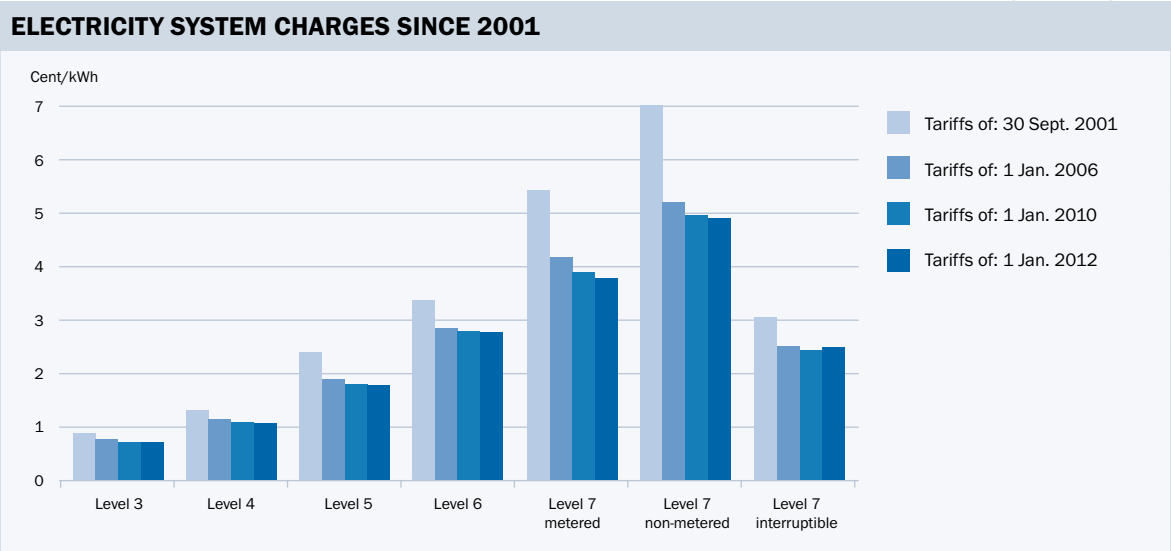

Figure 6: *The average electricity system charges for Austria as a whole, over time, in cent/kWh*
Source: E-Control

Preparatory work on the design of the regulation systems for the upcoming regulatory periods from 2014 onwards is currently progressing at full steam. Although central regulatory goals such as security of supply and efficiency will naturally continue to have pride of place, attention must also be paid to ensuring that energy companies can operate in a stable regulatory framework and a secure investment environment that offers reasonable returns on invested capital.

TRANSMISSION: CROSS-BORDER CAPACITY AND CONGESTION MANAGEMENT MECHANISMS
Transposition of Arts. 37(3)(f) and 37(6)(c), (8), (9) and (12) Electricity Directive into national law
Art.37 of the Electricity Directive confers extensive approval powers on national regulatory authorities. Paragraphs 6(c) and 9 provide for regulatory approval of the conditions for access to cross-border infrastructure such as transmission systems, including procedures for capacity allocation and congestion management.

As part of the implementation of the third energy package, this provision was transposed by section 23(2)(23) Electricity Act 2010, which obliges control area managers to submit their congestion management and capacity allocation rules to E-Control for approval. In contrast to the previous procedure, under which the rules were discussed but no formal approval was required, in future the regulator will hand down official decisions. Section 23(2)(6) Energy Regulatory Authorities Act requires E-Control to participate in drafting a more far-reaching, coordinated – as opposed to a purely border-based and bilateral – version of these rules. Pursuant to Art. 37(3)(f) E-Control issues an annual report on the revenue generated from capacity allocations at Austria's borders, and its utilisation by the transmission system operators. The report shows that almost all such revenue went towards network investment in 2011.

Monitoring of TSOs' investment plans for consistency with the Ten-Year Network Development Plan, pursuant to Art. 37(1)(g) Electricity Directive
Development of the transmission grid is crucial to completing the internal market and maintaining network reliability, and consequently the third energy package pays a great deal of attention to it. Under section 38 Electricity Act 2010, E-Control is required to approve the network development plan by official decision and also assess its consistency with the ten-year network development plan (TYNDP).

In accordance with the required procedure, APG submitted its network development plan in autumn 2011. Consultations were then held with various interest groups and the plan was assessed in terms of its economic viability, technical necessity and compatibility with the TYNDP. Some projects received only conditional approval: in particular, approval is subject to coordinated development in conjunction with neighbouring TSOs.

Capacity allocation rules, congestion management, and auction results
Congestion at the borders with the Czech Republic, Hungary, Italy, Slovenia and Switzerland is still managed by means of coordinated auctions. The scarce capacity there is assigned by the Central Allocation Office (CAO), which is the single point of contact for market participants throughout Central and Eastern Europe. Today, three years after its formation, CAO has over 70 registered members and 200 user accounts. In addition to holding daily, monthly and yearly auctions, in 2011 CAO headed up the development of a coordinated regional daily capacity assessment system that will employ flow-based allocation. CAO finalised preperations for the planned flow-based capacity allocation calculations in autumn 2011, in consultation with the region's TSOs. Flow-based allocation and calculation takes far more precise account of the effects of physical transactions in the system than the current NTC method, as well as generating welfare gains and enhanced network security. Nevertheless, differences of opinion arose between the TSOs and the various national regulatory authorities regarding the priorities for implementation, and further efforts were necessary in the first quarter of 2012 to reach agreement on the next steps in the implementation process. In spring 2012, the region's regulators and the Agency for the Cooperation of Energy Regulators (ACER) issued a joint declaration which envisages the introduction of load flow based market coupling by the TSOs and power exchanges in the Central-East (CEE) region by the end of 2013.

In the Central-South (CSE) region, the focus in 2011 was on drafting harmonised rules for yearly and monthly capacity auctions. Parallel steps aimed at harmonising auction rules with those in the Central-West (CWE) region were also taken, and the TSOs transferred responsibility for capacity allocations to the CASC auction office. This provides market participants with a single point of contact for a larger number of national borders.

Cooperation with other national regulatory authorities (NRAs) or public authorities on cross-border issues

Collaboration via recently established **ACER** has created a number of benefits for Austria, including coordinated network development and thus, enhanced energy transport options. For consumers this means improved supply security, and for market participants simplified access to the internal market.

As far as the **regional initiatives** are concerned, 2011 saw the introduction of more robust structures for interregional coordination. Roadmaps were drawn up for each region to ensure that they meet their targets for market integration by 2014. The regional plans are overlain by supra-regional plans addressing four core issues: long-term, daily and intra-day capacity allocation, and capacity calculation. These supra-regional plans provide a framework for implementation of the regional plans.

The **Pentalateral Energy Forum** was established in June 2007 by the governments of Belgium, France, Germany, Luxembourg and the Netherlands as a ministerial platform for enhanced regional cooperation, particularly with regard to cross-border connectivity. The forum allows government representatives, regulators, transmission system operators, electricity exchanges and market participants to work together to complete the internal electricity market.

As there is no congestion in the transmission system linking Austria and its main electricity trading partner Germany, and prices in both countries are comparable, Austria was given observer status in the Pentalateral Energy Forum in June 2007 and became a full member in 2011, further strengthening its close relations with the countries in the CWE region. Austria's increased involvement in the forum's work is a reflection of its new status.

COMPLIANCE MONITORING

Art. 37 (4)(b) Electricity Directive was transposed by section 21(2) E-Control Act, under which E-Control is to investigate, report on and issue opinions on market and competitive conditions in the electricity and gas sectors. In performance of its monitoring and supervisory duties under the Act, E-Control may issue official decisions ordering compliance (section 24(1 and 2) E-Control Act).

Art. 37(4)(c) Electricity Directive was transposed by section 10 Electricity Act 2010 in conjunction with section 34 E-Control Act. Under these provisions, E-Control is empowered to inspect all documents and records relevant to its activities.

Art. 35(5)(a) Electricity Directive was transposed by section 104 Electricity Act 2010, which requires the Cartel Court to impose fines for discriminatory behaviour on application of the regulatory authority.

Arts. 37(1)(b and q), (3)(a, b and e) and (5)(b, d, e, f, g and h) Electricity Directive were transposed into Austrian law by sections 24(1) and 25 E-Control Act. These provisions impose monitoring and supervisory duties on E-Control. In performance of these duties E-Control may issue official decisions ordering compliance (section 24(1 and 2) E-Control Act). Under section 25 E-Control Act, E-Control has special monitoring and oversight functions with regard to transmission system operators. These include monitoring their communications, approving contracts, monitoring correspondence, and ongoing oversight of business and financial relationships, as well the transfer of the ITO's activities to an appointed ISO in the event of repeated breaches of the law by the ITO.

Arts. 37(4)(d) and (5)(a) Electricity Directive were transposed, in particular, by the administrative offences specified by sections 99 et seq. Electricity Act 2010. Section 104(1 and 2) of the Act specifies finable offences, and other criminal offences are set out in section 108.

The implementation of legally binding decisions by ACER and the Commission pursuant to Arts. 37(1) and 39 Electricity Directive was transposed into national law by section 21(6) E-Control Act.

ARBITRATION

Arts. 37(4e) and 37(11 and 12) and were transposed by section 26 E-Control Act (settlement dispute). This provision reduced the maximum period within which a decision must be reached to six weeks.

Section 12(1) E-Control Act makes the Regulation Commission responsible for arbitration under sections 22 (disputes between parties entitled to system access and system operators with regard to the legality of refusing access to the system) and 30(3)(2) (premature termination of management contracts) Electricity Act 2010.

The Regulation Commission dealt with 24 arbitration proceedings in 2011. As in previous years, the majority of these concerned disputes between generators and system operators regarding the payment or non-payment of charges for system losses. The remaining proceedings concerned a variety of matters; there was a noticeable increase in the assertion of damages against system operators.

Competition on the Austrian electricity market

ELECTRICITY SUPPLY AND DEMAND

Electricity generation

Figure 7 shows the generation mix in 2011. Total output was 65,688 GWh, around 57% of which came from hydro power stations, i.e. run-of-river and storage power stations, as well as small hydro generating stations (capacity of less than 10 MW). Natural gas is the second-most important primary energy source for power generation, at some 19%. Hard coal and coal derivatives were responsible for approx. 11% of output, and oil derivatives for about 2%. Biofuels accounted for 7% of domestic generation, while renewables (i.e. wind, photovoltaic and geothermal) contributed 3%. Other fuels, including unknown sources, made up the remaining 1% of output.

ELECTRICITY GENERATION BY ENERGY SOURCES

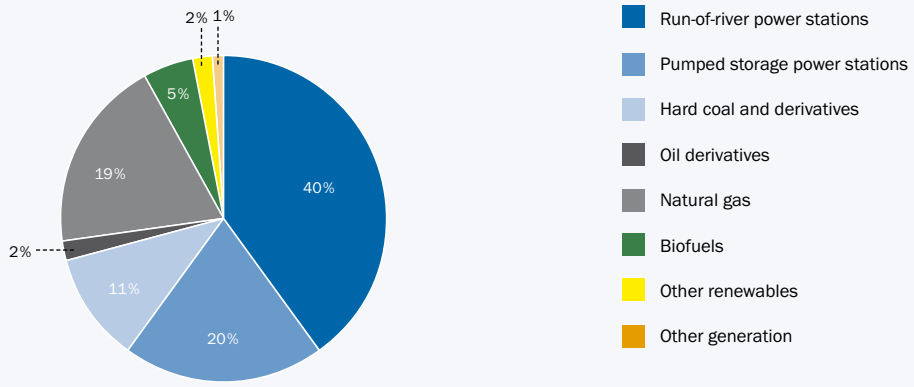

Figure 7: *Generation in Austria by energy sources, 2011*
Source: E-Control

Renewable electricity generation

The 2003–2010 period saw strong growth in the output of electricity from other renewable technologies. However, in 2011 absolute output from other renewable technologies fell back to 2009 levels *(Figure 8).*

SUPPORTED RENEWABLE ELECTRICITY OUTPUT VOLUME, 2002–2011

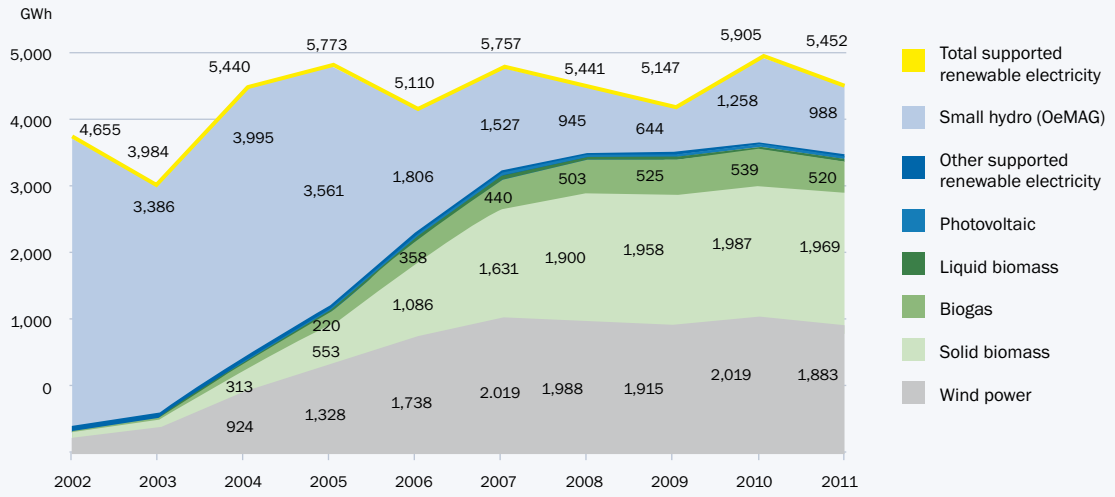

Figure 8: *Supported renewable electricity output by technologies, 2002–2011*
Sources: E-Control, OeMAG

The quantity of small hydropower offtaken by the green power clearing and settlement agent OeMAG[11] has been highly volatile in recent years. Volumes have declined significantly since 2004 due to the fact that rising market prices have prompted many small hydropower plant operators to leave the OeMAG system and sell their power on the open market, and that offtake from existing small hydropower plants at feed-in tariffs expired at the end of 2008.

In 2011 OeMAG took a total of 5,452 GWh of supported renewable energy, some 988 GWh of these were power from supported small hydropower stations and 4,464 GWh from supported "other" renewables.

Offtake by OeMAG fell from 10.7% to 9.3% of total supply via the public grid. This was due to the drop in the contribution of small hydro from 2.3% to 1.7% and the reduction in generation from “other” renewables. Their share of total output declined from 8.4% in 2010 to 7.6% in 2011. Total supply to consumers from the public grids rose from 54,985 GWh in 2010 to 58,714 GWh in the year under review.

[11] Abwicklungsstelle für Ökostrom AG (OeMAG) is the clearing and settlement agent for renewable electricity. Its main tasks are: accepting renewable electricity at the prices determined by the Green Electricity Act; calculating the green power quotas; allocating green power to the electricity wholesalers on a daily basis in accordance with the quotas; and managing the new support quotas and applications for support. See http://www.oem-ag.at

Imports and exports

Cross-border exchanges between Austria and neighbouring countries have grown steadily since 2002 *(Figure 9)*.Before 2002 Austria usually exported more electricity than it imported, but the trade balance has been negative since then, with the widest trade gap so far recorded in 2006. Physical imports jumped by 25.4% in 2011, but exports slipped by around 4%. This was attributable to the year-on-year decline in domestic power generation.

Germany is the main country of origin, accounting for over 54% of all imports, followed by the Czech Republic with 40.3%. Switzerland (43.9%) and Germany (23.7%) are the primary destinations for exports. Net imports totalled 8,195 GWh in 2011 – an increase of 236% on 2010 – or around 9.1% of total supply.

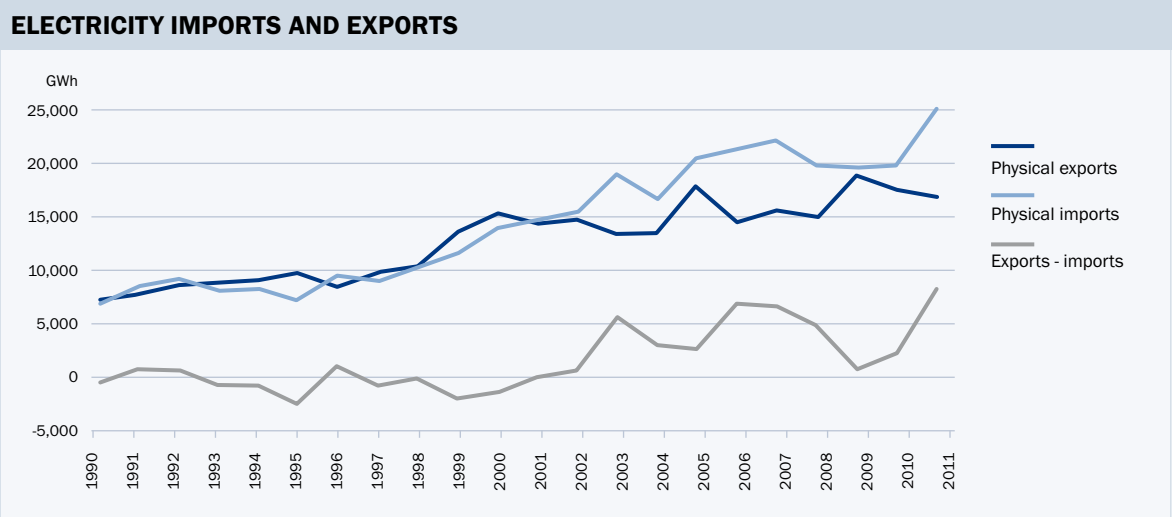

Figure 9: *Electricity imports and exports since 1990*
Source: E-Control

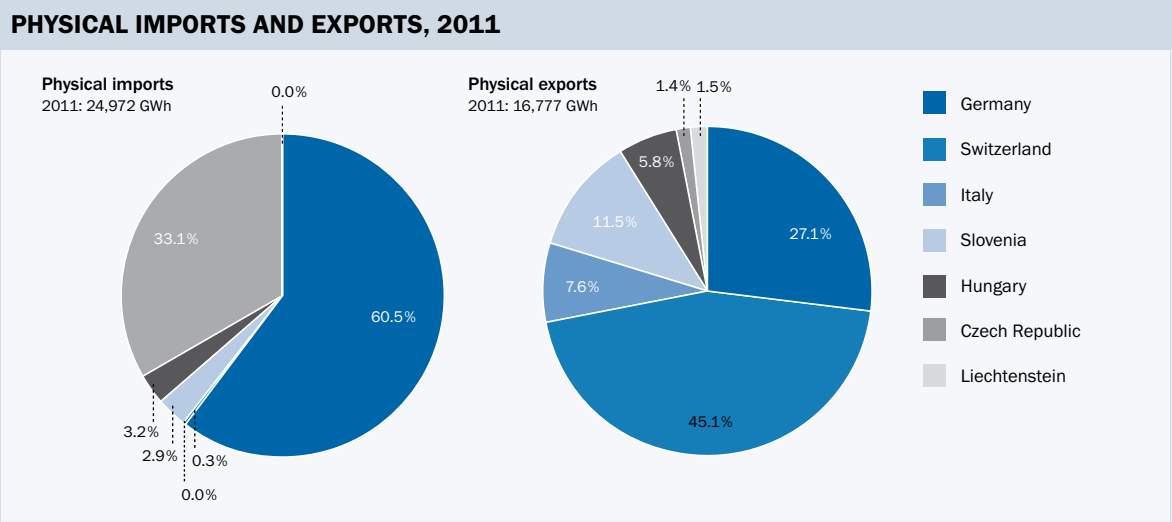

Figure 10: *Physical imports and exports, 2011*
Source: E-Control

Electricity demand
Total domestic electricity consumption (excluding pumped storage) dropped by about 0.2% year on year to 68.8 TWh in 2011.

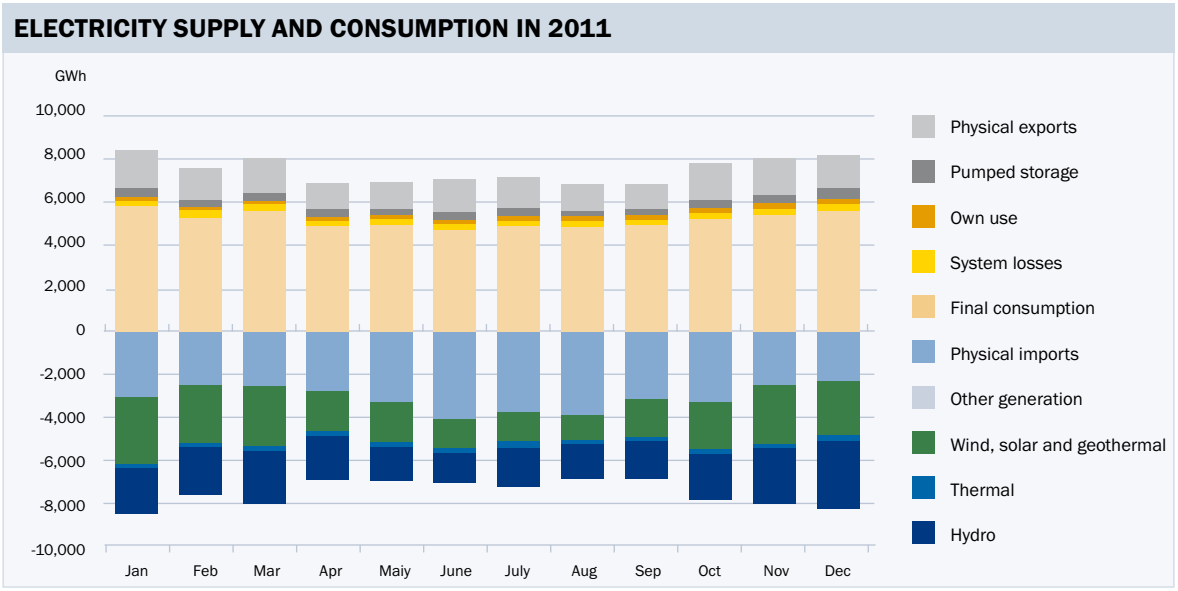

Figure 11: *Electricity supply and consumption in 2011*
Source: E-Control

Peak demand (i.e. peak capacity on the third Wednesday of each month) has risen steadily over the past few years, and reached 10,580.2 MW in 2011. Demand on the public grid, which has a peak load of 9,477.5 MW, has also increased.

WHOLESALE ELECTRICITY MARKET
Due to the lack of congestion between Austria and Germany, the two countries form a common price area on the wholesale and the over-the-counter (OTC) markets, and for exchange trading. A single day-ahead market price is quoted for Germany and Austria on the exchanges, regardless of the control area in which physical delivery is due to take place. The electricity price reporting services do not usually provide separate price assessments for Austria. Wholesaling is thus very largely a cross-border activity, and Austrian generators' limited capacity means that there is little possibility of their acting as dominant companies on the Austro-German wholesale market. The situation is different on the control energy market, and potentially on the intra-day market, although very little information on the latter is available for Austria.

Wholesaling takes the form of bilateral transactions, and trading on the EPEX Spot/EEX Derivatives and EXAA exchanges. Both the EPEX/EEX and the EXAA offer spot products for the Austro-German price zone. One key difference is that auction trading on the EXAA closes at 10:12 and auctions are held at 10:15, while EPEX spot auctions take place at noon. The EPEX Spot and the EXAA also differ in terms of their price limits – negative bids of a minimum of € -3,000/MWh are allowed on the EPEX Spot, but negative prices are not permitted on the EXAA. In addition, the EEX Derivatives market offers financially settled futures contracts. Trading activity on the OTC market is currently difficult to monitor because no information on it is available.

However, exchange prices are still a useful guide for all forms of trading, and the most important basis for suppliers' procurement activities. Analysing and tracking wholesale prices, and in turn monitoring the development of an efficient and competitive market, is extremely important for market outcomes and for consumers.

Detailed analysis of wholesale prices

In recent years price trends have reflected the overall economic situation, oil price movements and events related directly to the electricity sector. Outliers are frequent on the spot markets, even on a seven-day average view. They usually result from short-term supply tightness, fluctuations in power plant availability and prevailing weather situations.

The latter are playing an increasingly important role on both the supply and demand sides, mainly because of the increase in infeed from renewable energy sources in Germany. Under good weather conditions, day-ahead and spot prices for wind and solar power tend to be lower than on windless or cloudy days. Owing to the preferential treatment of infeed from renewables, exchange prices turn negative during certain hours, especially on Sundays and public holidays, when demand is low.

In *Figure 12* the Christmas holidays are easily recognisable from the sharp falls in spot prices. Weather and seasonal factors also have an impact on the demand side – for instance, prices are higher during evening peak hours in winter.

The balance of imports and exports in Europe can also shift when the weather turns cold, owing to factors such as the high proportion of electric heating systems in France. This shows that short-term market prices are subject to a variety of influences.

On the futures market prices are driven by traders' expectations. The rise in futures prices after the announcement of the German nuclear power moratorium in 2011 was very pronounced. For some days the volume of annual contracts traded on the EEX power exchange was very high because of the sudden uncertainty about the future course of German nuclear power policy and the significant upside price risk.

Although the lifespan of Germany's nuclear power plants had been extended in 2010, the Fukushima disaster made it very uncertain whether any of them would stay online, and if so which would continue to operate and for how long. However, once the German government had presented detailed shutdown plans traders came to the conclusion that the supply situation would remain stable for the time being. Renewed recession fears in the second half of 2011 also pushed down prices. An economic downturn usually leads to shrinking energy demand, mainly as a result of declining industrial production. Both actual and expected economic developments have a major impact on the electricity market.

The picture was similar in 2010. A sense of cautious optimism fuelled trading early on in the year, but this quickly petered out as the sovereign debt crisis loomed. Since the onset of the global economic and financial crisis in late 2008, futures prices have trended downwards or gone sideways, and they remain below pre-crisis levels.

EPEX SPOT BASELOAD AND PEAKLOAD PRICES, SEVEN-DAY AVERAGE

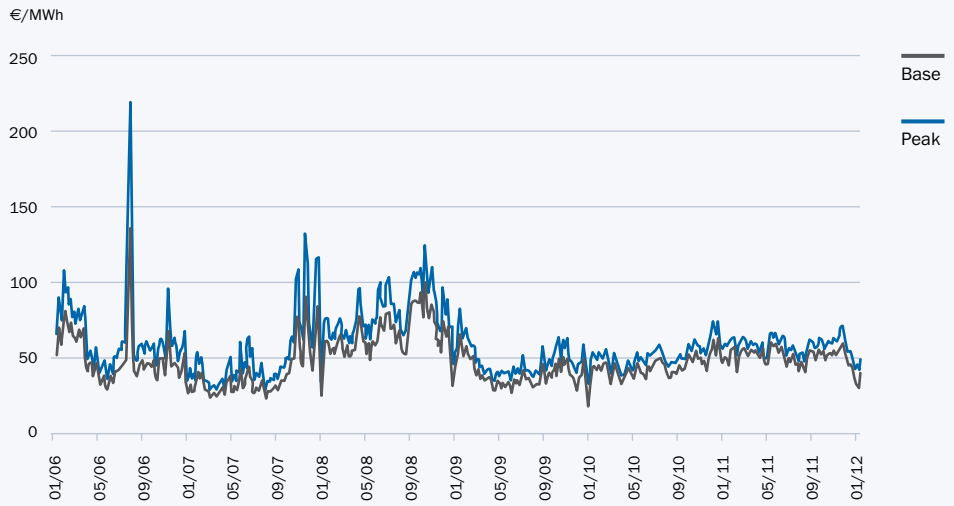

Figure 12: *EPEX spot baseload and peakload prices, seven-day average, €/MWh*
Sources: EPEX Spot, E-Control

A good example of the pressure on prices and an explanation for their collapse was observed on 19 June 2011 *(Figure 13).* As the load (blue line) is low on Sundays, and the level of uncontrolled injection from wind and solar was high on that day, prices turned slightly negative in the afternoon. German domestic demand on that date was fully covered by conventional generation, and there were very few countries to which Germany could export electricity, apart from Austria.

ACTUAL OUTPUT IN GERMANY ON 19 JUNE 2011

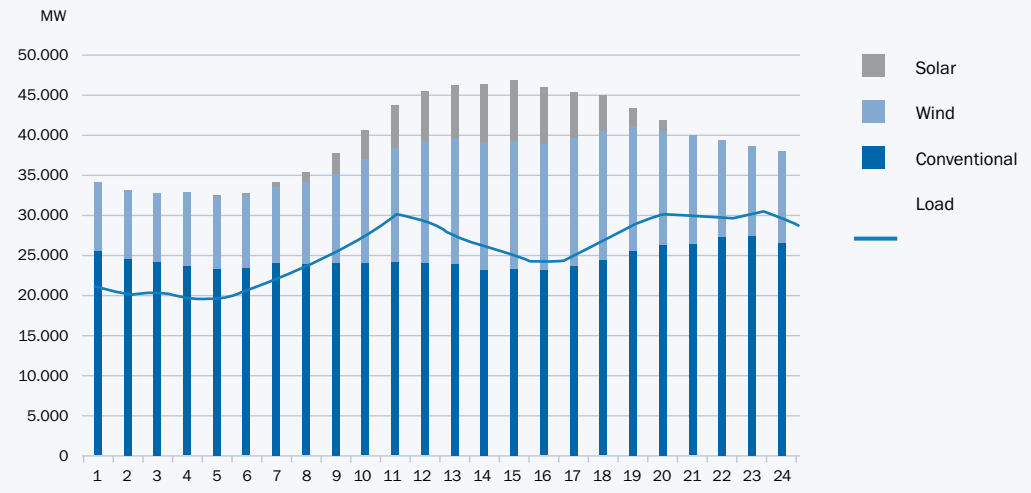

Figure 13: *Year-ahead baseload and peakload prices on the EEX, €/MWh*
Source: EEX Transparency Platform

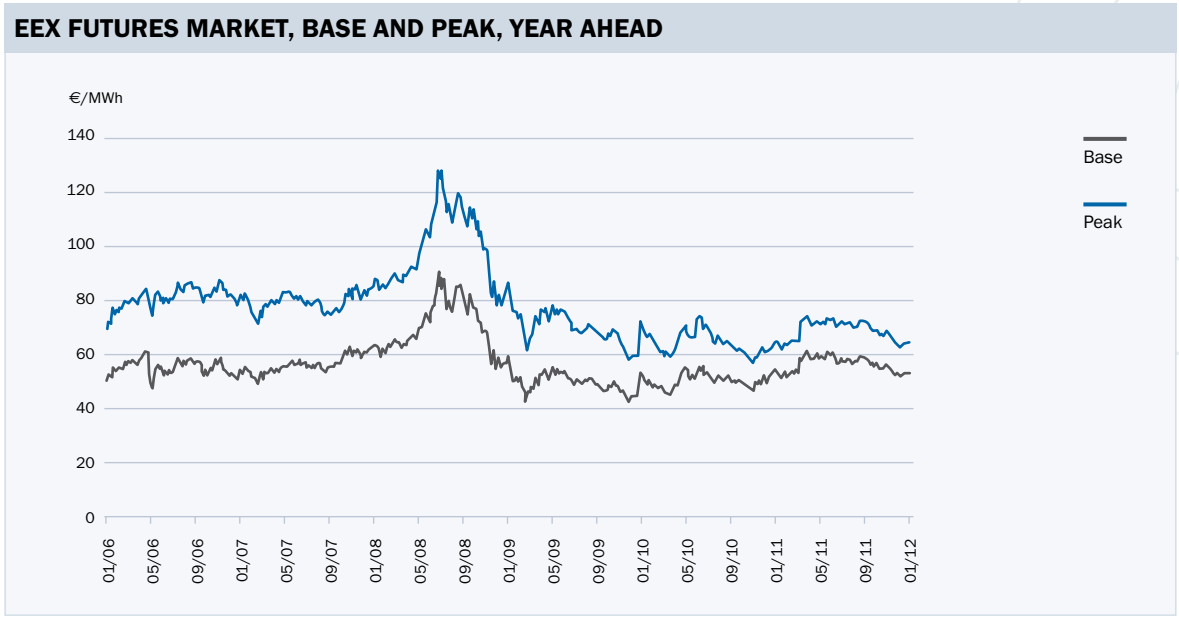

Figure 14: *Year-ahead baseload and peakload prices on the EEX, €/MWh*
Sources: EEX, E-Control

The spread between baseload and peakload contracts has narrowed markedly over the past few years *(Figure 14)*. This is partly because the make-up of the generating capacity has steadily changed – particularly as regards increased PV infeed. As a result the noon peak has flattened out, especially in summer. It is also because baseload and peakload prices tend to be closer together at times of low prices than during high price phases.

Gas and coal

The sharp increase in volumes and prices resulting from the uncertainty surrounding Germany's nuclear energy policy was not the only step change to have an impact on the wholesale electricity market in 2011. Europe is also feeling the effects of America's so-called "shale gas revolution". Over the past few years, rapidly increasing development of unconventional reserves, in particular shale gas, has transformed the USA into a low-price gas producer. Prices at the Henry Hub trading point have been significantly lower than those in Europe since early 2010. In 2016 the USA will start exporting liquefied natural gas (LNG). In tandem with recent developments in the global economy and the increased use of gas-fired power generation in America, this has served to cut world demand for hard coal, which is a substitute for gas. Carbon prices fell due to the downturn in industrial production during the economic crisis, and the resulting overhang of CO_2 allowances.

Relatively cheap coal and low CO_2 prices, coupled with high gas prices in Europe as a result of oil -indexed long-term gas supply contracts, made gas-fired electricity generation unattractive. The clean spark spread, i.e. the margin on gas-fired power generation based on baseload bands and including CO_2 costs, turned negative, while the clean dark spread widened sharply.

Electricity prices and power station revenue declined in the second half of 2011, but cheap coal and depressed CO_2 prices helped to make coal a more competitive generating fuel, as *Figure 16* shows. Carbon and gas prices will be the main factors that determine whether this trend will continue. However it will also depend heavily on whether a competitive and liquid wholesale gas market emerges, and there is a move away from long-term, oil-indexed supply contracts. The expansion of European gas supply thanks to closer ties with other markets, e.g. as a result of LNG, and the development of unconventional gas reserves in Europe could also play an important role.

EEX BASE FUTURES MARKET

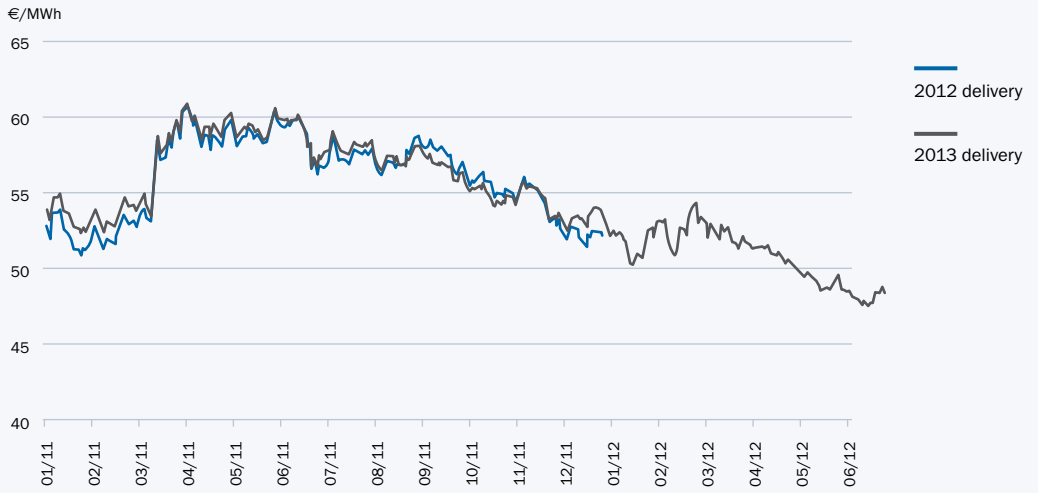

Figure 15: *EEX base futures prices*
Source: EEX

YEAR-AHEAD CLEAN SPARK AND CLEAN DARK SPREADS

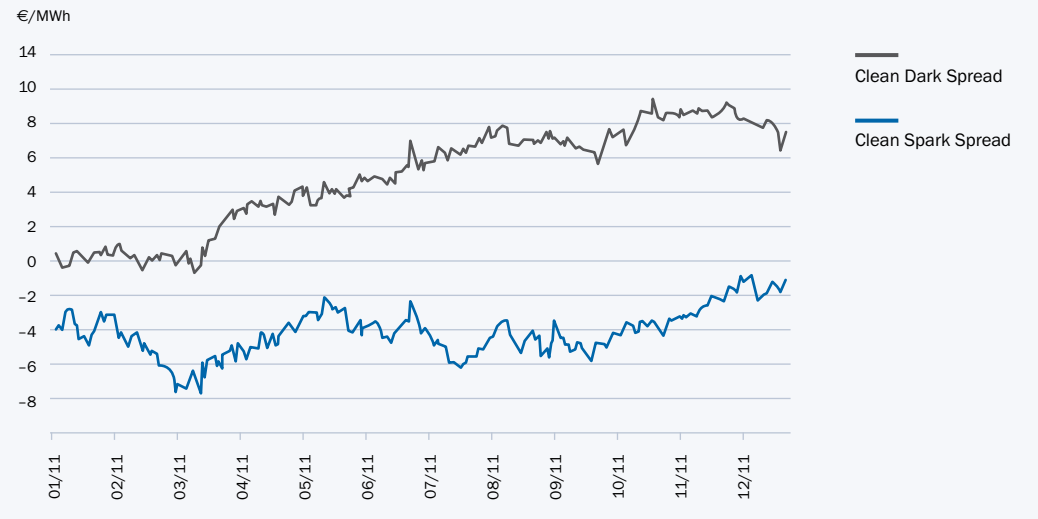

Figure 16: *Clean Spark and clean dark spreads, year ahead*
Sources: EEX, E-Control calculations

Wholesale electricity trading trends

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

The EXAA saw an increase in the number of registered members and in trading volumes in 2011. The number of registered members rose from 63 in 2010 to 68 in 2011. The majority of the EXAA's members are foreign companies.

EXAA spot market traded volumes reached 7.56 TWh in 2011 – up by 19% from 6.41 TWh (both including block products) in 2010 – which equalled some 11% of total electricity consumption in Austria. Surging volumes also meant increased liquidity. However, the concentration ratios for the EXAA, such as HHI and CR3, have shown little movement. The Franco-German EPEX Spot exchange offers contracts for delivery to Austria (i.e. the APG control area).

ELECTRICITY RETAIL MARKET

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

(1) **Mass market:** Households, small and medium-sized enterprises (SMEs), farms and other small consumers with an annual demand of no more than 100,000 kWh and standardised load profiles. The suppliers are legally obliged to publish their prices for this consumer segment.

(2) **Individual contract consumer market:** SMEs, large-scale industrial enterprises and service businesses with an annual consumption of over 100,000 kWh and load metering. These consumers have individually negotiated supply agreements.

In 2011, 5.88m metering points were supplied with electricity in Austria. Households accounted for around 71.6% of the total, other small consumers (small and medium-sized businesses, farms and other interruptible consumers) 27.8%, and large-scale industrial enterprises 0.6% of the metering points. Household consumers accounted for 24% and other small consumers 19% of overall electricity consumption. Large-scale industrial enterprises made up the largest market segment in consumption terms, at 58% of the total.

RETAIL MARKET STRUCTURE: SUPPLY SIDE

Supply structure

There are currently more than 140 suppliers on the Austrian electricity market, but not all of them operate on a nationwide basis. The former monopolists operate under the name of the incumbent in their grid area, while a number of new brand names have been launched or subsidiaries founded for nationwide marketing.

Joint ventures have had the effect of reducing the level of competition. For instance, Wien Energie, EVN and BEWAG (and initially also Energie AG and Linz Strom) joined forces to create **EnergieAllianz.** According to the joint venture partners the advantage of the line-up is synergies in national energy retail operations.[12] In the mass market segment, distribution in EnergieAllianz's major sales markets is the responsibility of the partners' regional marketing subsidiaries, and is not carried out under the EnergieAllianz brand. Electricity is sold under the switch or Naturkraft brand in the other network areas. This joint venture has significantly increased the level of market concentration.

[12] See www.energieallianz.at.

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

In the past few years many of the power utilities have formed sales subsidiaries that specialise in renewable electricity. The main advantage of such subsidiaries is that power can be labelled entirely as renewable electricity, since power labelling can refer only to the company mix, and not the product mix Any utility that also markets products derived from fossil fuels must include that information in the labelling of its renewable energy products. Examples of green power subsidiaries set up by vertically integrated companies are Enamo Ökostrom GmbH, Linz Öko-Energievertriebs GmbH, Naturkraft (EnergieAllianz), Salzburg Ökoenergie GmbH, Solar Graz (an Energie Graz operation established in June 2012), VKW-Ökostrom GmbH, Weizer Naturenergie (Steweag-Steg) and Wels Strom Öko.

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

The supply structure differs according to the target market.

> As of June 2012 a total of 16 retailers were serving the **mass electricity market** throughout Austria. Many of them, including Energie Klagenfurt, Kelag and VKW, use their regional brand, but others supply energy under a different name, such as stromdiskont (Enamo Ökostrom), Voltino (Wels Strom) and Franz Extrem (E-Werk Gösting). EnergieAllianz and Enamo do not act as retailers, but instead sell electricity either through their regional distribution companies (Wien Energie Vertrieb, EVN Vertrieb, BEWAG Vertrieb for EnergieAllianz, and Linz Strom and Energie AG in the case of Enamo), or across Austria via their switch and Naturkraft (EnergieAllianz), and Enamo Ökostrom (Enamo) subsidiaries. Salzburg AG and TIWAG operate nationwide through their MyElectric joint venture, as does Steweag-Steg via Unsere Wasserkraft. Other alternative suppliers that do not have a regional base include Verbund, AAE Naturstrom, Ökostrom and schlaustrom – an Upper Austrian business formed at the end of 2011. The largest number of suppliers in a single grid area is 17. There are still no foreign suppliers in this market segment.
> Consumers in the **individual contract segment** can choose between up to 12 suppliers in theory, but in practice they will only receive six or so quotations at most, depending on the suppliers' interest in a given customer. EnergieAllianz and Enamo operate across Austria in this segment, as do a number of regional suppliers, including Energie Klagenfurt, Kelag, Salzburg AG, Steweag-Steg, VKW and Wels Strom. Verbund is an alternative nationwide supplier for customers of all sizes, but MyElectric does not serve those with consumption beyond a certain level. Foreign suppliers have little market presence, and only consider customers with an annual offtake upwards of 10–20 GWh; often only in certain grid areas.

Ownership

The majority of Austrian electricity suppliers are owned by provincial and local governments *(Figure 17),* which is prescribed for the main companies by legislation with constitutional status.[13] The owners of the utilities – the provincial and federal governments – can influence the legislative process. For example, the implementing legislation on unbundling is a provincial responsibility.

Besides the high level of public ownership, cross-shareholdings are another salient feature of the market. Most of the companies have stakes in other market participants, albeit in some cases only indirectly.

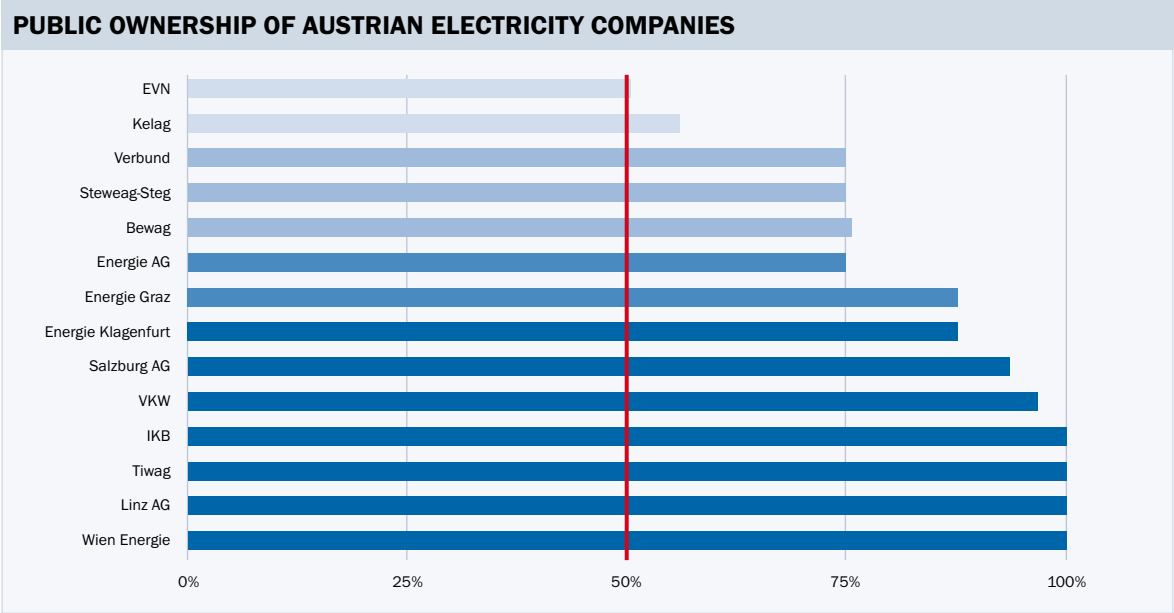

Figure 17: *Public ownership of Austrian electricity companies*
Sources: Company annual reports and own calculations

[13] BVG-Eigentum (Federal Constitution Act on Property), FLG I No. 143/1998. Amendments require a two-thirds parliamentary majority, which is unlikely to be forthcoming in the short to medium term.

***Market concentration on the Austrian electricity market: mass market*[14]**
The market shares for suppliers of load metered consumers have been included in the market statistics since 2008.[15]

The data show that the market shares and HH index (HHI)[16] scores of the three largest suppliers are above the threshold values in some segments, indicating a highly concentrated market (CR3: 50%; CR5: 66.7%; HHI above 1,800).

Concentration in the household and SME consumer segments decreased slightly year on year in 2011 to 1,765 and 1,696, respectively – below the HHI threshold of 1,800.

The aggregate market share of the three largest suppliers of **household consumers** in 2011 was around 56% *(Figure 18),* and that of the five largest suppliers was 70%. In other words, about two-thirds of all demand was met by the three largest suppliers. The aggregate market share of the top three suppliers of small business consumers was 56% and that of the five largest suppliers 67%. The Austrian market shares of foreign suppliers are negligible.

There was a slight shift in market shares in the year under review. The local players still exercise strong market power, but alternative suppliers have been gaining shares by making attractive offers aimed at specific provinces and new customers.

CONCENTRATION IN THE AUSTRIAN SMALL CONSUMER ELECTRICITY MARKET

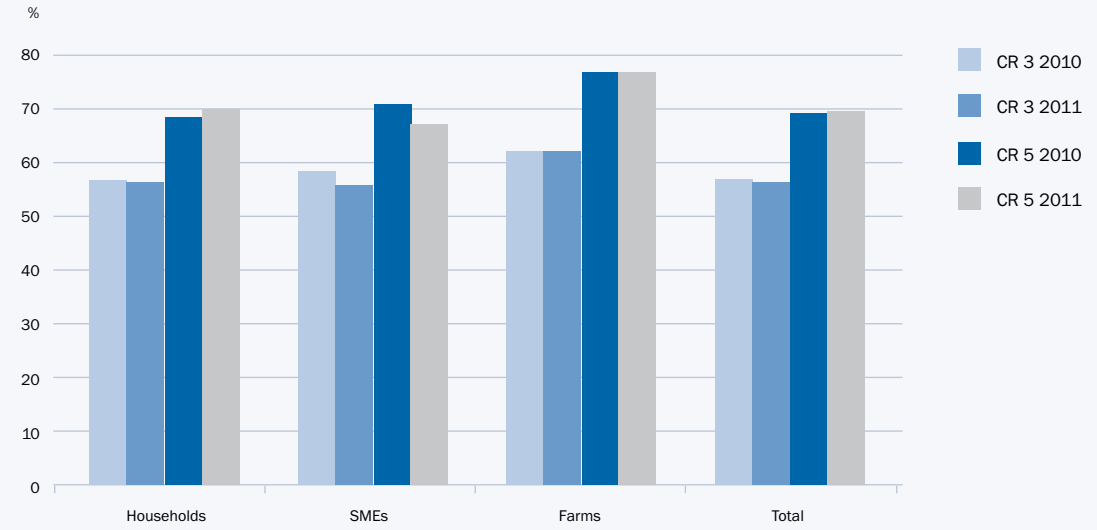

Figure 18: *Concentration in the Austrian small consumer electricity market (non load profile metered consumers), CR3 and CR5*[17]
Sources: Market statistics survey questionnaire and E-Control calculations

[14] The data relate to non-load profile metered small consumers. As there are no figures for the shares of the load profile metered consumer market, it is not possible to calculate the concentration for this segment.
[15] The legal basis for this is the Order of the Federal Ministry of Economics and Labour on Statistical Studies in the Area of the Electricity Industry (Elektrizitäts-Statistikverordnung 2007) [Electricity Statistics Order 2007], FLG II No. 284/2007.
[16] Herfindahl-Hirschmann Index (HHI): the aggregate squared market shares of all firms. An indicator of concentration and competitive intensity.
[17] Aggregate market shares of the three and five largest suppliers.

Suppliers' pricing policies: price changes

The electricity suppliers raised their prices in 2011 *(Table 4).*The price cuts in the first half of 2012 were a consequence of the reduction in the cost to retailers of their mandatory offtake of renewable electricity, which they charge on to their customers. In spite of this, Steweag-Steg and Energie Graz raised their energy prices with effect from 1 March 2012.

ELECTRICITY PRICE CHANGES, 2011–2012

Supplier	Time of change	Energy price	Total price
BEWAG Vertrieb GmbH	1 Apr. 2011	6.40%	3.20%
BEWAG Vertrieb GmbH	1 Jan. 2012	-3.39%	-1.18%
Energie AG OÖ Vertrieb	1 Jan. 2012	-0.66%	-0.51%
Energie Graz GmbH	1 Jan. 2010	8.53%	4.52%
Energie Klagenfurt GmbH	1 May 2011	8.20%	4.30%
EVN Energievertrieb	1 Jan. 2012	-3.26%	-1.82%
Innsbrucker Kommunalbetriebe	1 Apr. 2011	2.30%	1.20%
Innsbrucker Kommunalbetriebe	1 Feb. 2012	-4.25%	-2.03%
Kelag Kärntner Elektr.-AG	1 Apr. 2011	8.80%	3.90%
Linz Strom Vertrieb	1 Jan. 2012	-0.70%	-0.74%
MyElectric	1 Jul. 2011	4.43%	1.77%
Naturkraft Energievertrieb	1 Jan. 2012	-3.11%	Dependent on grid zone
oekostrom	1 May 2012	-6.0%	-3.3%
Salzburg AG	1 Feb. 2011	2.30%	1.10%
Salzburg AG	1 Feb. 2012	-2.66%	-1.31%
schlaustrom	16 Feb. 2012	-4.75%	Dependent on grid zone
Steweag-Steg	1 Mar. 2012	8.84%	4.31%
TIWAG – Tiroler Wasserkraft	1 Apr. 2011	1.60%	0.70%
TIWAG – Tiroler Wasserkraft	1 Feb. 2012	-4.75%	-2.26%
Unsere Wasserkraft	1 Sep. 2011	6.80%	3.60%
Unsere Wasserkraft	1 Mar. 2012	-2.80%	Dependent on grid zone
VKW Vorarlberger Kraftwerke AG	1 Mar. 2012	-4.90%	-2.30%
VKW Vorarlberger Kraftwerke AG	1 Feb. 2011	0.90%	0.41%
VKW Ökostrom GmbH	1 Feb. 2011	0.90%	0.41%
VKW Ökostrom GmbH	1 Mar. 2012	-4.40%	-2.20%
Weizer Naturenergie	1 Apr. 2011	11.80%	Dependent on grid zone
Wels Strom GmbH	26 Oct. 2011	11.40%	Dependent on grid zone
Wien Energie Vertrieb	1 Jan. 2012	-3.25%	-0.90%

Table 4: *Changes in electricity suppliers' prices, January 2011 to end-June 2012*
Household with a demand of 3,500 kWh/year
Source: E-Control

Suppliers' product policies

DThe suppliers generally offer similar tariffs comprising a fixed and an energy price component. However, many are now marketing alternatives that are frequently cheaper than their standard products, such as online or so-called “simple” tariffs. Despite increasing product diversification, the price differences that consumers are aware of mainly take the form of rebates. New customers and customers paying by direct debit receive bonuses. In an attempt to retain “want-away” customers, suppliers are increasingly offering loyalty rebates if the consumer voluntarily undertakes to stay with them beyond the specified minimum term of the supply contract. Consumers who recruit others or return to a supplier will also qualify for rebates.

Product differentiation usually takes the form of "clean energy" – in other words renewable electricity derived from hydropower, wind or solar.

EnergieAllianz started offering floating tariffs for household consumers at the beginning of 2010. This pricing scheme passes on changes in wholesale prices via an index adjusted on a monthly basis – the "Austrian electricity price index". Demand for guaranteed-price products has also picked up.

There has been a noticeable increase in the number of online products on offer. For most of these products, the customer must have internet access and an e-mail address.

Electricity and gas companies' marketing and advertising activities

Large-scale advertising activities are still rare on the Austrian retail energy market, in comparison with other sectors. Regional incumbents and alternative providers largely use advertising for image maintenance purposes, so as to cement customer loyalty. The estimated total advertising spend by gas and electricity companies[18] was € 30m[19] in 2011, of which around 56% was spent on nationwide activities.

The preponderance of nationwide advertising campaigns was due to the fact that, besides the established alternative suppliers, the incumbents are now increasingly operating across Austria, either under their own brands or through subsidiaries. The smaller alternative providers invest very little in marketing and rely instead on online advertising and the E-Control tariff calculator to attract household consumers.

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

In terms of regional focus, the heaviest spending on advertising was in Vienna, followed by Upper and Lower Austria. This order of priorities is hardly surprising as it matches the ranking of the provinces in terms of the number of gas and electricity consumers. It is worth noting, though, that advertising costs in Upper and Lower Austria are disproportionately high in terms of consumer numbers, while they are disproportionately low in Vienna *(Figure 19).*

[18] A breakdown of the advertising costs by the electricity and gas markets is not possible as some of the large suppliers do not distinguish between the two.
[19] Source: Media Focus Research.

ADVERTISING COSTS OF ELECTRICITY AND GAS SUPPLIERS

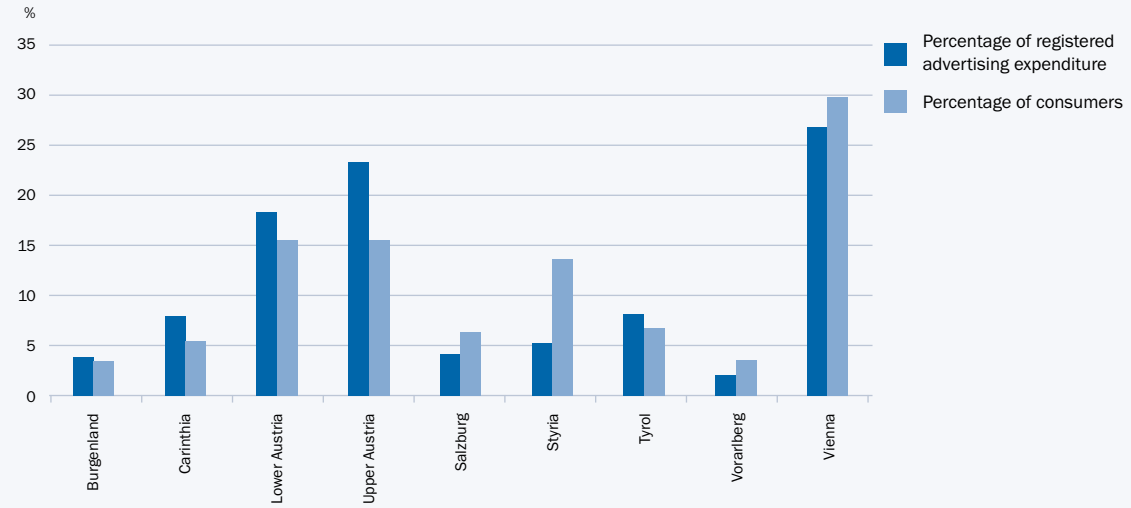

Figure 19: *Gas and electricity suppliers' advertising costs (excluding expenditure at provincial level) by region, and number of gas and electricity consumers*
Sources: Focus Media Research, E-Control

Print media are the most popular channel for advertising, accounting for 65% of spending, followed by television and billboard advertising at 9% each *(Figure 20).* In the first five months of 2012, the advertising spend increased by 5% year on year, mainly as a result of a fourfold jump in online advertising and a tripling of direct mail campaign expenditure.

BREAKDOWN OF ADVERTISING ACTIVITIES BY MEDIA, 2011

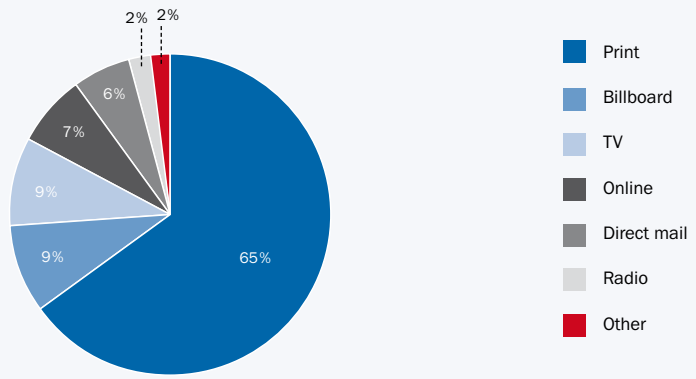

Figure 20: *Breakdown of advertising activities by media, 2011*
Sources: Focus Media Research, E-Control

RETAIL MARKET STRUCTURE: DEMAND SIDE

Demand structure

Electricity was supplied to a total of 5.88 million metering points during the calendar year. Of these around 4,2 million served household consumers, 1.6 million other small consumers (small and medium-sized businesses, farms and interruptible consumers), and 33,200 load profile metered consumers (individual contract consumers).

Load metered consumers accounted for the largest share of consumption, while household consumers used around a fifth of all power.

Switching behaviour

Since 1 October 2001 all electricity consumers have been free to change their suppliers. By December 2011 a total of approx. 464,000 household consumers, or 10% of all electricity consumers, had done so.

Household consumers can make substantial savings by switching, depending on the network area *(Figure 21).*Potential savings of up to € 110 are possible in eastern Austria, representing a reduction of up to 16% on overall prices. However, despite the substantial savings on offer, a mere 1.5% of all household consumers switched in 2011 (*Figure* 22). As *Figure 21* shows, the potential savings from switching decreased as compared to 2010 (except in the Energie Graz and Steweag-Steg network areas). The largest savings on offer are in the Energie AG network area. The contrast between the substantial differences between the energy prices of the cheapest suppliers and those of most local players, and low switching rates points to the existence of switching barriers.

POTENTIAL SAVINGS FOR HOUSEHOLD CONSUMERS

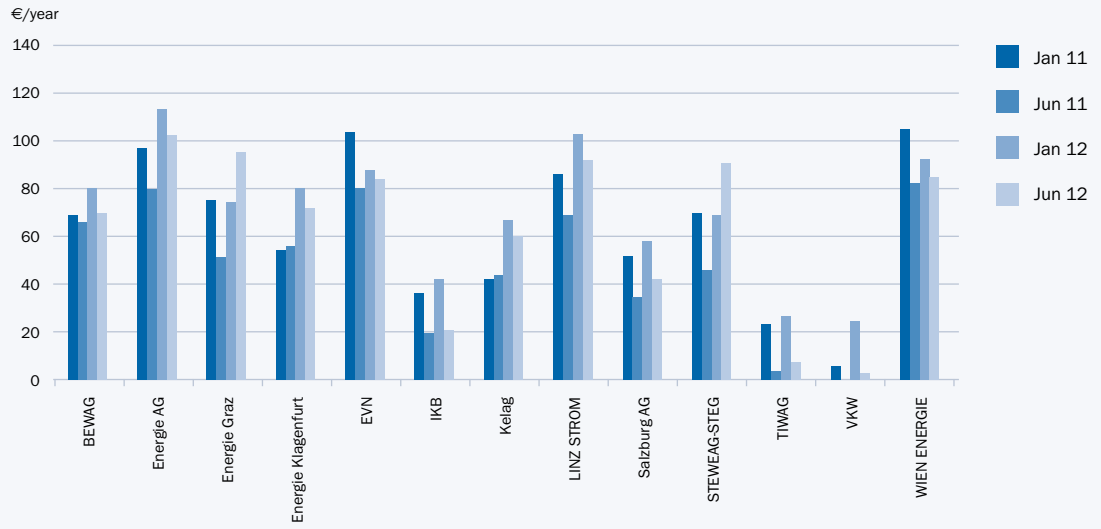

Figure 21: *Potential savings, including unconditional and new customer discounts, for household consumers switching to the cheapest supplier, by network areas (3,500 kWh/year), €/year*
Source: E-Control

The overall switching rate for household consumers shrank from 1.8% in 2010 to 1.5% in 2011. Some 1.6% of the "other small consumers" changed their electricity suppliers in 2011 – also less than in 2010. Load metered consumers are the most active switchers on the electricity market. The reasons for this pattern are the greater absolute savings to be made and the fact that these consumers are better informed. Even so, in 2011 only 4.6% of load metered consumers switched – the lowest churn rate in this segment since 2001 and 2002. The reasons for this lack of interest were the fact that the price level was stable and relatively low, as well as the economic crisis. Carinthia, Lower Austria, Styria and Vienna all recorded above-average switching rates *(Figure 23).*

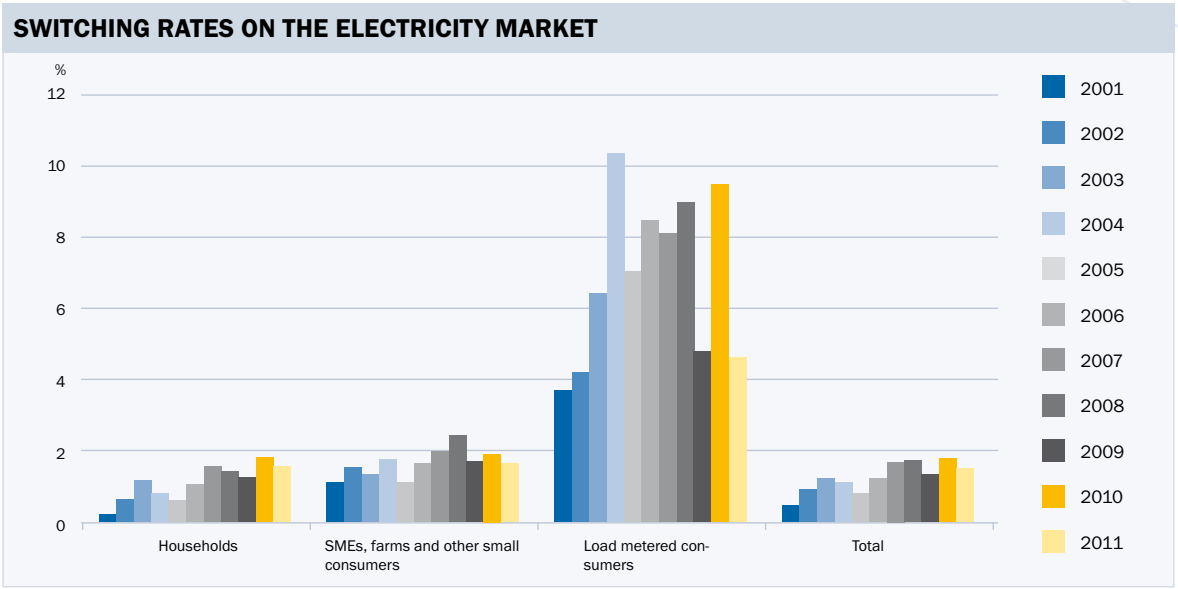

Figure 22: *Switching rates on the electricity market (percentages of meter point switches), 2011-2011*
Source: E-Control

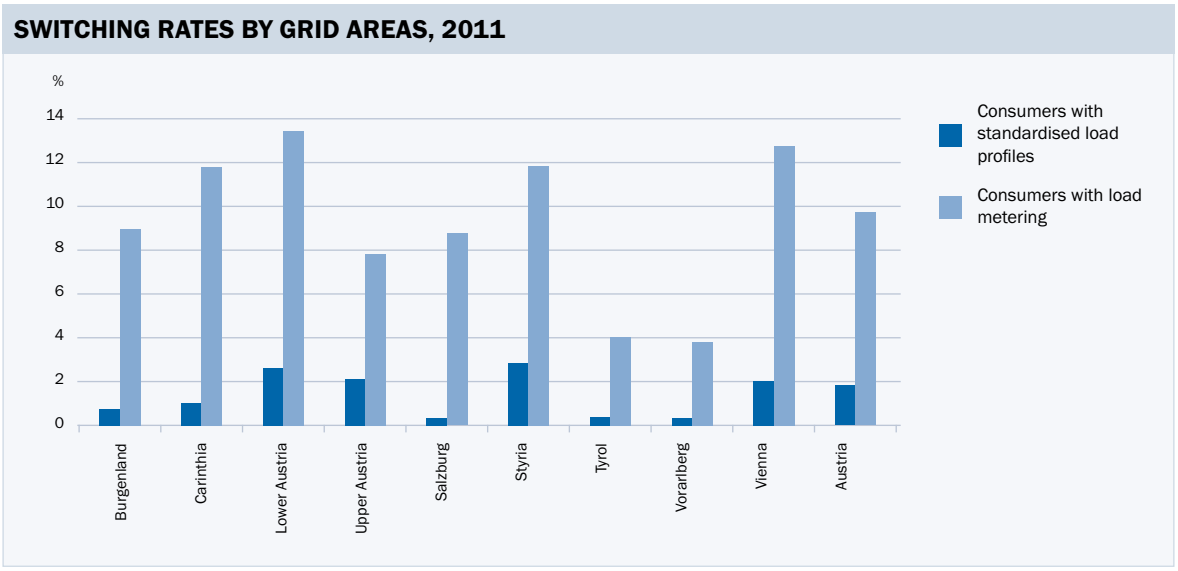

Figure 23: *Switching rates by grid areas (number of metering point switches) in 2011*
Source: E-Control

CHANGES IN RETAIL PRICES

Electricity price regulation ended with market liberalisation in 2001. The system charges are set by the regulatory authority, and taxes and levies by the federal and provincial governments, and local authorities. With the exception of the metering charges, which are capped, all the system charges are fixed. The system operators are free to set lower metering charges, provided that they accord non-discriminatory treatment to all consumers. In other words, all customers must be charged the same price for a given type of meter.

Electricity price trends: mass market

Figure 24 depicts the evolution of overall electricity prices charged to household consumers, based on the electricity consumer price index (CPI). The opening of the market to competition prompted a drop in overall prices in the immediate run-up to and in the early stages of market opening. The sharp increase in June 2000 reflected the doubling of the energy levy. Prices increased steadily between early 2002 and the end of 2008, a trend that was only interrupted by the reductions in the system charges, which are determined by ordinance of the Regulation Commission at the beginning of each year. The introduction of the green power and CHP surcharges at the start of 2003 also pushed up overall prices. As a result of the economic crisis prices have gone sideways since early 2009, with only minor fluctuations. Price cuts in light of the reductions in the system charges, and the fall in renewable electricity expenses since the start of 2012, were quickly offset by the energy price hikes implemented by some suppliers.

ELECTRICITY CONSUMER PRICE INDEX

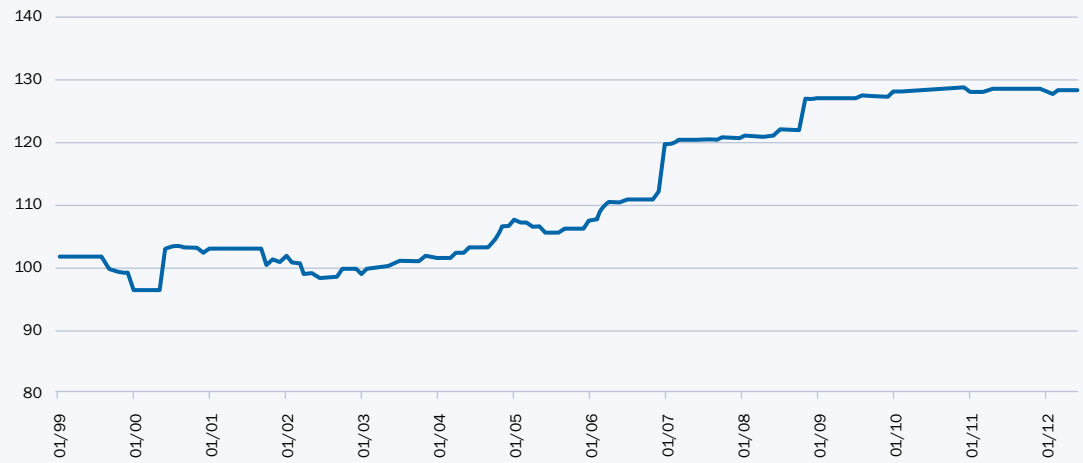

Figure 24: *Electricity CPI (overall price; Oct. 2001 = 100)*
Sources: Statistics Austria, E-Control

Figure 25 reveals that by the end of 2011 the prices charged to households had risen by around 1.72% year on year, and those for small and medium-sized businesses by some 0.22%. Compared with the second half of 2007 (index in January 2008), household prices have jumped by 19% and prices for SMEs by 15%.

ELECTRICITY PRICES BY CONSUMER GROUPS

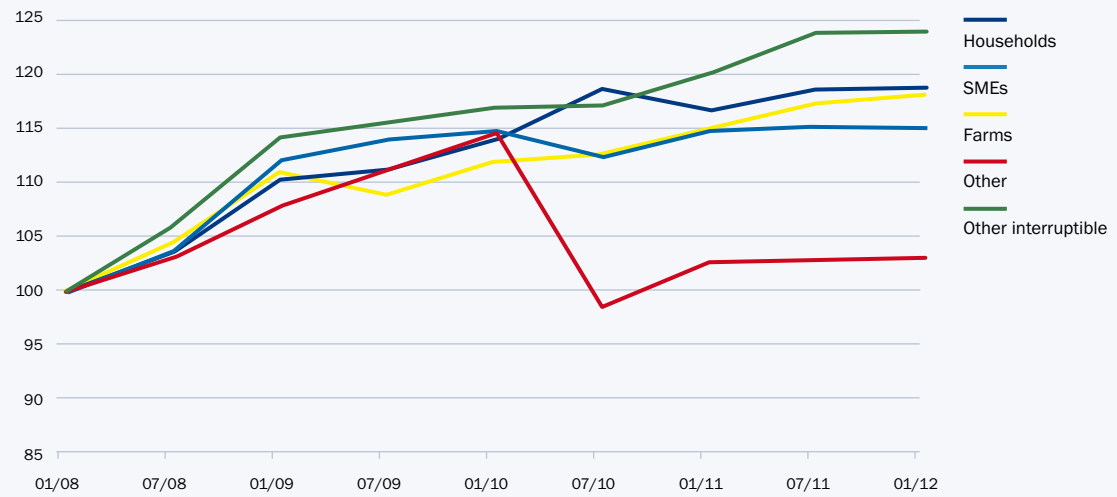

Figure 25: *Electricity prices by consumer categories (standardised load profiles; Jan. 2008 = 100)*
Source: -Control market statistics

Figure 26 shows the statistical distribution of net energy prices, lagged by six months. In other words, the figure for January 2012 indicates a supplier's average price in the second half of 2011. The distribution shows that the overall upward trend in supplier prices caused an increase in average prices in Austria. Although the price distribution evened out in 2011, the margin between the highest and lowest price grew. Many suppliers offer electricity at rates of 6–9 cent/kWh. However, it can also be seen that some suppliers' prices remained at 2008 levels, although this group has shrunk significantly. Despite the wide variations in prices, potential savings were little changed. The cheapest and most expensive suppliers still tend to be small, local companies.

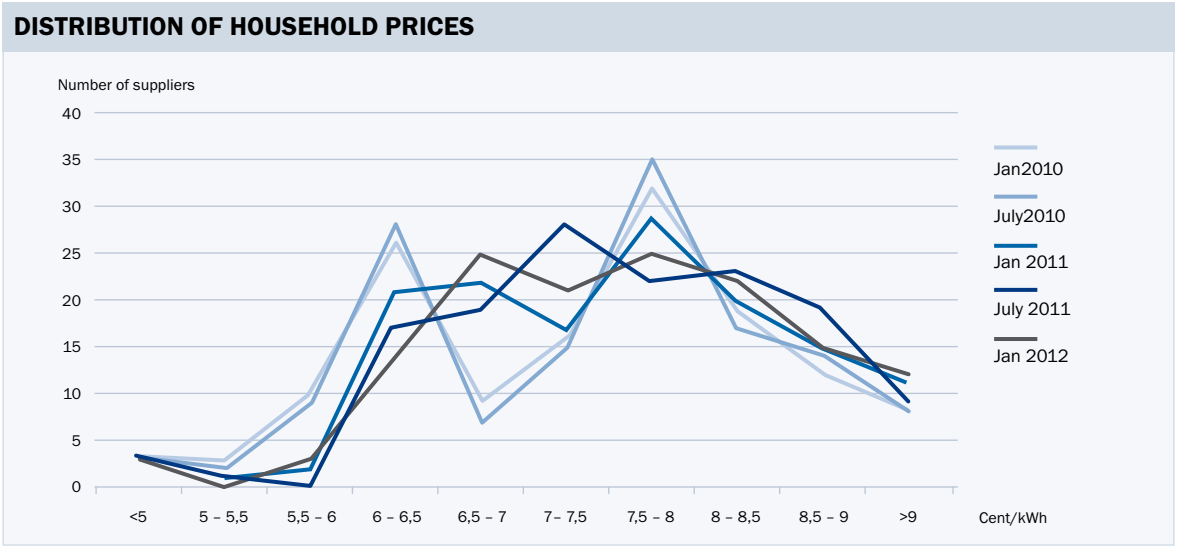

Figure 26: *Distribution of household prices*
Source: E-Control market statistics

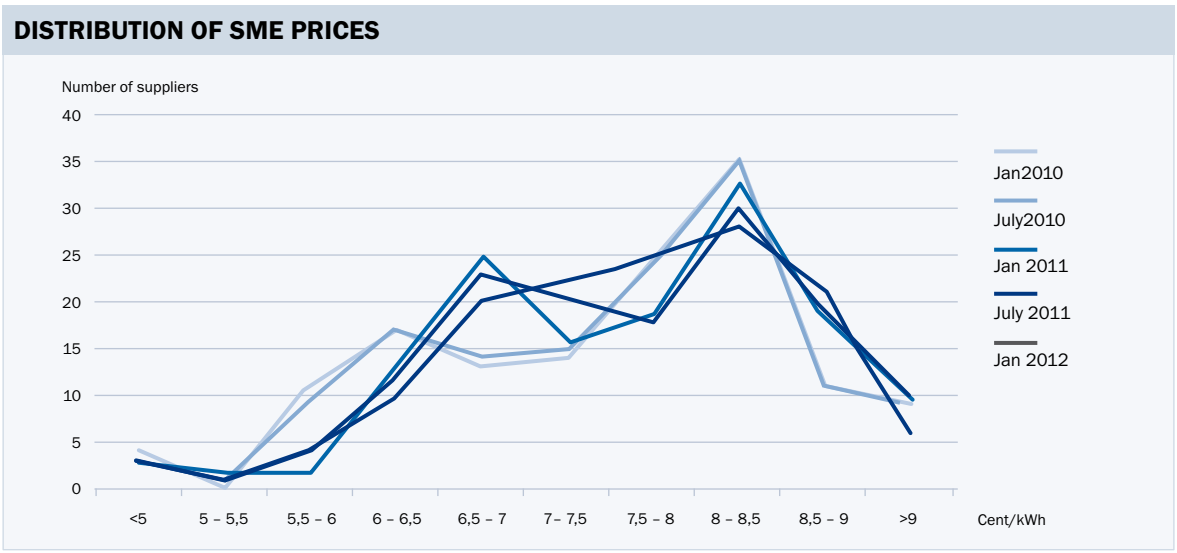

Figure 27: *Distribution of SME prices*
Source: E-Control market statistics

The distribution of prices for small and medium-sized businesses also became more even in the last six months of 2011. The difference between the highest and lowest price contracted sharply, although there was only a modest fall in the mean price *(Figure 27).* Prices for small and medium-sized enterprises are only slightly lower than those paid by household customers. Household prices nudged up by 0.02 cent/kWh to 7.73 cent/kWh between January 2011 and January 2012, while the prices paid by SMEs slipped by 0.01 cent/kWh over the same period.

Renewable electricity expenses as a component of electricity costs

Until June 2012 energy prices also included additional expenses for renewable electricity pursuant to section 19 Ökostromgesetz [Green Electricity Act]. These expenses represent the difference between the settlement price that a supplier is required to pay for the renewable electricity allocated to it, and the market price, i.e. the procurement costs. As the cost of procurement and the allocated quantity of renewable power differs between suppliers, the expenses charged on to consumers also varied. How these expenses are calculated or the amount charged on to consumers was known only for a few cases because suppliers seldom itemised such costs on energy bills. *Figure 28* provides an overview of the data collected up to June 2011.

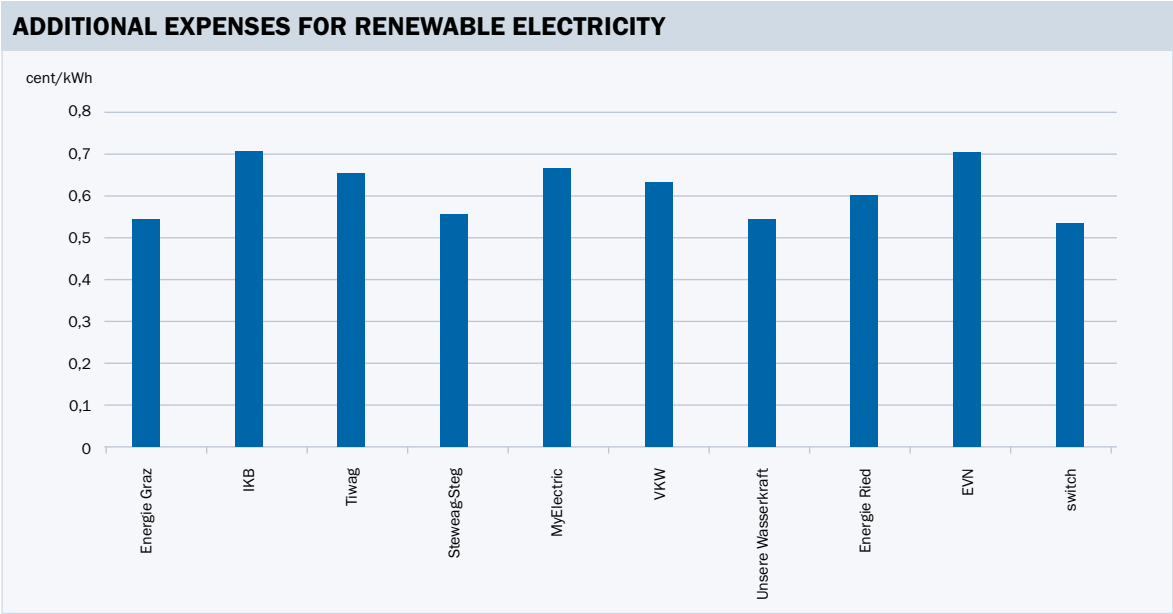

Figure 28: *Additional expenses for renewable electricity pursuant to section 19 Green Electricity (Amendment) Act 2009, Jun. 2011)*
Sources: Company price lists and websites

The settlement price was reduced with effect from 1 January 2012, and some suppliers passed this reduction on to their customers.

The enactment of the new Green Electricity Act led to a complete overhaul of the support system, with effect from 1 June 2012. The new mechanism features a green energy funding contribution per kWh consumed, and a flat green energy charge (previously the metering point charge) which will be collected by the system operators. The cost of the guarantees of origin is now folded into the energy price. All the charges that the system operators are required to pay are determined by statute, meaning that they are clear and transparent for customers. Section 19 Green Electricity Act dispenses with additional expenses for renewable electricity as of 1 July 2012.

In the first few months after the commencement of the new provisions E-Control will be assessing whether and to what extent suppliers reduce their energy prices for non load metered consumers following the abolition of the renewable electricity contribution.

Price trends in comparison with the rest of Europe

Electricity prices charged to household consumers in Austria, including taxes and levies, are 19.65 cent/kWh – slightly above the EU-17 average of 19.28 cent/kWh *(Figure 29).* Austrian prices are below those in Germany and Italy, but higher than in France and the UK.

EUROPEAN HOUSEHOLD ELECTRICITY PRICES, H2 2011

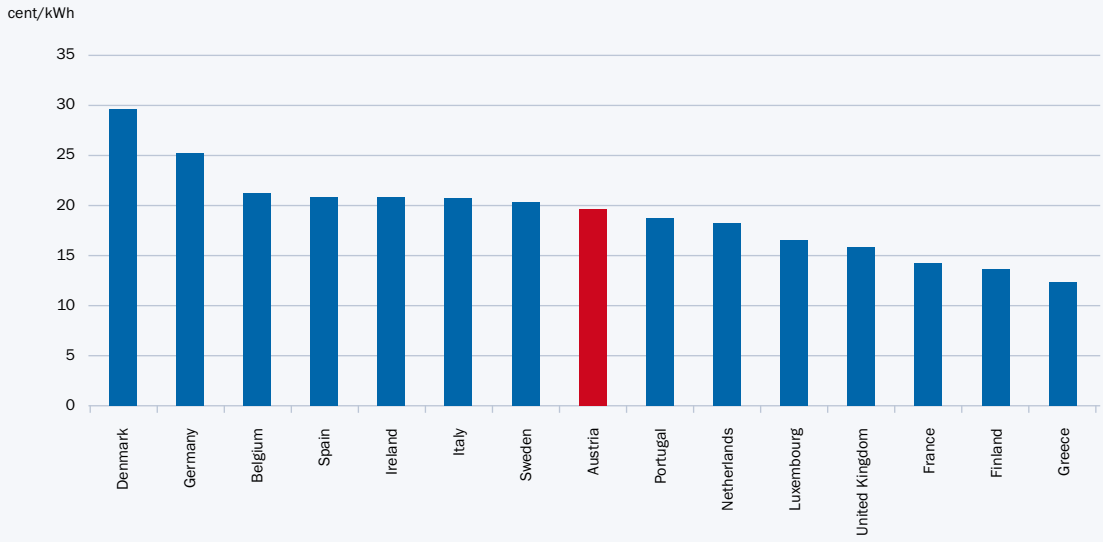

Figure 29: *Household electricity price (energy and system charges) (2,500–5,000 kWh), inc. taxes and levies, H2 2011*
Source: Eurostat

Figure 30 shows that domestic electricity prices are on the increase in the EU-17 (EU-15 until 2011). Over time, prices in Austria have jumped significantly. In general, prices have tended to increase in the first half of the year, followed by a slight decrease in the second. Prices in the second half of 2011 were 1.8% higher than in the same period of 2010. This was well below the 7% average rise recorded in the EU-27 and EU-17 countries. However, a comparison with the second half of 2007 paints a completely different picture – since then prices in the EU-15/EU-17 countries have gone up by 10%, and by 20% in Germany, 7% in the UK and 13% in Austria. However, prices fell by 3% in Italy over the same period.

EUROPEAN HOUSEHOLD ELECTRICITY PRICES

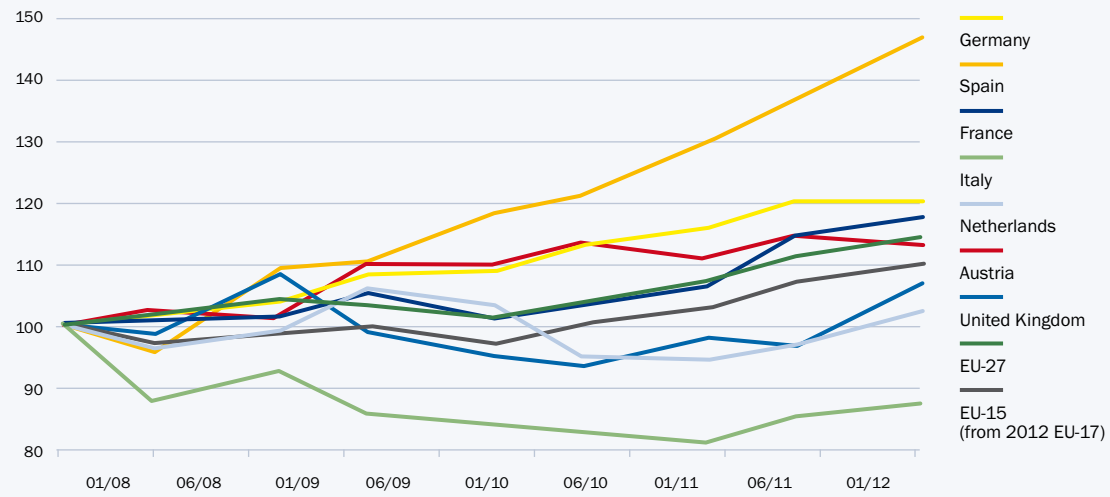

Figure 30: *Comparison of household electricity prices in the EU (Jan. 2008 = 100)*
Sources: Eurostat, E-Control

The **European Household Energy Price Index (HEPI)** is designed to provide up-to-date assessments of changes in household electricity prices in selected EU capital cities *(Figure 31).* The EU-15 HEPI 20 compiled by E-Control shows that prices have been trending upwards since June 2009 following a marked decline in the previous months. However, the HEPI for Austria (Vienna) did not reflect these price movements in either direction, and the price decreases in January 2010, 2011 and 2012 were attributable solely to a reduction in the system charges, and in renewable electricity costs following a drop in the settlement price.

HOUSEHOLD ENERGY PRICE INDEX (HEPI)

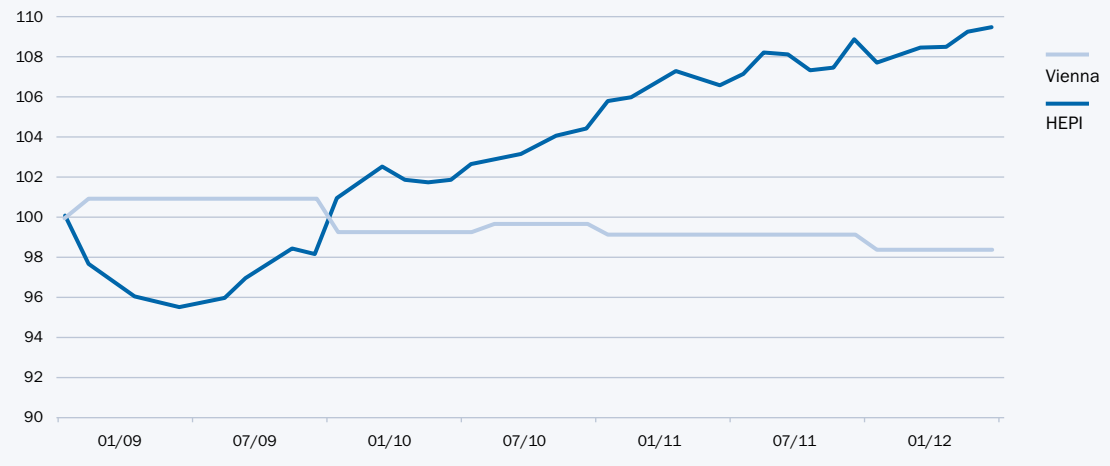

Figure 31: *Household Energy Price Index (HEPI): volume-weighted household price index for the EU-15 capital cities, excluding tax (January 2009 = 100)*
Source: E-Control

[20] The European Household Energy Price Index (HEPI) is compiled by E-Control in cooperation with VaasaETT Global Energy Think Tank. This weighted index tracks price trends throughout Europe. It is calculated on the basis of the electricity and gas prices of the dominant supplier and its main competitor in each of the EU-15 capitals. The analysis takes the tariff most widely used by consumers in each city.

Electricity price trends: individual contract consumers

The transparency of the prices charged to large consumers enables E-Control to carry out its industrial price survey. Since the second half of 2003 E-Control has surveyed the energy prices paid by Austrian industrial consumers directly, on a biannual basis (January and July), using an online form. The results are posted on our website (www.e-control.at).

The latest results *(Table 5, Figures 32 and 33)* show prices falling year on year across all consumption categories. *Figures 32 and 33* depict the evolution of industrial prices for a variety of demand categories. Large industrial consumers have enjoyed the largest price reductions, ranging from 5.94 cent/kWh for consumption above 4,500 full load hours to 6.69 cent/kWh for consumption below that level.

RESULTS OF THE INDUSTRIAL ELECTRICITY PRICE SURVEY, H1 2012

H1 2012	cent/kWh	Full load hours < 4,500 h/year*	Full load hours > 4,500 h/year*	No full load hours category
Annual consumption < 10 GWh	Median	6.69	6.31	6.47
	Arithmetic mean	6.69	6.30	6.54
	Standard deviation	0.71	0.61	0.70
	No. of companies	*158*	*93*	*251*
Jahresverbrauch > 10 GWh	Median	6.20	5.94	5.98
	Arithmetic mean	6.27	5.94	6.02
	Standard deviation	0.87	0.64	0.72
	No. of companies	*28*	*80*	*108*
No demand category	Median	6.62	6.08	6.33
	Arithmetic mean	6.62	6.13	6.39
	Standard deviation	0.75	0.64	0.74
	No. of companies	*186*	*173*	*359*

Table 5: *Results of the industrial electricity price survey, H1 2012, cent/kWh; full load hours = annual consumption/ capacity*
Source: E-Control

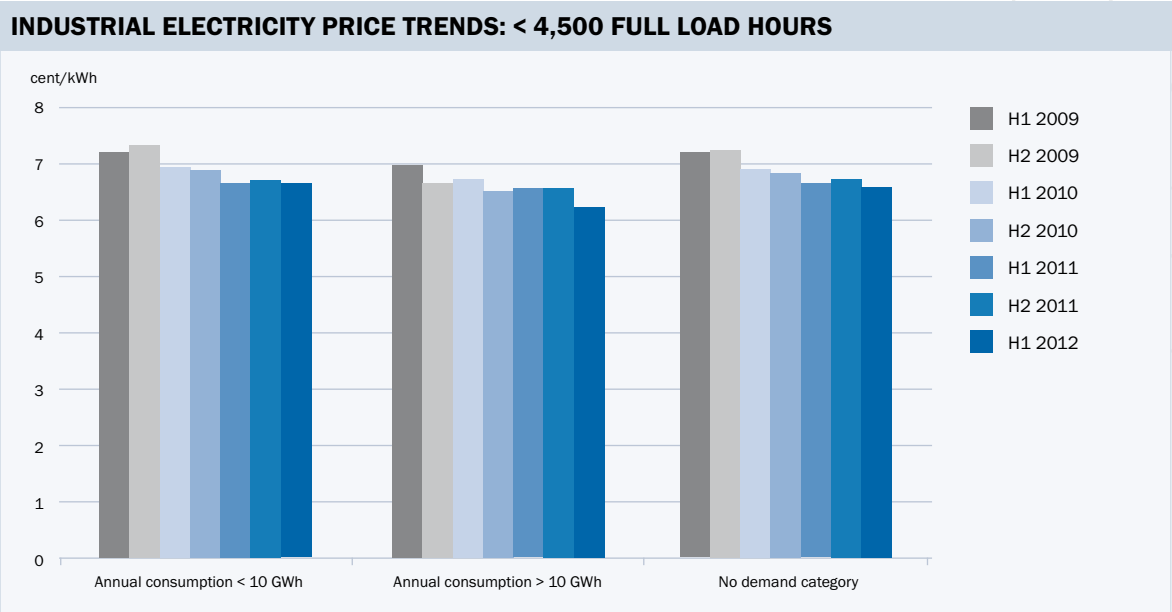

Figure 32: *Industrial electricity price trends: < 4,500 full load hours*
Source: E-Control

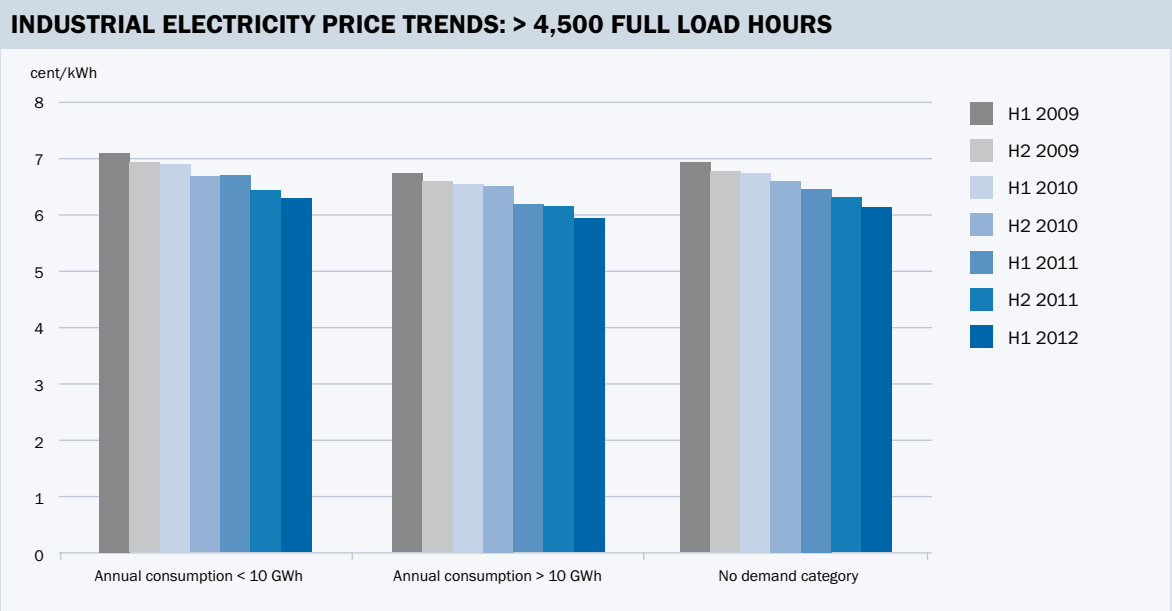

Figure 33: *Industrial electricity price trends: > 4,500 full load hours*
Source: E-Control

EUROPEAN COMPARISON OF INDUSTRIAL PRICES

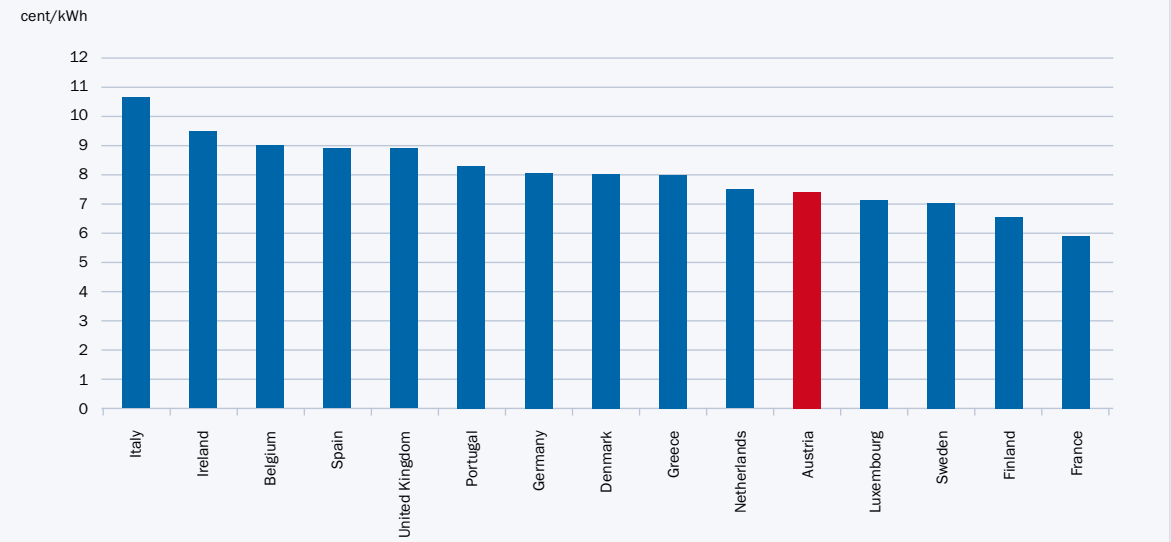

Figure 34: *EU comparison of industrial prices, consumption of 2–20 GWh (small industrial consumers)*
Sources: Eurostat, E-Control

As shown in *Figure 34,* prices for small industrial consumers in Austria are below the European average.

MARGINS ON THE ELECTRICITY MARKET

The range of strategies available for procuring electricity is virtually endless, covering everything from intraday to structured procurement. However there is a general presumption that suppliers will aim to minimise their price and volume risks. Particularly in low-price phases on the spot market, it is often argued that electricity under long-term contracts, i.e. purchased on the futures market, is relatively expensive and would thus justify high retail prices. However calculations based on realistic assumptions show that at present this is not a valid argument.

Firstly, supplying electricity to household consumers always involves a degree of buying and/or selling on the spot market, as it is not possible to cover typical household load profiles via the futures market alone. Secondly, wholesale prices always form the basis of the costs paid by businesses, even where they have exclusive supply contracts.

To assess the electricity suppliers' retail margins, E-Control and Frontier Economics[21] have developed a margin calculation model that simulates a variety of procurement strategies. The model is derived from the standardised household load profile (posted on the www.apcs.at site). The strategies can be categorised according to whether they involve being short or long on the spot market, and according to the various procurement periods. For instance, the "18:6 balanced" scenario means that half of the time energy must be purchased on the spot market and the other half, it must be sold to cover the household load profile. Under this scenario, procurement is in equal quantities between six and 18 months before the commencement of deliveries. It is assumed that the supplier buys yearly and quarterly products on the futures market. *Figure 35* is a schematic diagram of the procurement model.

[21] See Marktbroschüre [Market Brochure] 2010 (German only), p. 17, www.e-control.at/publikationen.

SCHEMATIC DIAGRAM OF THE PROCUREMENT MODEL

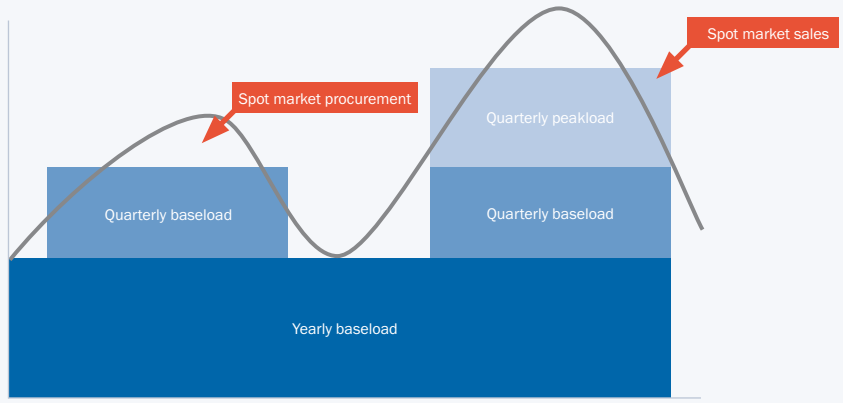

Figure 35: *Schematic diagram of the procurement model*
Source: E-Control

The costs associated with the various procurement strategies converged during 2011, and there is no longer such a large discrepancy between short and long-term procurement. The traded volumes recorded on the EXAA (the reference exchange for the Austro-German electricity market) demonstrate that procurement over a period of two to three years is all but impossible, since the liquidity needed for such long-term futures products is lacking.

Bilateral OTC contracts are another option, but without a reliable reference price procurement two to three years in ahead would expose the suppliers to excessive risks. In 2011 the prices associated with realistic procurement scenarios ranged from 4–6 cent/kWh.

This would add more than 40% to the prices of the most expensive suppliers. The fact that under certain circumstances suppliers could procure energy at favourable prices and as a result generate still higher margins is not taken into account. The results are shown in *Figure 37.* Overall, it can be seen that the margin spread has narrowed since the start of 2011.

PROCUREMENT COSTS OVER TIME

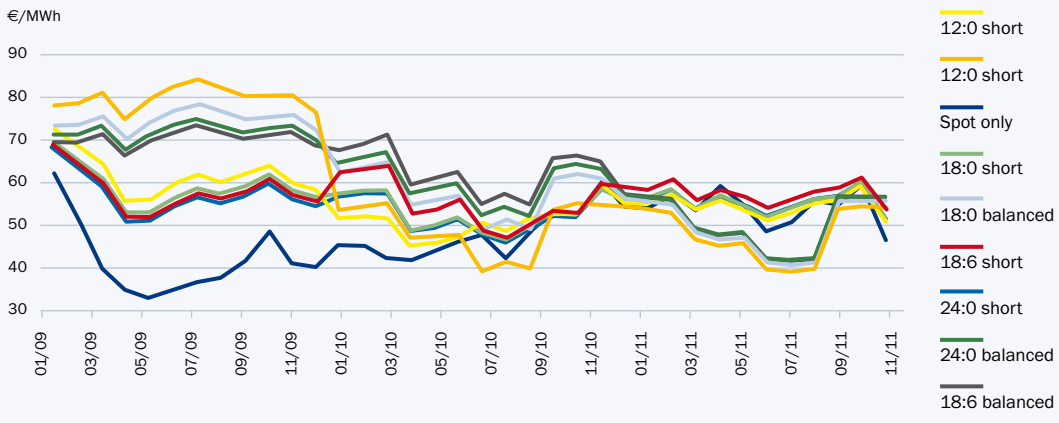

Figure 36: *Procurement costs associated with various buying scenarios, over time*
Sources: E-Control calculations, EPEX Spot, EEX, APCS

The suppliers' gross margins under the various procurement strategies can be estimated by apportioning the costs to retail prices, taking a typical household with an annual consumption of 3,500 kWh. "Costs to serve", such as billing, would also be included. In the case of household customers, these costs should be relatively modest.

ELECTRICITY SUPPLIERS' GROSS MARGINS

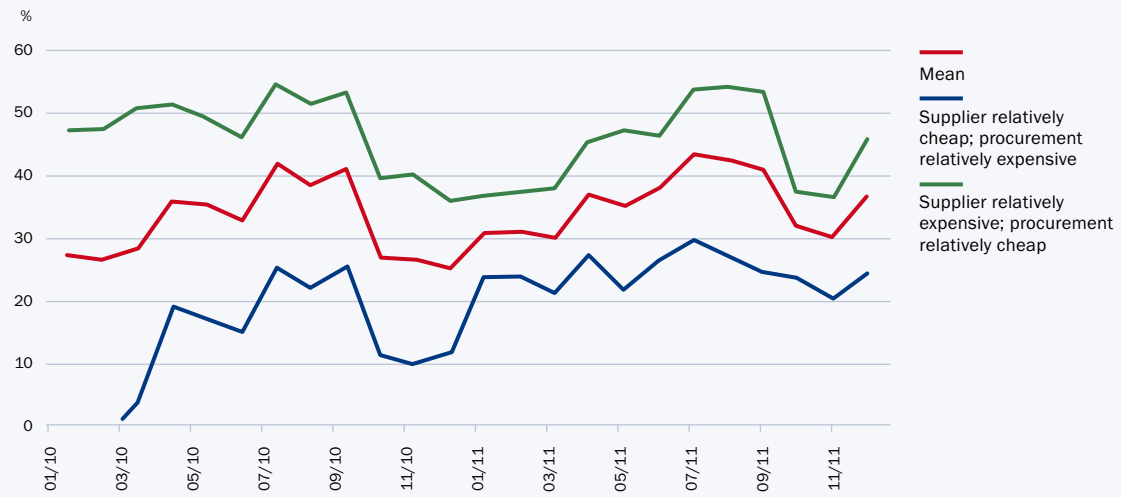

Figure 37: *Estimated gross margins of electricity suppliers as % of retail price*
NB: Based on typical household consumption (standard household load profile published by APCS) under various procurement strategies, i.e. quarterly and yearly futures, and spot, with different weightings and procurement lead times. The gross margins were calculated by comparing the procurement costs of selected, typical Austrian suppliers with retail prices. The green and blue curves represent the minimum and maximum gross margin. In other words, the bottom line depicts the gross margin of a relatively cheap supplier that employs an unfavourable, i.e. expensive – procurement strategy.
Sources: E-Control calculations, EPEX Spot, EEX, APCS

A simpler approach involves a direct comparison of price trends in the retail and wholesale markets *(Figure 38).*This reveals that wholesale prices reacted more strongly than retail prices to the overheating world economy in the run-up to the global financial crisis. The subsequent household price rises appear to have been little more than an after-effect.

It is worth noting that although wholesale prices plunged after the events surrounding the collapse of Lehman Brothers retail prices were hardly affected, and increased in 2010 and 2011. In retrospect, the high price phase on the wholesale market was very shortlived and only lasted a year at most, whereas prices have remained relatively low for the past three years.

WHOLESALE PRICES AND SELECTED HOUSEHOLD PRICES, OVER TIME

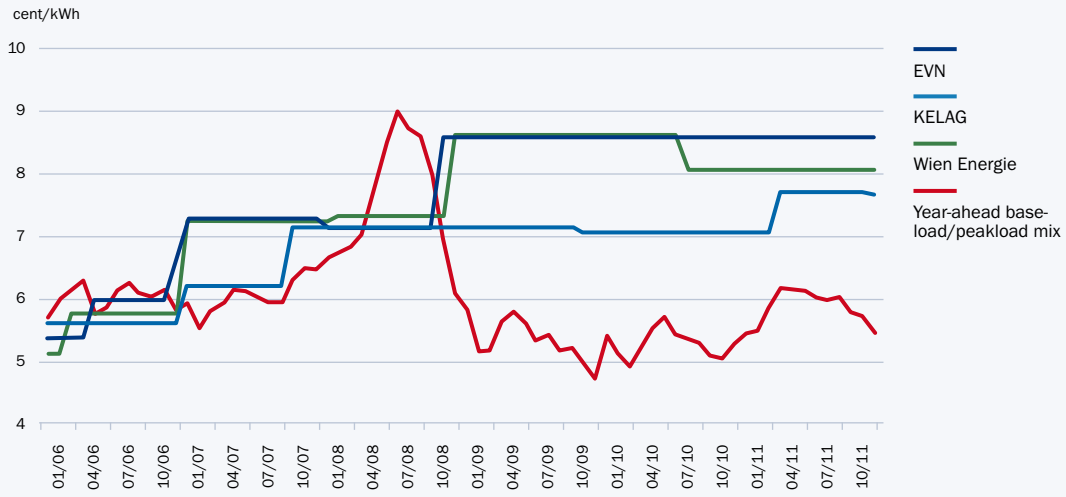

Figure 38: *Wholesale prices and selected household prices (energy prices only), over time*
Sources: E-Control calculations and tariff calculator, EEX

COMPANIES' FINANCIAL PERFORMANCE

Summary of economic trends

After a strong recovery in 2010, economic growth declined sharply in 2011, especially in the last two quarters of the year, clouding the bright outlook for the Austrian economy.

Following a phase of stabilisation for the Austrian and European economies, developments in Southern and Southeastern Europe, and the onset of the EU sovereign debt crisis have cut short the positive trend. Increased financial market volatility, the uncertain investment environment, and the loss of confidence in economic policies and companies' strategies are weighing on economic growth. In spite of the dark clouds on the economic horizon the Austrian economy held up well in 2011, recording a 3.0% growth rate.[22]

The latest indicators, and the persistent uncertainties afflicting the eurozone have led the IHS (Institute for Advanced Studies) and the WIFO (Austrian Institute of Economic Research) to forecast growth of only 0.8% and 0.4%, respectively, in 2012.[23]

The responses of Germany and other EU member states to the nuclear disaster in Japan were the main factors influencing European energy policy and energy markets in 2011. Germany introduced a moratorium on atomic energy until 2022, and Belgium and Switzerland also decided to shut down their nuclear power stations. These abrupt moves were reflected in price spikes on European electricity exchanges and the emission allowances market.[24] Uncertainties about the European economy and future energy policies, combined with the changed conditions on the energy markets, meant that the energy sector faced a testing time in 2011.

In addition to developments at the European level, changes in Austrian market conditions also had a significant influence on the energy utilities' financial performance. In 2011 electricity generation in Austria declined by around 7.6% year on year to some 65,600 GWh, mainly as a result of the decline in the energy capability factor and rising energy prices. However, electricity demand was virtually unchanged, whereas gas consumption dropped by about 6.2%.[25]

Despite the favourable economic climate (up to mid-2011), electricity generation and gas sales were weak, due to warm weather, low water flow and high oil, gas and coal prices

[22] Oesterreichische Nationalbank, Economic Outlook for Austria from 2012 to 2014, June 2012.
[23] Federal Ministry of Economy, Family and Youth, Wirtschaftspolitisches Datenblatt [Economic Policy Datasheet], July 2012.
[24] Energie AG, Annual Report 2010/2011, 2011.
[25] Energie Control Austria, operational statistics, 2011 time series.

Companies' financial performance in 2011[26]

In spite of the changed economic and policy environment the energy utilities' revenue climbed by around 6.3% in 2011. The total revenue of Austria's largest energy companies soared by almost 150% between 2001 and 2011 *(Figure 39).*

The gas and electricity revenue of the companies surveyed rose by between 3–11% in 2011. Revenue in the electricity and heating segments rose only marginally, but groups with operations in other areas such as environmental services, water supply and transport posted stronger revenue growth than during the past year. The foreign investments of companies such as EVN AG, Energie AG and Verbund AG also had a positive impact on revenue (see 2011 company annual reports).

The contribution to revenue from district heating operations was also robust, with a year-on-year increase of around 4%, although growth was somewhat slower than in previous years owing to warm weather conditions. The market share of district heating in Austria is expected to continue growing as a result of government subsidies and planned network expansion programmes.

As in 2010, revenue from the companies' gas operations rose by about 4%. The positive trend continued – in the teeth of negative factors such as increased competition from district heating and high average temperatures – thanks to the strength of the economy and increased transportation business in Austria and abroad.[27]

As mentioned above, other activities such as environmental services, water, transportation, telecommunications and waste disposal lifted revenue in 2011. The companies' overall revenue was up by 19% in the reporting period, following declines in both of the preceding years. Although the economic crisis, stiff competition and high input prices are still posing a challenge to the utilities, especially in Central and Southeastern Europe, both domestic and foreign revenue improved on the back of a more settled economic situation. Nevertheless, the full-year economic forecasts for Central and Southeastern Europe in 2012 should give pause for thought. The Oesterreichische Nationalbank (OeNB) sees only minimal growth, with significant downside risks.[28]

However the time series going back to 2001, which show a fourfold increase in revenue, point to considerable growth potential in the region. The companies will probably continue to look to invest in new markets so as to tap into additional sources of revenue.

[26] The figures include the following companies (two of which have been added since the 2010 report): BEGAS, BEWAG, Energie AG, Energie Graz, Energie Steiermark, EVN, IKB, Kelag, Linz AG, Salzburg AG, TIWAG, VEG, Verbund, VKW and Wien Energie. EconGas, EnergieAllianz and TIGAS were omitted because their results form part of their shareholders' consolidated accounts. OÖFG was excluded because it is a subsidiary of Energie AG Oberösterreich.

[27] See Energie AG, Annual Report 2010/2011.

[28] Oesterreichische Nationalbank, Konjunktur Aktuell [Economic Update] (German only), June 2012.

ENERGY GROUPS' REVENUE BY SEGMENTS, 2001–2011

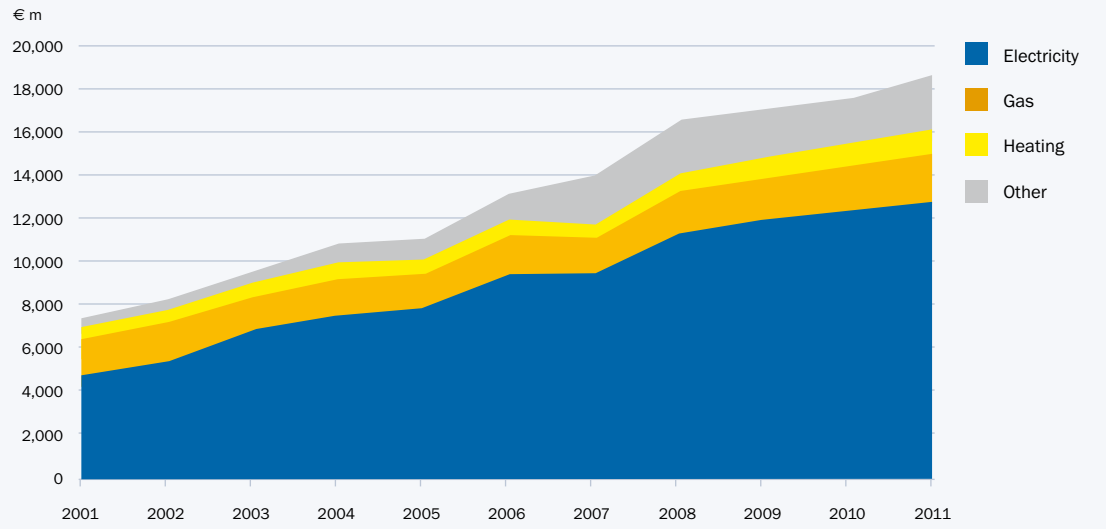

Figure 39: *Energy groups' revenue by segments, 2001–2011, € m*
Source: Company annual reports

Austrian gas and electricity companies returned revenue performances ranging between negative growth of 13.0% and positive growth of 16.9% in 2011. The biggest gains were recorded by Verbund AG (16.9%), Energie AG (12.2%), Energie Steiermark AG (9.5%) and Kärntner Elektrizitäts-AG (8.7%). In contrast, BEWAG (-13.0%), TIWAG (-1.1%), EVN AG (-0.8%) and Energie Graz (-0.4%) all saw declining revenue. Besides non-recurring effects and reduced energy capability factors, the fall-off in these firms' revenue was mainly due to weaker prices on the electricity exchanges and the resultant fall in trading income.[29]

While Austrian energy suppliers' total revenue has trended upwards since 2001, earnings before interest and tax (EBIT) have been under pressure since 2008, mainly as a result of higher fixed costs and fuel prices. However, in 2011 total EBIT jumped by 17% – the first year-on-year rise in three years – and the EBIT margin also widened *(Figure 40).*

[29] 2011 annual reports of BEWAG, Energie Graz, EVN AG and TIWAG AG.

AUSTRIAN ENERGY GROUPS' EARNINGS

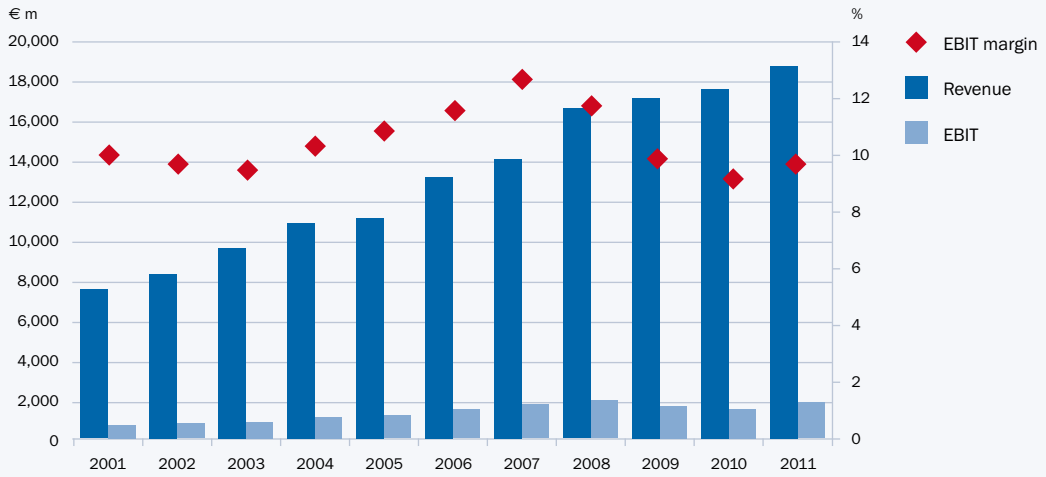

Figure 40: *Austrian energy groups' earnings, 2011-2011, € m*
Sources: Company annual reports, E-Control calculations

Somewhat calmer conditions on capital markets had a positive effect on the companies' net finance costs, although the impact was less than in previous years. The improvement also reflected realigned borrowing and portfolio strategies.

This development, in combination with the growth in total EBIT, has helped to stabilise profits, as shown by *Figure 41.*

ENERGY GROUPS' PROFITS, OVER TIME

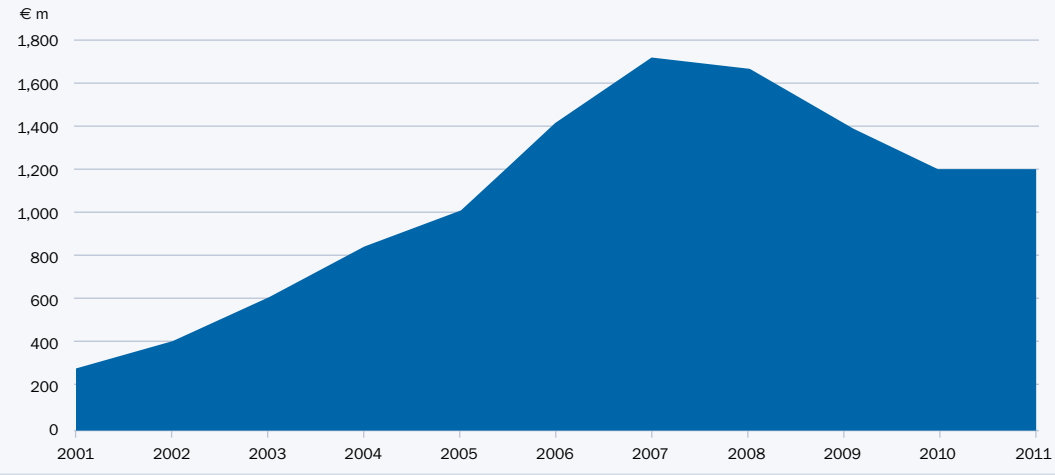

Figure 41: *Austrian energy groups' profits, 2001–2011, € m*
Sources: Company annual reports

The energy utilities were unable to replicate profit growth over the 2001–2007 period, but the improved economic environment up to mid-2011 brought modest gains in after-tax profits.

On the whole, 2011 was a good year for the companies, but forecasts from the OeNB, IHS and WIFO suggest it is hard to predict how economic developments in 2012 will affect them. Several economic research institutes are predicting only marginal growth in Austria and a mild recession in the EU as a whole.[30] Economic growth is expected to remain subdued in Central, Eastern and Southeastern Europe in 2012. Despite this rather gloomy outlook, the rating agencies have singled out Austrian utilities' solid structures and business models as key positives. The companies' financial results over the past few years have also shown that they are well placed to weather unsettled economic conditions.

Changes in capital structures
The companies' balance sheets have grown strongly over the past 11 years. Since 2001 the aggregate total assets of the companies analysed have risen by 66% or some € 15.8bn, and the average equity ratio for the period has been around 34%. The utilities' equity ratio has remained close to 40% over the past three years, giving them a solid and sustainable capital base *(Figure 42).*

As the scope for expansion on the home energy supply market is limited, the utilities are looking for growth from equity investments, and expansion into activities such as environmental services, waste management and water supply – both in Austria and abroad. If operational reviews in their annual reports indicate that the companies will be stepping up efforts in these directions, in an attempt to achieve the growth rates expected by their shareholders and other stakeholders, and to remain competitive against other European energy suppliers.

CHANGES IN CAPITAL STRUCTURES

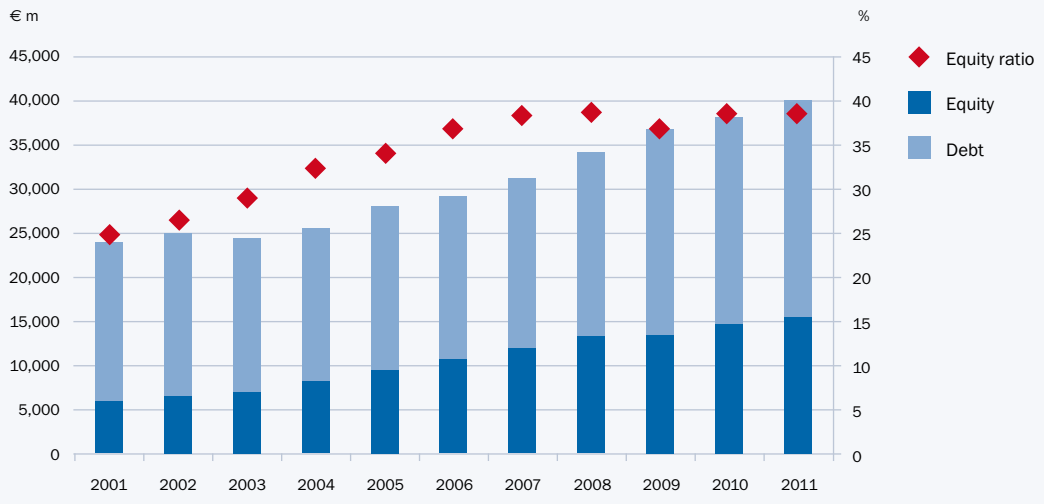

Figure 42: *Changes in Austrian utilities' capital structures, € m*
Sources: Company annual reports, E-Control calculations

[30] See Federal Ministry of Economy, Family and Youth, Wirtschaftspolitisches Datenblatt [Economic Policy Datasheet], July 2012.

WIDER ELECTRICITY MARKET MONITORING DUTIES FOR E-CONTROL

Extended market monitoring responsibilities

Arts. 37(1)(i, j, k, l and u) and 40(3) Electricity Directive were transposed into Austrian law by section 88(1 and 3) Electricity Act 2010 which imposes a number of new monitoring duties on E-Control and the provincial governments (in the latter case, by way of an framework provision).

E-Control's monitoring activities are primarily concerned with the functioning of the market, and are described by section 88(3) Electricity Act 2010 and section 21(1) E-Control Act. The regulator is charged with carrying out investigations, compiling reports and submitting opinions on the state of the electricity market and the level of competition. In order to fulfil these duties, E-Control requires the information it regularly receives from market participants in accordance with under section 88. Pursuant to section 34 E-Control Act, the regulator is also entitled to inspect documents and demand information in the course of its monitoring activities.

The Electricity Act 2010 requires the provincial governments to collect a specified minimum amount of information as part of their monitoring of system and distribution system operators, and suppliers.

Section 88(8) Electricity Act 2010 makes E-Control responsible for layind down the formats of data to be provided by the system and distribution system operators, and suppliers. The companies subject to reporting requirements must submit the requisite data electronically to the provincial government concerned and to E-Control by 31 December of the following year at the latest. E-Control developed the various formats in consultation with the provincial administrations, and they were finalised in 2012.

Monitoring trading markets: Regulation on Energy Market Integrity and Transparency (REMIT)

The European Commission tackled the lack of an EU-wide regime to prevent energy spot and futures market abuse by adopting up a proposed Regulation on Energy Market Integrity and Transparency (REMIT) on 8 December 2010. REMIT is designed to introduce a uniform approach to combating potential abuse and insider trading on wholesale energy markets, and a watertight wholesale market monitoring system. The new rules aim to ensure that traders cannot use inside information to benefit from their transactions or manipulate the market by artificially causing prices to be higher than would be justified by the availability, production cost or capacity to store or transport energy. In particular, the rules prohibit:

> The use of inside information when selling or buying on wholesale energy markets; exclusive and price-sensitive information should be disclosed before trades can take place;
> Transactions that give false or misleading signals about the supply, demand or prices of wholesale energy market products;
> The dissemination of false or misleading news or rumours that give misleading signals on these products.

Market monitoring to uncover possible cases of abuse will be the responsibility of ACER, working in collaboration with the national regulators. REMIT states that the Agency must have timely access to complete information on transactions on wholesale energy markets, including the price, the quantity sold and the market participants involved. The data is to be shared with national regulators, which will be responsible for detailed investigation of suspected abuse. In complex cross-border cases ACER is to coordinate investigations. Penalties are to be enforced by the national regulatory authorities in the member states.

REMIT is intended to complement the existing EU framework for financial market regulation, which already includes rules for trading in energy derivatives. It introduces rules for the collection of energy trading data, and action to combat market abuse in spot trading. It is thus closely connected with the Commission's plans for new legislation on the regulation of financial markets.

E-Control is working to help market participants to comply with the new regulation. To this end, market participants have been able to submit any queries related specifically to REMIT to a dedicated e-mail address since December 2011. Workshops held in Austria, and international conferences have provided forums for market participants and regulators to exchange information on the regulation.

ART. 37(1) ELECTRICITY DIRECTIVE: RECOMMENDATIONS REGARDING RETAIL PRICES

Since retail prices in Austria are not regulated, this provision does not apply.

INVESTIGATIONS AND MEASURES TO PROMOTE COMPETITION

In transposition of Art. 37(4)(b) Electricity Directive, section 21(2) E-Control Act requires E-Control to investigate, report on and issue opinions on market and competitive conditions in the electricity and gas sectors.

Section 21(3) gives E-Control rights to make applications and deliver opinions under the *Kartellgesetz* (Cartel Act) 2005. In addition, section 24(1)(2) charges the regulator with general competition oversight of market participants.

Electricity market investigation

Wholesale electricity prices have been falling for some time. E-Control's analysis and monitoring of retail price trends in 2011 raised a number of issues. One of the most important was the fact that the sharp decline in prices on all electricity exchanges is hardly reflected in retail price levels. The theoretical framework of our investigations does little to explain this growing discrepancy.

Our analyses are based on information collected in its regular surveys of wholesale and retail prices. They are subject to tight restrictions as the data is in the public domain. As a result of this, and recent wholesale and retail price trends, we decided to compare the assumptions and analytical approaches underlying our calculations with data from the utilities themselves.

In late August 2011, we sent a questionnaire focusing on a narrow range of competition-related issues to 19 Austrian electricity suppliers. The aim was to look more closely at the companies' margins and procurement strategies. Section 34 E-Control Act empowers the regulator to inspect market participants' documents, while section 21(2) of the Act permits us to initiate market investigations. As none of the 19 companies surveyed provided answers to the questions regarding competition, a verdict from the constitutional court is now pending.

CONSUMER PROTECTION

The Electricity Act 2010 and the Natural Gas Act 2011 implement the **stronger consumer rights introduced by the third energy package.**

One major improvement to consumer rights is the introduction of a time limit for the supplier switching process. As a rule, switching suppliers may not take more than three weeks, and may not entail any additional costs for consumers. E-Control is currently involved in intensive discussions with industry representatives regarding an ordinance that will regulate the key switching processes in greater detail.

This will primarily involve automating the process as far as possible. Another proposal is enabling consumers to switch suppliers on a date of their choice: at present transfers are only possible on the first day of each month. In future, customers will be able to specify their desired switching date. The three-week deadline is designed to radically shorten the switching process, which many consumers perceive as slow.

Both acts lay the groundwork for the establishment of detailed quality standards for network operators' services. E-Control is tasked with formulating these standards, which will apply to the safety, reliability and quality of electricity and gas network services, as well as the metrics for monitoring compliance. Owing to the monopolies enjoyed by the system operators, it is essential that consumers are fully aware of their rights – which are largely determined by law – under the terms of their contracts. An ordinance that sets out safety, reliability and quality standards, and additional rights to information, has already been enacted for the gas sector with a view to improving transparency for consumers. Restoring system access is one of the key considerations that the ordinance deals with. Under the ordinance, following disconnection due to payment default, the distribution system operators will be required to restore access by the next working day at the latest. This deadline will apply as soon as the system user notifies the distribution system operator that payment has been made, and the latter ascertains that a valid supply agreement is in place. The treatment of vulnerable consumers is another key aspect. Many people in Austria do not have a bank account, so consumers should also have the option of paying any outstanding amounts in cash during normal business hours.

System operators will be required to inform consumers of any planned supply interruptions five days in advance. When a disturbance occurs, work to rectify the problem should begin immediately, and the consumer should be informed of the length of the interruption.

Further improvements in consumers' rights can be expected with regard to customer information and the handling of complaints. System operators will be required to provide communication channels through which consumers can submit queries and complaints. At the least, customers should have access to a telephone hotline. Additionally, the system operator will be obliged to deal with any queries or complaints within five working days. Regular, representative and standardised surveys of system user satisfaction will also be introduced, and it will be obligatory to notify the regulator of the results every year.

The ordinances regulating gas and electricity system services are due to be enacted in the course of 2012.

In addition to a provision requiring system operators to offer the option of payment by at least ten instalments a year, the Electricity Act 2010 and Natural Gas Act 2011 also establish minimum standards for energy bills, as well as binding information requirements for disconnections. Some forms of information must be easily and directly accessible to consumers online, and must also be included in an information sheet to be enclosed with the bills. This concerns the obligation to inform the consumer of the initiation of arbitration proceedings, among other matters.

Also new is the fact that E-Control is now the statutorily appointed, central source of information for consumers.

In order to simplify access, E-Control operates an energy hotline, which provides consumers with comprehensive information on the liberalised gas and electricity markets. The hotline is often the first port of call for energy-related queries, which can either be answered directly, or passed on to one of our in-house experts or to the arbitration panel. In 2011, the number of callers to the hotline was up by almost a quarter, to around 10,000.

The E-Control website with its well-tried online tools is another of our customer service offerings. Electricity and gas suppliers now obliged to provide the regulator with price information on standard retail products as soon as it becomes available. This can be done electronically by inputting the data to the tariff calculator, which compares the prices of 283 suppliers and shows the potential savings from switching.

Besides resolving disputes in accordance with section 26 E-Control Act, the arbitration service is increasingly offering support to consumers who feel that their supplier or system operator is not giving them enough information about their rights and duties. The service also fields general enquiries about the liberalised gas and electricity markets. In 2011 the arbitration service received around 2,406 written enquiries, or about 15% more than in the previous year.

The Electricity Act 2010 and Natural Gas Act 2011 both contain consumer protection measures (Annex 1). The minimum requirements for general terms and conditions (GTC) and standardised contracts are stipulated in section 80(3) Electricity Act 2010 and section 123(3) Natural Gas Act 2011. Price changes, and amendments to GTC must always be notified to customers in writing, in a timely manner. If a customer objects to a notified contractual amendment, the contract may not terminate until after a notice period of three months from the last day of the operative month. This ensures that the customer has sufficient time to look for a new supplier, and is served at the previous prices and on the previous conditions until the transfer takes place.

Under section 28(2) E-Control Act, the market report is required to include details of the steps taken to protect consumers. The Act states that the report must “make reference to the effectiveness of measures related to the protection of consumers, especially those in particular need of support; to disconnections and the preceding reminder procedure; and to access to a supplier of last resort. The report is to be published in an appropriate form.” E-Control is unable to include such details in this year’s market report as the relevant information is not yet available; it will be generated by our future monitoring activities.

Supplier of last resort and qualified dunning procedure
Sections 77 Electricity Act 2010 and 124 Natural Gas Act 2011, which regulate last resort supply, are designed to ensure that vulnerable consumers receive the necessary protection. Adaptations and clarifications were required as regards the reasonableness of basic supply, the maximum level of the system charges to be billed, and the maximum prepayment or deposit to be demanded. The above provisions require suppliers that serve household consumers to publish their prices for last resort supply in an appropriate manner. They are obliged to provide gas or electricity to households and SMEs that request last resort supplies at the stated price, and in accordance with their general terms and conditions. When commencing last resort supply to consumers in the meaning of the Consumer Protection Act and small businesses, suppliers may not demand prepayments or deposits higher than those charged to the majority of such consumers, or than a monthly instalment. As section 77 Electricity Act 2010 is an enabling provision, the provincial governments are responsible for enacting detailed implementing legislation. In some cases, such legislation is already in place.

Section 124(1) Natural Gas Act 2011 empowers the regulator to determine by ordinance detailed provisions regarding the reasonableness of basic supply and the structure of consumer prices. In the process of reviewing GTC for the supply of electricity referred to it, the Regulation Commission looked into the question as to whether suppliers are entitled to refuse last resort supply to consumers with outstanding debts. It found that providing basic supply is indeed obligatory if a prepayment or deposit has been received. Moreover, consumers with existing debts cannot be compelled to pay those debts under the terms of last resort supply, since such provision involves the conclusion of an entirely new agreement. This does not release an insolvent customer who requests last resort supply from the obligation to pay debts incurred under the previous supply agreement The customer is certainly obliged to pay any ongoing expenses arising from the basic supply.

The Regulation Commission also stated that in the event of termination of an agreement on reasonable grounds or the withdrawal of supply due to payment default, the mandatory reminder procedure under sections 82(3) Electricity Act 2010 and 127(3) Natural Gas Act 2011 must be observed. In cases of breach of contract, system operators are only entitled to physically disconnect customers after submitting two reminders and granting a grace period of at least two weeks. The second reminder must warn the consumer that disconnection will take place after the grace period if the debt is not paid, and provide information on the anticipated costs associated with a disconnection. These provisions also require the final reminder to be sent by registered mail.

Other charges
Under section 58 Electricity Act 2010, system operators are entitled to demand separate payment from system users for the costs of supplementary services which are not covered by charges pursuant to sections 51(2)(1–6 and 8) Electricity Act 2010, and which are directly incurred by the system user. The charges for supplementary services are determined by ordinance of the regulator, and must conform to the principles for calculating charges and social acceptability set out in the Act. Charges for supplementary services must, in particular, be set for dunning fees and changes to metering equipment requested by system users. The charges for disabling connections under section 82(3) Electricity Act 2010 and for re-enabling system access are capped at a total of € 30.

Section 51(1) Electricity Act 2010 prohibits invoicing of any amounts directly related to system operation over and above the charges specified by section 51(2)(1–8) Electricity Act 2010, without prejudice to separate provisions of the Act. In accordance with section 51(2) in conjunction with section 49(1) Electricity Act 2010, the charges for supplementary services are set by section 11 System Charges Ordinance 2012 (determination of charges for other services). This determines the fees for reminders, changes to metering equipment requested by system users, disabling and re-enabling of system access, and meter readings and the inspection of metering equipment at the customer's request. The amount of the charges is based on those previously invoiced by the system operators, taking account of social acceptability.

The first reminder may not incur any costs for the consumer, regardless of the manner in which it is sent. System operators are entitled to charge for subsequent reminders (see section 82(3) Electricity Act 2010). The involvement of collection agencies and similar organisations is not regarded as part of the dunning process and is not covered by the relevant provisions of the System Charges Ordinance. The reminder procedure pursuant to section 82(3) Electricity Act 2010 also applies in such cases. Where energy and system charges are billed jointly, the supplier and not the system operator usually carries out the reminder procedure. In such cases the Regulation Commission assumes that system operator's reminder fees, as specified by the System Charges Ordinance, will not be exceeded.

Flat-rate fees apply for the installation, adjustment or removal of metering equipment. The installation of a load profile meter or quarter-hourly maximum meter incurs higher costs, and the flat-rate fee is consequently higher.

Under section 51(1) Electricity Act 2010 no charges other than those specified in the System Charges Ordinance may be invoiced, without prejudice to separate provisions of the Act (see cost-reflective invoicing of reactive power supply, section 52[3] Electricity Act 2010). System operators may invoice the costs of any services they render seperately from their duties as system operators which are not covered by the system charges.

Green Electricity Cost Exemption Ordinance
The new rules governing renewable electricity financing, and the partial exemptions for certain groups of customers from renewable electricity costs under section 22(a) Green Electricity Act FLG no. 104/2009, also serve to provide an appropriate level of protection for consumers. In response, E-Control issued the Befreiungsverordnung Ökostrom [Green Electricity Cost Exemption Ordinance], which exempts eligible persons from the flat-rate renewables charge and the payment of the renewables contribution in excess of € 20. The ordinance also sets out detailed provisions for the procedure to be observed when assessing entitlements to exemptions and for the assertion of claims by beneficiaries.

Security of supply: electricity

Section 20i(1) Energy Intervention Powers Act 1982 as amended by FLG I no. 106/2006 charges E-Control with monitoring the security of electricity supply with a view to preparing intervention measures. Following its conversion from a private limited company to a public authority on 3 March 2011, the related duties have been transferred to the new authority as well. Section 21(1) E-Control Act as amended by FLG I no. 110/2010 states by means of a constitutional provision that the duties set out in the Energy Intervention Powers Act fall within the regulator's remit.

The outcomes of these monitoring activities may form the basis of the long-term plan compiled pursuant to section 20(i)(2) Energy Intervention Powers Act. Section 28(3) E-Control Act states that *"E-Control must by 31 July of each year produce an annual report on the findings of its monitoring of supply security in accordance with section 20(i) and (j) Energy Intervention Powers Act 1982, publish the report in an appropriate form and submit it to the European Commission."*

Detailed summary of supply security monitoring duties
E-Control's monitoring activities under section 20(i)(1) Energy Intervention Powers Act relate in particular to:
1. The supply/demand balance on the domestic market;
2. Projected demand growth and available supplies;
3. Additional capacity at the planning or construction stages;
4. The quality and extent of network maintenance;
5. Action to meet demand peaks and respond to outages of one or more suppliers; and
6. The availability of electricity generating stations and networks.

Changes in supply and demand
Demand for electricity in Austria has grown steadily for more almost all of the past 30 years. The main exception was 2009, when consumption dropped by 3.57% owing to the economic and financial crisis, and the resulting fall in industrial production. A smaller decrease in demand was also recorded in 2008. The only other year-on-year decline since 1977 was seen in 1992.

Electricity demand rebounded in 2010, and final energy consumption (Statistics Austria) is likely to have held steady in 2011, as gross domestic electricity consumption (the E-Control statistic) was virtually unchanged. This would represent a return to pre-crisis consumption levels. However the position could change again in 2012 and 2013, depending on average temperatures and the economic situation. The analyses contained in this report are based on Statistics Austria's final energy consumption figures, due to the breakdown into industrial and household demand required by our model. Gross domestic electricity consumption is the sum of final energy consumption, electricity consumption by the non-electrical energy sector, system losses and own use.

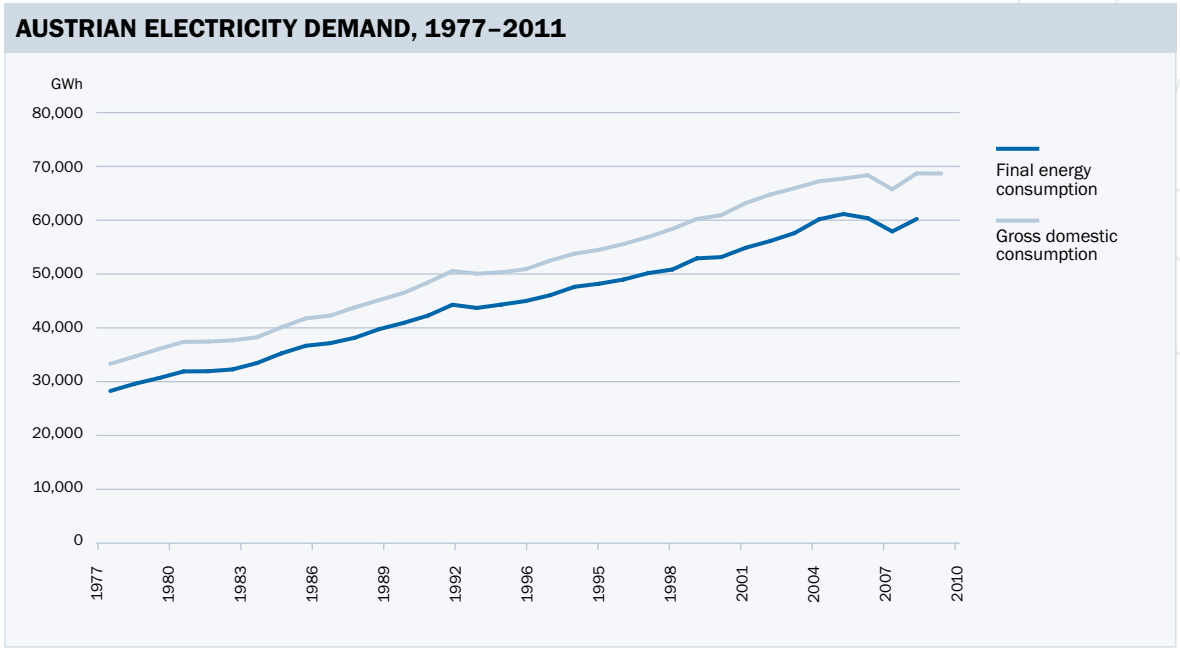

Figure 43: *Austrian electricity demand, 1977–2011*
Sources: E-Control, Statistics Austria

Forecast demand and supply

> Forecast electricity consumption in Austria

E-Control used the latest version of its detailed empirical Model of Electricity Demand in Austria (MEDA) to monitor supply security. MEDA can be used to generate in-depth forecasts of electricity demand trends based on exogenous parameters economic and income growth, inflation and temperature increases. A full description of the model and the parameters used can be found in past E-Control monitoring reports, in particular those of 2006 and 2007 (posted on www.e-control.at).

Based on the input parameters, the MEDA demand model yields final energy consumption of 70,189 GWh in 2020 – equivalent to an average annual increase in electricity consumption of 1.52%. This represents an increase on the previous year's growth forecast of around 1.3%. In contrast, two years ago the average annual increase was projected at 1.4% up to 2018. These shifts mainly reflect the sharp declines in consumption in 2008 and 2009, which slowed the growth predicted by the model, and the jump in demand in 2010, which had the opposite effect.

E-Control's forecast, and those of the European Commission's Directorate-General for Energy and Transport (DG TREN) and ENTSO-E, all point to a further slowdown in the growth of electricity demand. The DG TREN and its successor DG ENER[31], put average growth at 1.7% between 2000–2010, and 1.4% from 2010–2020. The ENTSO-E[32] System Adequacy Forecast 2010–2025, on the other hand, projects an average increase in European consumption (up to 2020) of 1.47%, with growth in Austria close to that rate. *Figure 44* provides an overview of these scenarios. It is striking that the figures for consumption in 2020 are very close to each other.

[31] See http://ec.europa.eu/energy/observatory/trends_2030/index_en.htm.
[32] See https://www.entsoe.eu/fileadmin/user_upload/_library/SDC/SOAF/ENTSOE_SO_AF_2011-2025.pdf.

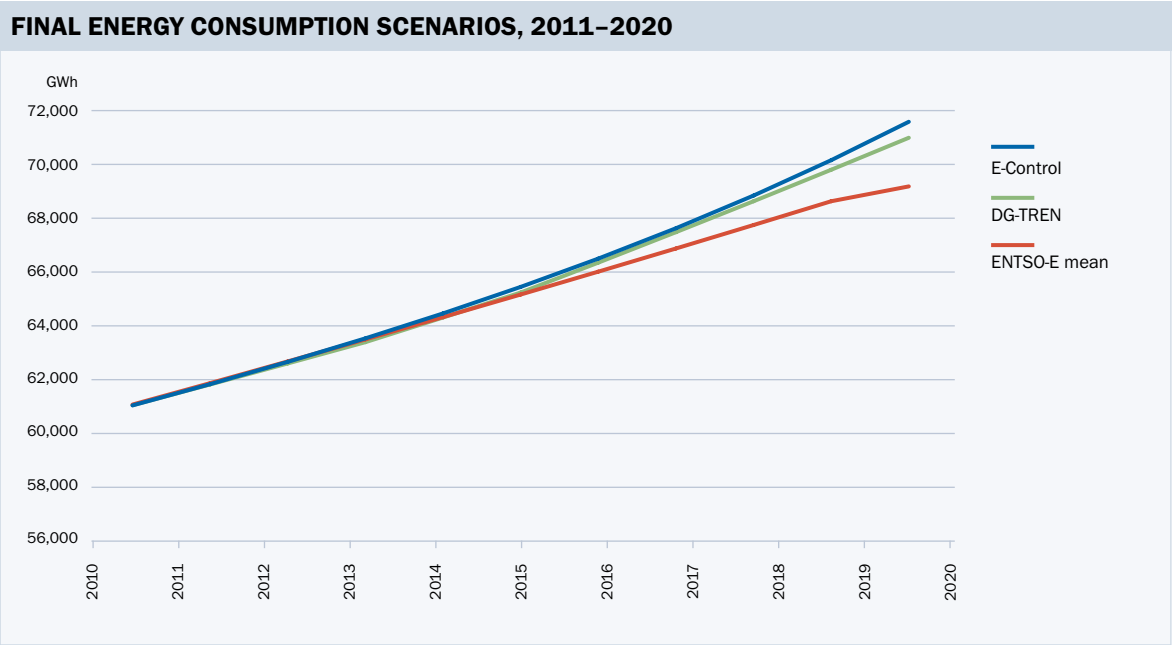

Figure 44: *Prognose des energetischen Endverbrauchs im Vergleich 2011–2020*
Source: E-Control, ENTSO-E, DG Tren

> Power generation scenarios for Austria

Electricity generation is influenced by a variety of factors. For instance, the amount of precipitation and quantities of water available have an impact on storage levels at pumped storage power stations. Forecasts should also take account of available generating capacity, which is lower than installed capacity due to factors such as maintenance turnarounds, shutdowns, malfunctions, storage levels and water flow.

As part of the implementation of section 20i(1) Energy Intervention Powers Act 1982 as amended by FLG I no. 106/2006, this year's market report includes a survey of power station development projects planned up to 2020. As required by the Act, the survey focuses on hydro and thermal power stations. This is because renewable generation projects (such as wind, biomass and PV) are heavily dependent on support mechanisms and, as past experience has shown, such plants can be built and commissioned relatively quickly. Any projections must also take into consideration the Green Electricity (Amendment) Act 2011, which targets a combined increase of 2,200 MW in wind, biomass and biogas capacity between 2010 and 2020. Given the legal requirement, the probability of these projects' being implemented is assumed to be 100%.

> Energy supply and capacity coverage until 2020

An econometric forecast of annual peak load can be generated using MEDA's projection for changes in electricity consumption. The error correction approach usedis described in detail in previous E-Control monitoring reports.[33] The change in peak load, which is predicted to grow by an average of 150 MW per year between 2012 and 2020, and the maximum capacity of the available power stations are shown in *Figure 45* below. Scenario 1 includes all plants which are under construction or due to be decommissioned, making it the most conservative prediction. Scenario 2 also takes account of projects that have been submitted for approval. It is assumed that all renewable generating projects will be implemented on account of the current legal framework.

The analysis shows that the expected peak capacity of available power stations covers the forecast peak load during the period under observation. As a result, no supply shortages are anticipated. However, this depends to a large extent on the number of projects actually executed, which is currently hard to predict with any certainty. ENTSO-E's forecast until 2005 also expects Austria to be in a position to meet peak load comfortably.[34] The conservative scenario suggests excess capacity (including a reasonable safety margin) of around 10 GW in January 2020.

FORECAST AUSTRIAN PEAK CAPACITY AND PEAK LOAD

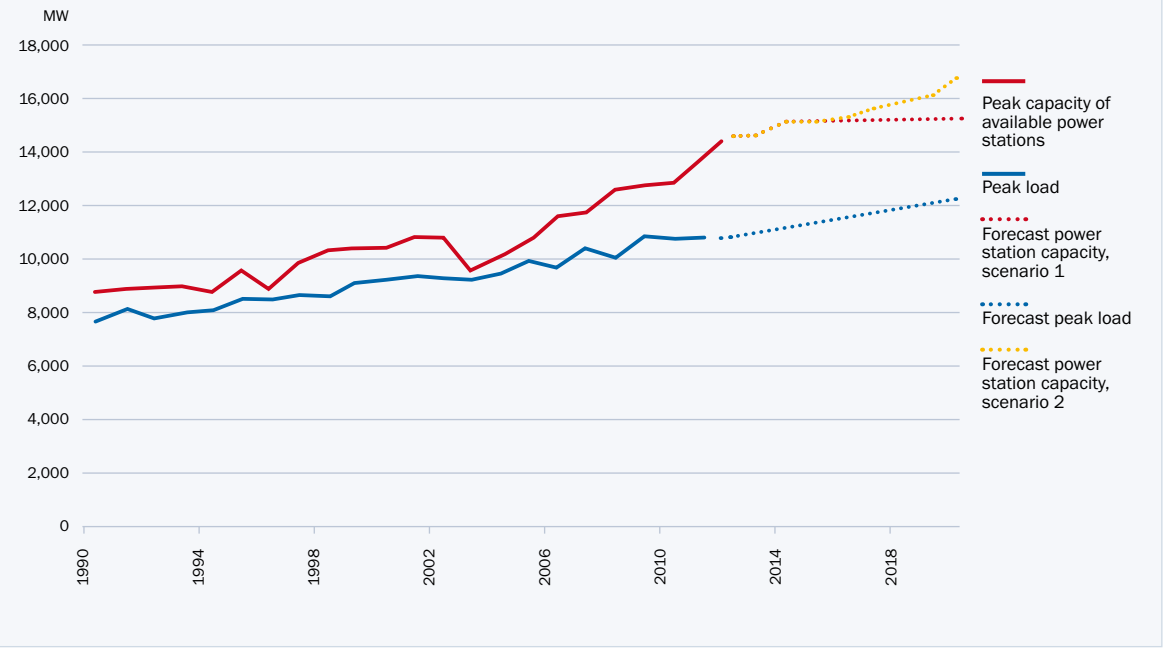

Figure 45: *Forecast Austrian peak capacity and peak load up to 2020*
Source: E-Control

[33] See, in particular, pp. 18ff. of the 2006 report (German only): http://www.e-control.at/portal/page/portal/medienbibliothek/strom/dokumente/pdfs/monitoring-report-strom-2006-2016-neu.pdf.
[34] See https://www.entsoe.eu/fileadmin/user_upload/_library/SDC/SOAF/ENTSOE_SO_AF_2011-2025.pdf.

The Austrian gas market

Network regulation

OVERVIEW OF THE GAS GRID

In 2011 the total length of the transmission systems (level 1) was 3,143 kilometres (km), that of the level 2 distribution systems 3,685 km and that of the level 3 distribution systems and local networks 33,027 km. In 2011 there were three control area managers (AGGM, TIGAS and VEG) and 22 distribution system operators (DSOs).

OVERVIEW OF THE GRID

Length of pipelines as of 31 December

Cal-endar year	**Transmission systems** (km)				**Level 2 distribution systems** (km)				**Level 3 distribution systems and local networks** (km)		
	Nominal diameter			Total	Nominal diameter			Total	Local net-works	Level 3 excluding local networks	Total
	up to 300 mm	300–600 mm	over 600 mm		up to 300 mm	300–600 mm	over 600 mm				
till 1975	176	151	383	710	893	162	0	1,054			
1980	375	394	628	1,397	1,441	172	0	1,613			
1985	417	394	628	1,439	1,751	238	0	1,989			
1990	487	394	1,006	1,887	2,267	316	0	2,582			
1995	527	398	1,135	2,060	2,648	382	3	3,032			
2000	568	522	1,287	2,377	2,879	384	3	3,266			
2001	570	607	1,474	2,651	2,916	385	3	3,303			
2002	570	607	1,547	2,724	2,989	385	3	3,376			
2003	570	607	1,547	2,724	3,001	385	3	3,388	14,723	12,821	27,544
2004	570	607	1,547	2,724	3,022	385	3	3,409	15,292	13,033	28,325
2005	570	640	1,547	2,757	3,037	386	3	3,425	15,817	14,378	30,195
2006	570	640	1,547	2,757	3,078	386	3	3,466	16,406	14,783	31,189
2007	570	640	1,666	2,876	3,126	395	3	3,523	16,835	14,780	31,614
2008	577	634	1,665	2,876	3,157	396	3	3,556	17,617	14,941	32,558
2009	577	634	1,665	2,876	3,253	400	3	3,656	17,823	15,066	32,889
2010	501	714	1,929	3,143	3,276	407	3	3,685	17,982	15,046	33,027

Table 6: *Overview of the grid, 31 December 2011*
Source: E-Control

UNBUNDLING

See p. 15 System operator unbundling

MARKET MECHANISMS

Balancing energy

The monthly reports that E-Control has been publishing since October 2003 track hourly, daily and monthly balancing market trends. They are posted on the E-Control website (www.e-control.at).

In 2011 the monthly physical balancing gas requirements of the manager of the Eastern control area (buy and sell) remained at the low level witnessed since 2005 *(Figure 46).* Last year the balance groups supplied more balancing energy to the grid and bought less from it than in 2010, i.e. they were more often "long".

PHYSICAL QUANTITIES OF BALANCING ENERGY

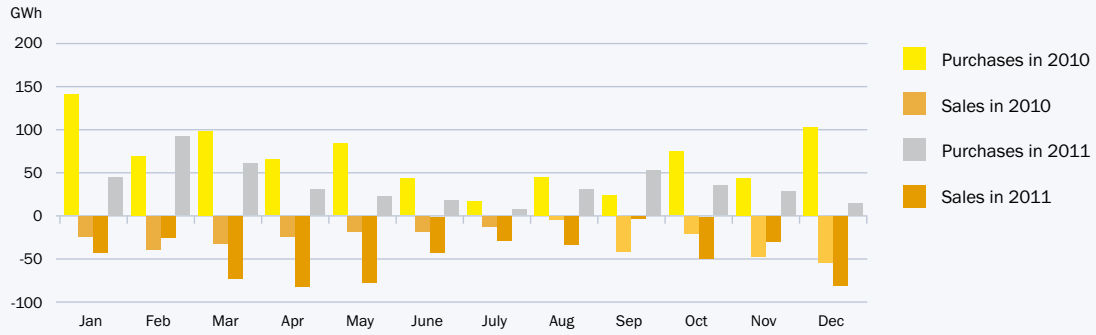

Figure 46: *Monthly balancing energy needs in GWh*
Sources: E-Control, AGCS

The tendency for the balancing energy called off by the Eastern control area manager to run at 1–2% of total monthly gas consumption persisted in 2011 *(Figure 47).*

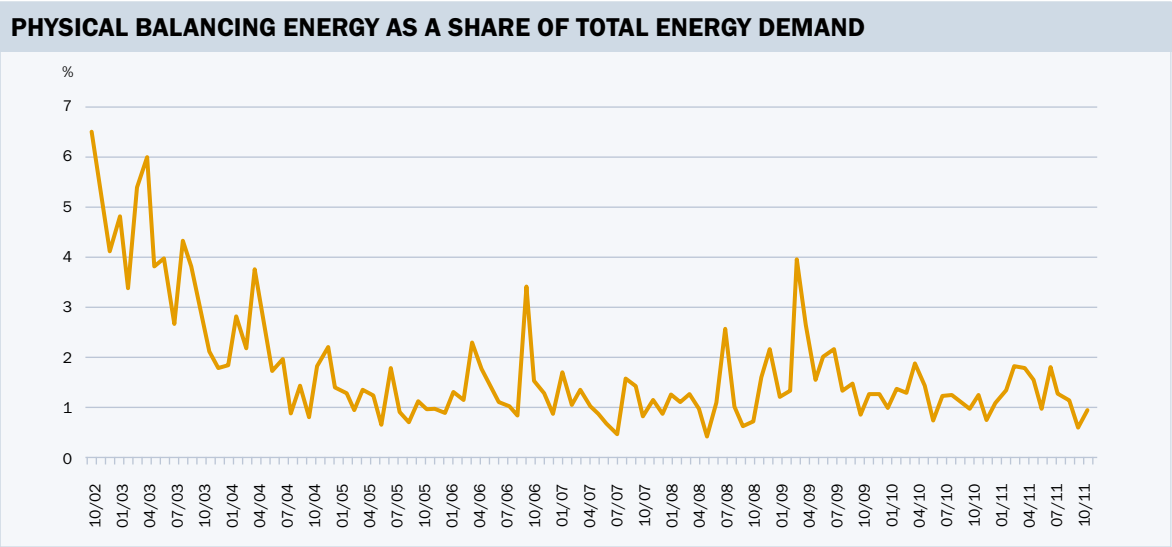

Figure 47: *Physical balancing energy as a percentage of total energy demand*
Sources: E-Control, AGCS

In 2011 there was increased evidence that the balancing market is to some extent taking on the role of a spot market, with some balance groups using it to buy or sell gas by making over- or under-deliveries. This shows that balancing energy prices are at competitive levels – especially relative to oil price-indexed long-term contracts. In 2011 total imbalance (the aggregate absolute quantities by which commercial balance groups were long or short) was equal to 4.9% of total gas consumption in the Eastern control area, up from 4% in 2010.

Following a strong run-up in late 2010, balancing energy prices lost ground in February 2011, but then rallied and held relatively steady until August; they eased in the autumn and again firmed towards the end of the year *(Figure 48).* On average balancing energy prices were up by 25% year on year in 2011.

Balancing energy prices spiked in February 2012, due to a cold spell and curtailments of supplies under the long-term contracts with Gazprom Export, hitting a high of 4.94 cent/kWh (14:00 on 7 February). At 4.57 cent/kWh the average balancing energy price for 7 February was well above the CEGHEX day-ahead price of 3.95 cent/kWh.

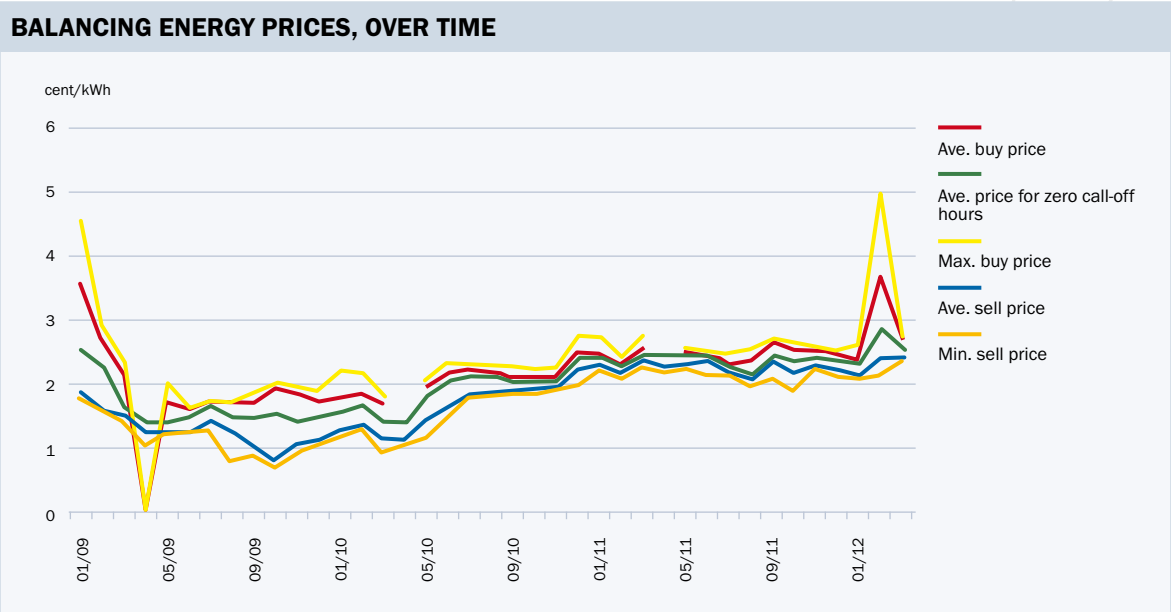

Figure 48: *Prices on the balancing energy market, January 2009 to March 2012*
Sources: E-Control, AGCS

New balancing system due for launch on 1 January 2013
Under the Gas Market Model Ordinance 2012 the market area manager will balance the market on the basis of nominations and schedules (ex ante approach). Deviations between consumer schedules and system operators' actual metered data, as well as system losses, biogas injection, and entries and exits at distribution level are accounted for by the clearing and settlement agent (ex post).

Under the new balancing energy model the call-offs, and hence pricing, will be the responsibility of both the market area manager and the distribution area manager (on behalf of, and for the account of the clearing and settlement agent), and will also take place via the gas exchange at the virtual trading point. The distribution area manager will have the option of meeting its balancing energy needs by means of call-offs from a merit order list (offers ranked by price) if too little balancing energy is offered on the VTP.

The new balancing regime is based on the Framework Guideline on Gas Balancing in Transmission Systems, and introduces daily balancing. However, at market area level there is a need for hourly incentives for market participants to submit balanced schedules. The model also provides for daily balancing for consumers without load meters, in accordance with section 18(5) Gas Market Model Ordinance. However, balancing for load metered consumers continues to be on an hourly basis (in accordance with section 18[6] Gas Market Model Ordinance), and some of these consumers can elect to switch balancing regimes (under section 18[7] Gas Market Model Ordinance).

Reliability and quality standards

Since 2006 the recommended general terms and conditions of distribution system operators have included standards for network service quality. Since the regulator approves the DSOs' general terms and conditions it also ascertains whether they conform to the standards. Monitoring of compliance is by means of the reporting of performance indicators by the DSOs, which were also asked to carry out customer satisfaction surveys and report the results to the regulator.

In 2011 we again monitored network reliability, and in particular supply interruptions due to technical disturbances and faults. We surveyed the duration, frequency and causes of supply outages.

In transposition of the Gas Directive, section 30 of the Natural Gas Act 2011, empowers the E-Control Executive Board to enact an ordinance on the quality of the network services rendered to system users. This ordinance was published on 29 May 2012, and will enter into effect on 1 January 2013. It establishes uniform standards governing the commercial and technical quality of network services, and responses to supply interruptions. These standards stipulate that the time taken for system connections and repairs must be monitored.

The lead time for the establishment of system admission was not directly monitored in 2011. As the circumstances and needs of parties entitled to system access vary greatly, the new *Gasnetzdienstleistungsqualitätsverordnung* (Ordinance on Gas System Service Quality) published on 29 May 2012 does not introduce monitoring of connection lead times. However, it does impose a maximum period of 14 days for responding to applications for system admission, and requires agreement of a binding deadline for system admission. The time taken to perform repairs and maintenance is to be monitored under an ordinance that is expected to enter into effect on 1 January 2013 (section 131 Natural Gas Act 2011).

Storage market

Access to gas storage systems is governed by sections 97 et seq. Natural Gas Act 2011. The Act prescribes negotiated third-party access (section 98(1)). However, it requires E-Control to prepare and publish a report on the Austrian flexibility and storage market every three years, or at the request of a storage system operator or a party entitled to access to storage (section 98(2)). Section 98(2) establishes yardsticks to be used to assess the intensity of competition on the storage market, including price comparisons, the range of products on offer and their take-up, and market concentration. Section 98 states that the Minister of Economy, Family and Youth is to decide whether access to storage facilities is to be negotiated or regulated, and must take the report into consideration when arriving at a decision.

The storage charges will continue to be regulated by means of benchmarking. If the storage charges in Austria exceed the average charges for comparable services in EU member states by more than 20%, the regulator may determine the cost base of storage pricing (section 99(2)). As before, all storage contracts will have to be submitted to E-Control (section 101).

The provisions of Art. 15 Regulation (EC) No 715/2009 on third-party access services concerning storage have not been replicated in Austrian law.

However, sections 103 and 104 Natural Gas Act 2011 contain detailed arrangements for transposition of Arts. 17 and 22 of the Regulation, dealing with the principles of storage capacity allocation mechanisms and congestion management procedures, and capacity rights trading, respectively. The capacity allocation procedure adopted must be appropriate to the prevailing capacity situation. Auctions must be held if demand exceeds supply.

As regards congestion management, section 104 Natural Gas Act 2011 requires the storage system operators to set up an overarching secondary capacity trading platform or to cooperate on the creation of a joint platform. It states that storage service contracts must include clauses designed to prevent capacity hoarding, and that unused contracted capacity must be sold to third parties via the secondary market platform in the event of congestion.

The transparency requirements of Art. 19 Regulation (EC) No 715/2009 for storage system operators and the provisions of Art. 15 on third-party access services concerning storage have been in force since 3 March 2011. However, they have not been directly reflected in Austrian law.

Monitoring implementation of the third package
Secondary market
As part of its oversight mandate, E-Control monitored the status of compliance with the obligations under section 104(1) Natural Gas Act 2011 by writing to the storage system operators present in Austria, also stressing the urgency of creating a central platform for trading of secondary storage capacity or joining an existing platform.

As the storage system operators have yet to take action, but have welcomed a variety of alternative means of implementing the trading platform, we intend to hold a meeting with them in 2012 to coordinate the plans.

A transparent, standardised secondary market would benefit the storage market, and would play a key role against the backdrop of functioning retail and other competition.

Transparency requirements
In exercise of its monitoring and oversight function under section 24(1) E-Control Act, E-Control has ascertained that the five storage system operators – Rohölaufsuchungsgesellschaft (RAG), OMV Gas Storage (OGS), E.ON Gas Storage (EGS), Gazprom Export, Wingas and Wien Energie Speicher (WESp) – have not met all of their obligations, or that there are differences of opinion with regard to the degree of fulfilment.

Because of this we have developed legal interpretation principles which detail the authority's view on with the transparency requirements for storage facilities (Art. 19 Regulation (EC) No 715/2009) and with the rules for third-party access services (Art. 15(2)(b and c)), and we have laid down minimum requirements.[35]

Our interpretations and the resultant firming up of the rules in question are designed to ensure that storage users receive all the information they need to reach well-founded decisions, and that this information is provided in a simple and non-discriminatory manner. The legal interpretation principles arrived at in consultation with the storage system operators have been posted on our website, and have been implemented.

As part of our ongoing monitoring activities, 2012 we plan to assess the implementation of the transparency requirements again at national level, and also to do so through the Council of European Energy Regulators (CEER) Gas Storage Task Force (GST TF) – the first instance of a broad-based, international investigation of this issue.

Developments on the storage market in 2011
Due to its geology, Austria only has pore storage facilities. Their high capacity means that they are capable of meeting seasonal demand swings, rather than only peak demand, as is the case with cavern storage facilities. A number of companies have been converting depleted gas reservoirs into gas storage facilities in cooperation with OMV or RAG. It is still impossible to use the Haidach facility to supply the Eastern control area directly. The 7Fields facility was linked into the grid in 2012.

[35] http://www.e-control.at/en/market_players/natural-gas/natural-gas-market/storage.

During the 2011–2012 storage year Austrian gas storage capacity in terms of working gas volume (WGV) rose by 50 % from its level in 2010, to stand at 7.4bn cubic metres (cu m). On 1 April the second expansion of the Haidach storage facility was completed, raising working gas capacity to 2.64bn cu m. The 1.1bn cu m first stage of the 7Fields project – a joint venture between RAG and E.ON Gas Storage – was commissioned in 2011. RAG's Aigelsbrunn storage system, with 100m cu m of working gas capacity, was also brought online during the year. As a result of the new capacity OMV and RAG's shares of the storage market, and hence market concentration, have fallen. Nevertheless, the HHI score is still above the 1,800 mark.

STORAGE CAPACITY IN AUSTRIA

Storage system operators/ storage facilities	Injection rate, cu m/h	Share of total injection rate	Withdrawal rate, cu m/h	Share of total withdrawal rate	Working gas volume, m cu m	Share of total working gas volume
OMV-Schönkirchen	650,000	22.53%	960,000	27.07%	1,780	24.02%
OMV-Tallesbrunn	125,000	4.33%	160,000	4.51%	400	5.40%
OMV-Thann	115,000	3.99%	130,000	3.67%	250	3.37%
Total OMV storage capacity	**890,000**	**30.85%**	**1,250,000**	**35.24%**	**2,430**	**32.79%**
RAG-Puchkirchen	520,000	18.02%	520,000	14.66%	1,100	14.84%
RAG-Haidach 5	20,000	0.69%	20,000	0.56%	16	0.22%
RAG-Aigelsbrunn	50,000	1.73%	50,000	1.41%	100	1.35%
Total RAG storage capacity	**590,000**	**20.45%**	**590,000**	**16.63%**	**1,216**	**16.41%**
Astora-Haidach	333,333	11.55%	366,667	10.34%	867	11.69%
Gazprom-Haidach	666,667	23.11%	733,333	20.67%	1,733	23.39%
E.ON-Gas-Storage-7fields	405,030	14.04%	607,000	17.11%	1,165	15.72%
Total	**2,985,030**	**100%**	**3,547,000**	**100%**	**7,411**	**100%**

Table 7: *Storage capacity in Austria, June 2012*
Sources: Corporate websites – www.omv.com; www.rohoel.at; www.astora.de/speicher.html; www.eon-gas-storage.de; www.gazpromexport.ru/en/haidach/

The LAB storage facility in Slovakia is also used by Austrian companies; the gas is transported via the MAB pipeline. This facility has a working gas volume of 652m cu m and a withdrawal capacity of 285,416 cu m/h.[36]

The increase in storage capacity in 2011 and the link with the 7Fields facility mean that additional capacity is also available to new service providers. Some 6% of the storage capacity and 18% of the withdrawal capacity for the 2012–2013 storage year is still free. However, the lowest-cost operator, OMV Gas Storage, no longer offers "bundled services" (combination of working gas volume, and injection and withdrawal capacity).

Storage capacity is also traded on the secondary market, but the volumes concerned are not known.

[36] See http://pozagas.sk/en/ungsf-lab-4/.

The Austrian storage facilities played a particularly important role during the cold spell and the cutbacks in shipments under the long-term contracts with Gazprom Export – not just by maintaining gas supplies but also by steadying spot prices. As shown by *Figure 49,* spot prices began spiking on 2 February 2012, reaching a peak on 7 February, but fell back when storage withdrawals were increased. Besides, the influence of storage demand on spot prices is unmistakable. Prices climbed at the start of the storage injection period (2011) and rose or at least held steady in 2012.

STORAGE AND SPOT PRICE MOVEMENTS, OVER TIME

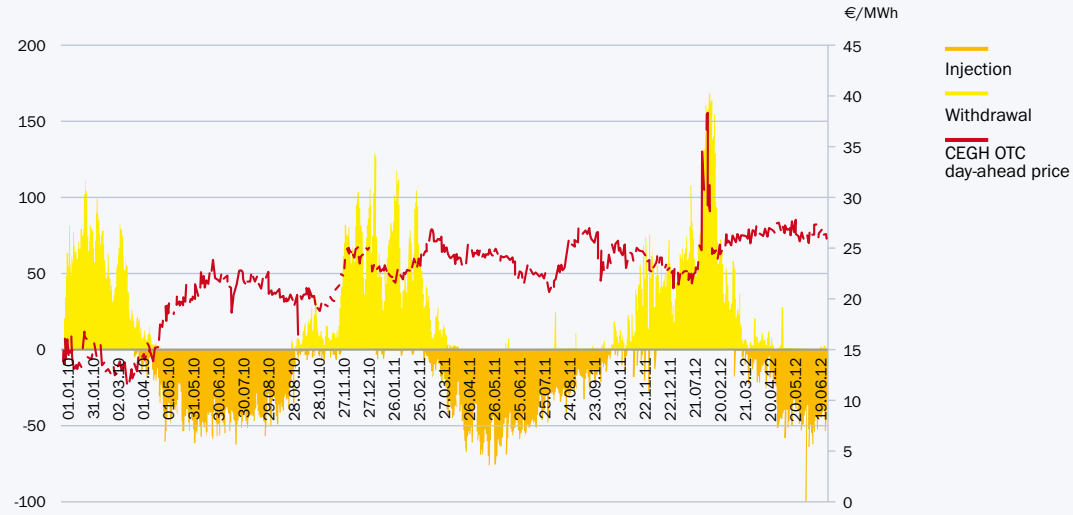

Figure 49: *Storage movements and Baumgarten spot price trends*
Sources: ICIS Heren and Gas Storage Europe; the Baumgarten storage data include facilities in Austria, the Czech Republic, Hungary, Poland and Slovakia; www.transparency.gie.eu.com

Emergency response measures in accordance with Art. 46 Directive 2009/73/EC
See electricity section: Emergency response measures in accordance with Art. 42

In the gas sector, too, regular emergency drills are held to test key aspects of the interactions in the system and the coordination of emergency response mechanisms, and make improvements where necessary.

As in the electricity sector, the forecasting data reported in accordance with section 4 Erdgas-Energielenkungsdaten-Verordnung [Natural Gas Intervention Data Order] 2006 is regularly evaluated.

The commencement of the Natural Gas Act 2011 brought some major changes both in the control/market area boundaries and in the market model, which will have to be implemented in 2013. These will affect some areas of energy emergency intervention, requiring a fundamental rethink.

SYSTEM CHARGES FOR CONNECTIONS AND ACCESS

The Gas Directive was transposed into Austrian law by the Natural Gas Act 2011 and the E-Control Act. Similarly to the electricity sector, European gas legislation is often transposed by a number of legislative provisions in different locations. For example, Art. 41(1)(a) was transposed by sections 69, 74 and 82 Natural Gas Act 2011. Art. 41(6)(a) regarding connection and access to networks, including tariffs, was transposed by sections 31, 32, 69, 74 and 82 Natural Gas Act 2011. Sections 79 et seq. Natural Gas Act 2011, which govern the methodology for establishing the costs and volume of distribution and transmission system operators, transposed Art. 41(8) of the Directive. Art. 41(10) of the Directive was transposed by sections 32 and 69 Natural Gas Act 2011. The complaints procedures provided for by Art. 41(12) of the directive were transposed by section 9(2) E-Control Act. The regulator's duty to prevent cross-subsidisation, established by Art. 41(1)(f), was transposed by sections 8 and 82 Natural Gas Act 2011, as well as sections 24 and 25 E-Control Act.

SETTING THE SYSTEM CHARGES

The Austrian gas market was liberalised in 2002 – a year later than the electricity market. Since then one of the main responsibilities of the regulator has been determining the tariffs of the regulated system operators. During the early days of regulation, the charges were calculated on a cost plus basis. Since 2008 the gas distribution networks have been subject to a multi-year incentive regulation regime similar to that applied to the electricity distribution networks. In this form of regulation, the link between system operators' actual costs and their allowed revenue is broken for the duration of the regulation period. The audited cost base is adjusted annually, using markups and offset factors which essentially reflect price increases in the industry, as well as industry and company-specific productivity trends. The adjusted allowed cost is translated into annually redetermined tariffs, applying factors that reflect the evolution of capital and operating costs during the regulatory period. While in the electricity sector companies are given two four-year regulatory periods to overcome their inefficiencies, they are allowed ten years in the gas sector (divided into two five-year periods). Preparatory work on the design of the regulation systems for the upcoming regulation periods for gas and electricity distribution systems is currently progressing at full steam. Although central regulatory goals such as security of supply and efficiency will naturally continue to have pride of place, attention must also be paid to ensuring that energy companies can operate in a stable regulatory framework and a secure investment environment that offers reasonable returns on invested capital. While the parameters for the second regulation period in the gas industry, which begins in 2013, will be similar to those for the first, and the efficiency targets for the firms will be unchanged, the regulatory model for the electricity distribution systems is currently under study and a completely recast regime will be introduced in the third period.

Section 79 Natural Gas Act 2011 requires the allowed cost from which the system charges are derived to be reflective of actual costs and to be determined separately for each network level. Only costs that are reasonable in terms of their origins and amount are allowable. Reasonable investment costs must be allowed, taking account of both historical costs and the cost of capital. The cost calculations must be based on targets aligned to the potential efficiencies achievable by the companies. The costs determined must be adjusted for general targets reflecting productivity trends, and for changes in the system operator price index. Individual targets may be set on the basis of the efficiency of each system operator. In its allowed cost decisions, the regulatory authority can divide the time allotted (target attainment period) to meet the targets into one or more regulation periods. If amounts charged on by a vertically integrated gas undertaking influence the costs of a system operator, the latter must furnish adequate evidence that the parent's charges are justified. To prevent cross-subsidisation between transmission, distribution and retail activities, the vertically integrated undertaking must submit documentation evidencing the basis of calculation underlying the invoices in question at the request of the regulatory authority.

Setting transmission and distribution tariffs
The 2008 Gas System Charges (Amendment) Ordinance 2011 introduced adjustments to the system charges with effect from the start of 2011.

Market conditions were unfavourable for the charges. The industry inflation rate of 2.36% was in line with the trend rate for the past few years. The main factors behind the tariff increases were heavy, unavoidable spending on infrastructure, and sharp declines in supply quantities during the 2007–2009 heating seasons.

As in the previous periods, investment totalling over € 600m in the Südschiene and Westschiene transmission pipelines up to the end of 2013 had a major impact on the gas system charges. Some € 402m has already been spent, giving rise to capital costs (depreciation and finance costs) of € 36m, which impact tariffs.

The Südschiene and Westschiene have a significant bearing on the cost determination exercise, as the compensation for investments represents almost 40% of the costs of the transmission systems and 7.5% of the total network costs in the Eastern control area.

To cover investment in distribution networks and additional operating expenses during the incentive regulatory period, there are an investment factor and an operating cost factor designed to create additional investment incentives for gas and electricity distribution system operators. These factors ensure that distribution system operators are able to operate their existing systems safely and reliably, and that they can extend their networks to win new customers.

A positive development was the recovery in the tariff determination reference volume, which had fallen in the previous year. The reference supply volume is the average over the latest three years for which figures are available. In the case of the 2012 Gas System Charges (Amendment) Ordinance 2012, these are the quantities supplied between 2008 and 2010. The upturn in 2010 raised the reference volume by 2.7%, and because of the calculation formula applied this had a favourable effect on the system charges.

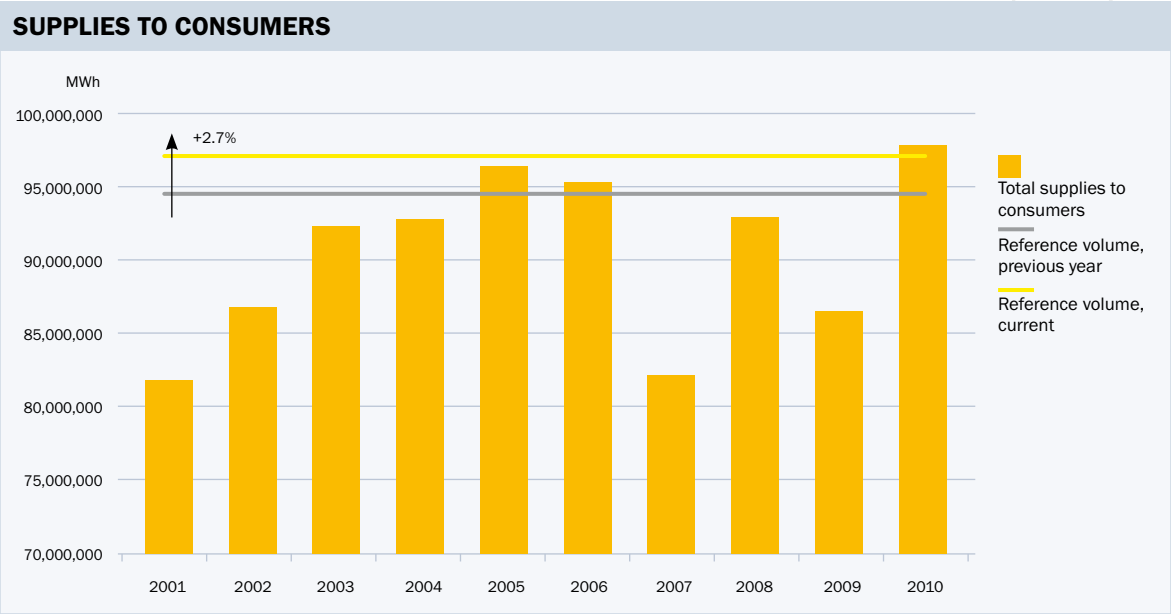

Figure 50: *Supplies to consumers taken as the basis of tarification, over time*
Source: E-Control

The combined effect of the main influences on the calculation – investment activity, the change in the reference volume and the incentive regulation parameters – was a national average reduction of 1% in the system charges. It is also worth noting that the system charges for a typical household consumer with an annual demand of 15,000 kWh have been cut by over 5% since full liberalisation of the Austrian gas market in October 2002.

The current system charges are those established by the 2008 Gas System Charges (Amendment) Ordinance 2012, which commenced on 1 January 2012. While the 2011 tariff review for the electricity industry was conducted according to the new procedure for official decisions, that year's gas tariff review followed the existing one-stage ordinance procedure for the last time. The 2012 review procedure (charges for 2013) sees the changeover to the new system, introduced by the Natural Gas Act 2011, which has now come into force. Like their counterparts in the electricity industry, system operators will receive notices informing them of the cost and volume calculation basis of the 2013 system charges. The allowed cost for 2013 will be adjusted using the regulation parameters for the second incentive regulation period.

The commencement of the Natural Gas Act 2011 marked the first step towards implementation of the third energy package. Under the Act, from 1 January 2013 the transmission system charges will be based on an entry/exit system instead of the current contract paths. The Act will completely transform the business processes in the Austrian gas industry, and will lead to the establishment of a virtual trading point in Austria. The latter is aimed at stepping up liquidity, resulting in increased competition. An evaluation of the approved methods for setting transmission system tariffs was launched in 2011. The current system was introduced in 2007, and we are obliged to conduct reviews every four years.

GAS TRANSPORTATION: CROSS-BORDER CAPACITY AND CONGESTION MANAGEMENT MECHANISMS

The network regulation provisions of the Natural Gas Act 2009 differentiate between third party access for domestic customers and for cross-border natural gas transportation. Transposition of the third energy package by amending the Act (Natural Gas Act 2011) led to major changes in third-party access to transmission systems in Austria, and introduced an entry/exit system that makes it possible to reserve and trade entry capacity independently from exit capacity.

In the interests of efficient network access, in 2012 E-Control enacted the Gas Market Model Ordinance 2012, which will come into force on 1 January 2013. Among other things, the ordinance provides for the auctioning of capacity at entry/exit points, as well as the following arrangements for congestion management:

> Secondary market;
> Day-ahead "use it or lose it" (UIOLI) procedure, under which capacity that is not nominated day-ahead is auctioned on a firm basis; and
> Long-term UIOLI mechanism, under which transmission system operators reclaim systematically unused capacity from system users and re-offer it on the primary market.

The Austrian gas market stands out for the high proportion of total transportation represented by transits. In 2011 about 80% of all physical gas imports were re-exported. Physical imports totalled 488 TWh in 2011. The lion's share of the physical exports – about 384 TWh during the year – went to Italy.

The transmission systems, which are predominantly used for cross-border shipments, have a total length of 2,000 km. Gas Connect Austria (GCA) GmbH is the technical operator of all of the Austrian transmission pipelines. From 1 April 2013 onwards the capacity at all of the entry/exit points will be allocated by means of auctions on a central online platform.

GCA will market the capacity at the following key locations:

> Entry points: Baumgarten (GCA), Überackern (ABG) and Überackern (SUDAL);
> Exit points: Mosonmagyaróvár, Murfeld, Petržalka, Überackern (ABG) and Überackern (SUDAL).

Baumgarten-Oberkappel Gasleitungs GmbH (BOG) will market the capacity at the following locations:

> Entry points: Baumgarten (BOG) and Oberkappel;
> Exit points: Baumgarten (BOG) and Oberkappel.

Trans Austria Gasleitung GmbH (TAG) will market the capacity at the following locations:

> Entry points: Baumgarten (TAG) and Arnoldstein;
> Exit points: Arnoldstein.

The Natural Gas Act 2011 also requires the preparation of coordinated network development plans for the transmission level (section 62). The market area manager is responsible for drawing up the plans on an annual basis in consultation with the transmission system operators, taking account of the long-term plan. The coordinated network development plans require E-Control's approval. Their purpose is to inform market participants about network development projects, investment decisions that have been taken, and the related schedules. The first coordinated network development plan must be submitted in the autumn of 2012. Section 63(6) of the Act states that the plan must be consistent with the Community-wide network development plan.

Our statutory duties also include cooperation aimed at further progress towards a European internal energy market. This responsibility is principally fulfilled by playing an active part in the work of ACER and CEER. We also cooperate with other regulators at regional level, through the Gas Regional Initiative (GRI). E-Control co-chairs the South-South East GRI in conjunction with the Italian regulator, the Autorità per l'energia elettrica e il gas.

Fulfilment of the legal duties of TSOs created by Regulation (EC) No 715/2009
The Regulation requires TSOs to cooperate at regional level, and to draw up indicative regional investment plans every two years. The Austrian TSOs are taking part in the preparation of two of these plans, for the GRIP North South CEE and GRIP Southern Corridor regions. Both plans were drawn up in 2011, and consultations on them were launched at the start of 2012. The regional investment plans will be taken into consideration during the drafting of the Community-wide ten-year network development plan by ENTSOG.

Regulation (EC) No 715/2009 also obliges TSOs to provide non-discriminatory third-party network access under standard conditions, and to offer both firm and interruptible capacity. The Austrian TSOs continued to fulfil these requirements in 2011.

Since 3 March 2011 TSOs have been subject to stricter transparency rules. During the spring of 2011 we investigated the Austrian TSOs' compliance with these rules by reviewing the information they publish, and improvements were made where necessary. The TSOs are now complying with all of their publication duties. The Natural Gas Act 2011 provides for the development of an online platform to be used to fulfil all of the transparency duties centrally.

COMPLIANCE MONITORING

Arts. 41(1)(b and q), 41(3)(a, b and e), and 41(5)(b, d, e, f, g and h) of the Gas Directive were transposed into Austrian law by sections 24(1) and 25 E-Control Act. These provisions impose monitoring and supervisory duties on E-Control. In performance of these duties E-Control may issue official decisions ordering compliance (section 24(1 and 2) E-Control Act). Under section 25 E-Control Act, E-Control has special monitoring and oversight functions with regard to transmission system operators. These include monitoring their communications, approving contracts, monitoring correspondence, and ongoing oversight of business and financial relationships, as well the transfer of the activities of the independent transmission system operator (ITO) activities to an independent system operator (ISO) in the event of repeated breaches of the law by the ITO.

Art. 41(5)(a) Gas Directive was transposed by section 164 Natural Gas Act 2011, which requires the Cartel Court to impose fines for discriminatory behaviour on application of the regulatory authority.

The implementation of legally binding decisions by ACER and the Commission pursuant to Arts. 41(1) and 43 Gas Directive was transposed into national law by section 21(6) E-Control Act.

Art. 37 (4)(b) Gas Directive was transposed by section 21(2) E-Control Act, under which E-Control is to investigate, report on and issue opinions on market and competitive conditions in the electricity and gas sectors.

E-Control is not empowered to impose fines itself.

ARBITRATION

Arts. 37(11 and 12) and 37(4e) were transposed by section 26 E-Control Act (dispute settlement). This provision reduced the maximum period within which a decision must be reached to six weeks.

Section 12(1) E-Control Act makes the Regulation Commission responsible for arbitration under sections 21 (management of transportation capacity in the distribution area) and 39(4) (balance group contract) Natural Gas Act 2011.

Competition on the Austrian gas market

GAS SUPPLY AND DEMAND

Table 7 shows the gas industry's supply and demand balance in 2011 and changes versus 2010. Total domestic natural gas supplies to consumers fell by 6.3% year on year, to 95,634 GWh.

Imports and exports jumped by 17.1% and 14.1% respectively, while domestic production edged down by 1.9%. During the year under review a net total of 22,069 GWh of gas was injected into storage, following net withdrawals of 7,934 GWh in 2010. The increase in injection was largely due to the filling of the Haidach and 7Fields storage facilities.

GAS SUPPLY AND DEMAND BALANCE, 2011

	M cu m (2011)	GWh (2011)	Change vs. 2010
Imports	43,628	488,199	+17.1%
Production	1,683	18,837	-1.9%
Withdrawals from storage	2,863	32,042	-16.4%
Exports	34,358	384,467	+14.1
Injection into storage	4,836	54,112	+78.1
Own use, losses and system losses; statistical adjustments	435	4,865	
Supplies to consumers	8,546	95,634	-6.3%
Max. daily consumption	46.7	523.0	
Min. daily consumption	9.1	102.2	

Table 8: *Gas supply and demand balance, 2011*
Source: E-Control

Natural gas supply and demand trends in Austria in 2011

Figure 48 shows natural gas supply and demand in Austria in 2011.

On the demand side (the negative balance) the difference between summer and winter consumption is clearly apparent, as is the seasonal use of gas storage facilities. On the supply side (the positive balance) these shifts in consumption are met by adjustments to imports and withdrawals from storage. Domestic production of natural gas was relatively steady throughout the year. *Figure 48* underlines the importance of storage as a seasonal flexibility mechanism.

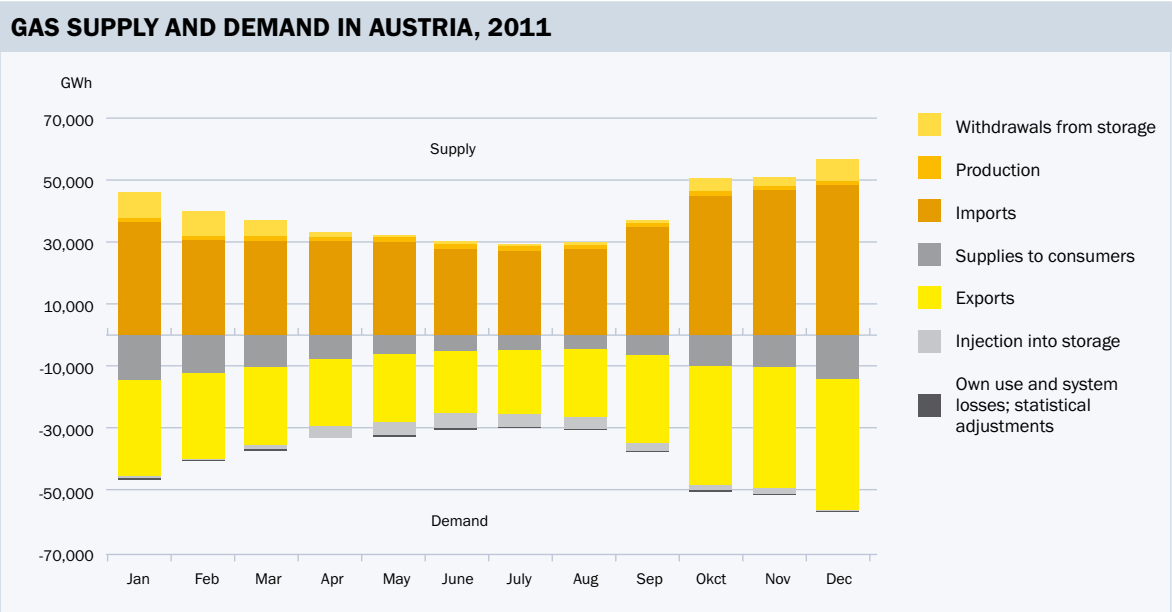

Figure 51: *Gas supply and demand in Austria, 2011*
Source: E-Control

GAS WHOLESALE MARKET

The supply side of the wholesale market consists of domestic production, imports under long-term contracts, imports from other hubs and availabilities on the CEGH market.

Domestic production trends

There are gas reserves and producing gas fields in Lower and Upper Austria, and Vienna.[37] The producers are OMV Austria Exploration & Production GmbH – a business segment of OMV AG – and RAG AG. Natural gas production in 2011 was 1.33 bn cu m – 3.2% down year on year.[38]

The change was mainly due to an 8% fall in OMV's output. RAG's production, which accounted for 18.8% of total output, increased by about 23%. However, the company's overall production has declined sharply since 2000 (by 60% – see *Figure 52).* OMV Austria E&P contributed 82.2% of total output in 2011. The company's production is up by 20% from its level in 2000.

Domestically produced natural gas made up 15.4% of total supply on the wholesale market (net imports and domestic production). Gas produced in Austria is partly sold under long-term contracts. No information about the terms of these contracts, such as the prices, is available. Neither is the proportion of production that is exported disclosed. According to RAG the company also supplies natural gas to foreign energy companies. EconGas exports much of the gas it procures, part of which comes from OMV E&P.

[37] http://www.gaswaerme.at/beg/themen/index_html?uid=2662.
[38] Erdöl- und Erdgasdaten 2011 (Österreich und weltweit) Zusammenfassung des „GBA-Erdölreferates 2011" [Annual oil and gas statistics (Austrian and global), summary of the 2011 Geological Survey of Austria oil report] (German only), http://www.geologie.ac.at/pdf/Erdoelreferat/erdoel-ref_2011.pdf.

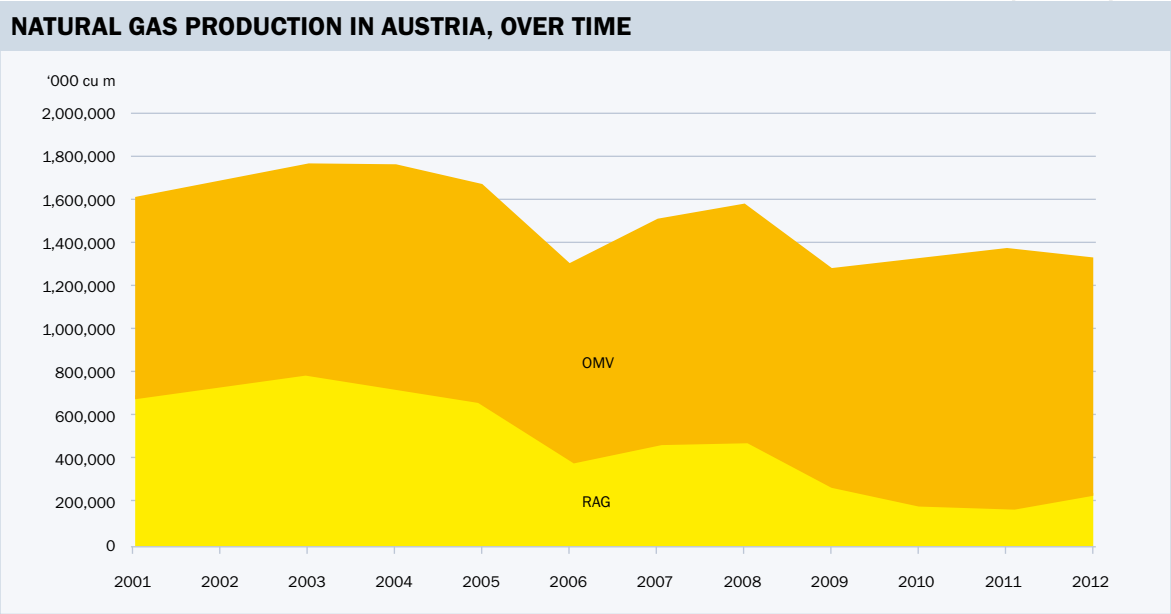

Figure 52: *Natural gas production in Austria by producers, 2000–2011, '000 cu m*
Sources: annual oil and gas statistics (Austrian and global), e.g. those posted on

Import trends

Austrian companies have been importing gas since 1968. The main supply sources are Russia (Gazprom Export) and Norway (Statoil and Shell). The imports are entirely via pipelines.

The imports from Russia and Norway[39] are purchased under long-term take-or-pay (TOP) contracts between the producers and Austrian importers. The contracts with Gazprom Export were restructured in 2006, and now run until 2027.[40] The contracts with Norwegian gas producers were also revised following liberalisation and the resultant need to liquidate the Austria Ferngas (AFG) buying group.[41] No details of these agreements have been disclosed. Smaller quantities of gas are also imported from Germany.

Imports have risen since 2004 *(Figure 53).* However, the volumes imported via Slovakia (Russian gas) have remained relatively stable. Those imported from Germany have climbed sharply since 2007. The latter trend reflected the commissioning of the Haidach storage facility, with 1.2bn cu m of working gas capacity, which is only accessible via the German grid (2007/2008 gas year), as well as growing procurement on the German markets (2009/2010). In 2011 supplies from the German grid were used to fill the 7Fields storage facility.

[39] See Troll on stream; the story and its perspectives, Peter Mellbye Statoil, Norway, ONS Conference, 27–30 August 1996, Stavanger. Norway, 12; http://www.iaea.org/inis/collection/NCLCollectionStore/_Public/28/077/28077460.pdf.
[40] http://www.ots.at/presseaussendung/OTS_20060929_OTS0015/omv-und-gazexport-verlaengern-gasliefervertraege-bis-2027.
[41] Market opening in 2002 and the emergence of gas-to-gas competition meant that AFG's shareholders were competing with each other, so joint procurement was no longer possible. See Court of Audit report, Bund 2007/04 Band 2 - Wiedervorlage von Bund 2003/04 [Federal Government 2007/04 Vol. 2 – Follow-up report to Federal Government 2003/04], 19 April 2007, Wirkungsbereich des BMWA, Auswirkungen des Gaswirtschaftsgesetzes auf die Austria Ferngas GmbH [Powers of the Federal Ministry of Economics and Labour, Effects of the Natural Gas Act on Austria Ferngas GmbH], 144 (German only), http://www.rechnungshof.gv.at/berichte/ansicht/detail/auswirkungen-des-gaswirtschaftgesetzes-auf-die-austria-ferngas-gmbh.html.

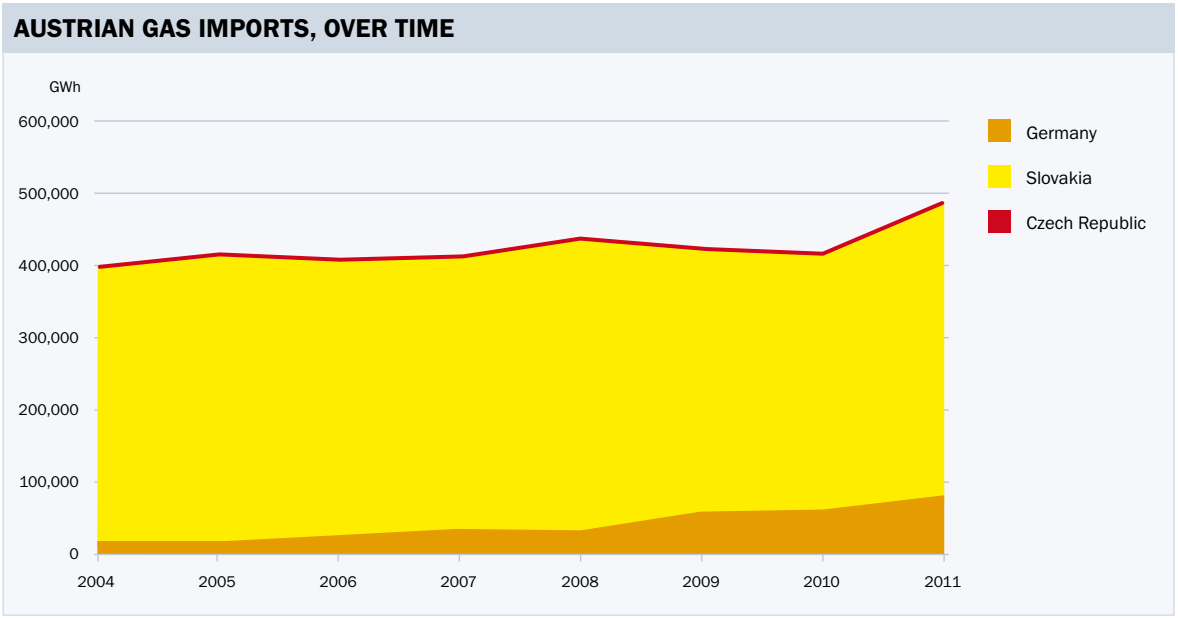

Figure 53: *Austrian gas imports, 2004–2011*
Source: E-Control website

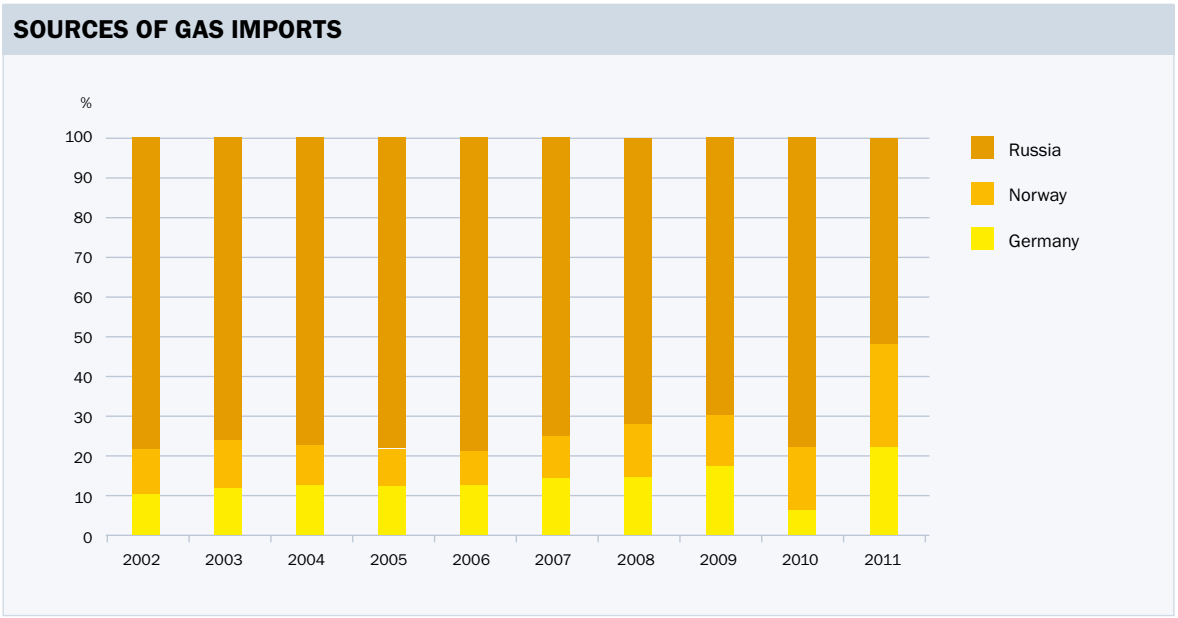

Figure 54: *Sources of Austrian gas imports, 2002–2011*
Sources: BP Statistical Review of World Energy (a number of years), Trade movements, www.bp.com

Russia remained the main source of imports in 2011 *(Figure 51).*

Import price trends

The import prices[42] surveyed by Statistics Austria include price data for imports sourced via other hubs besides the CEGH (e.g. the NCG), as well as those under long-term contracts. Following moderate increases in 2009 and 2010, there was a strong oil price run-up from late January 2011 on, driven by the outbreak of the Egyptian revolution and unrest in Libya, and subsequently intensified by the earthquake disaster in Japan. This lifted the gas import prices surveyed by Statistics Austria, most of which reflect the formulas of oil-linked long-term contracts. The average import price for the year was about 20% up on 2010 at € 26.1/MWh.

GAS IMPORT PRICE MOVEMENTS

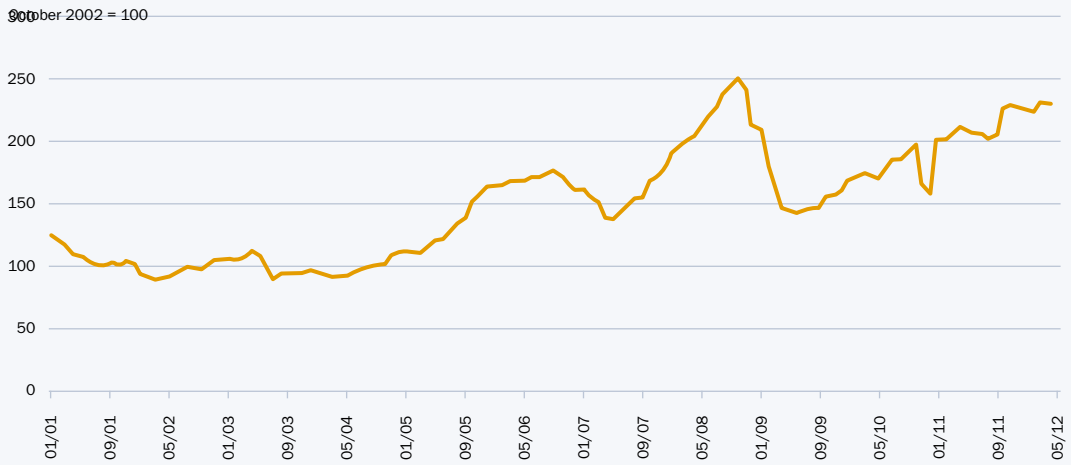

Figure 55: *Gas import price movements, 2002–2012; October 2002 = 100*
Sources: Statistics Austria and E-Control calculations

Gas trading on the CEGH market

Most of the trading on the CEGH market is over the counter (OTC), some via brokers' screens and some bilateral. Since December 2009 it has also been possible to trade spot products on the CEGHEX exchange, and a forward contract was introduced a year later. To trade on the CEGH and use the latter's hub services it is necessary to conclude a membership agreement.[43] The number of traders has risen steadily over the past few years, and by the summer of 2012 the CEGH market had 146 registered members.[44] The Italian traders are the largest group. Three-quarters of the Austrian CEGH members are also registered with AGCS as suppliers.[45]

[42] The import statistics include all imports with a value of € 30,000 or more, and cover not only supplies under long-term contracts but also gas purchased at the NCG and TTF.
[43] See www.ceghotc.com.
[44] As of July 2012.
[45] www.agcs.at/Marktteilnehmer.

MEMBERSHIP OF THE CEGH BY HOME COUNTRIES

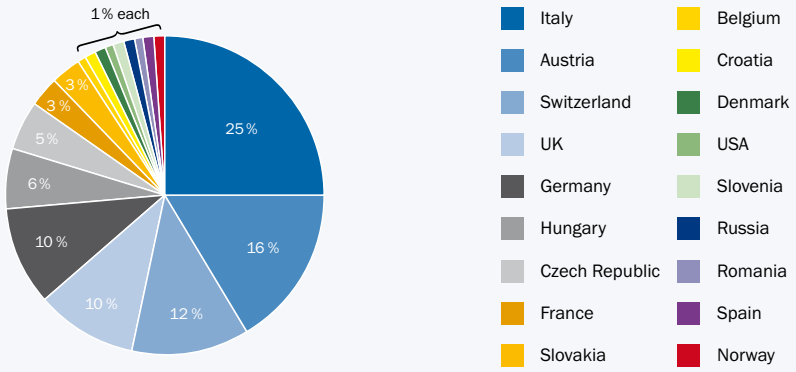

Figure 56: *Membership of the CEGH by home countries; status in July 2012: 146 registered traders*
Source: CEGH membership list, www.ceghotc.com

MARKET CONCENTRATION SCORES FOR THE CEGH

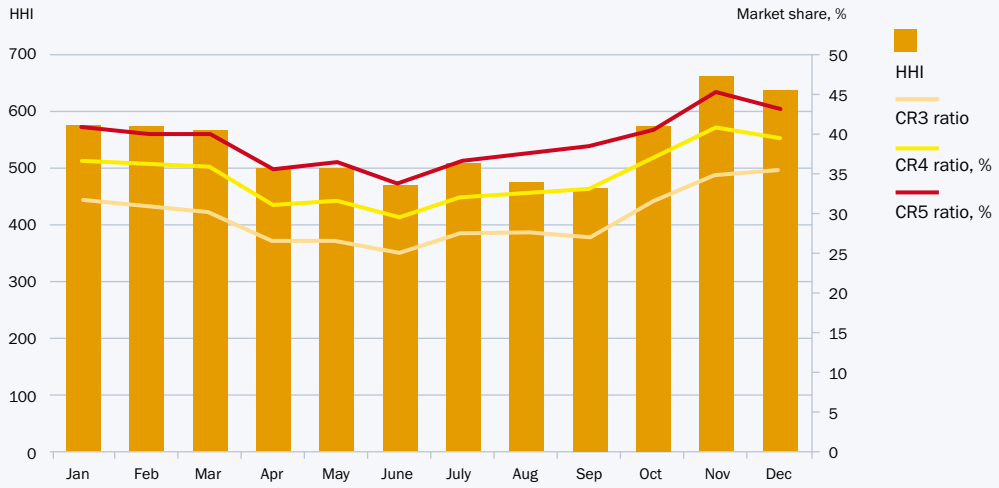

Figure 57: *Concentration scores for the CEGH market, by traded volumes*
Sources: E-Control market statistics

Precise data on the structure of the supply side of the CEGH market are not available. However, concentration figures are calculated as part of the market statistics. These indicate a low level of concentration *(Figure 57)*. These monthly statistics do not distinguish between the buy and sell sides.

Traded volume on the CEGH market

> OTC

Traded volume (title transfer volume) on the CEGH market recorded further growth in 2011. The ratio of the traded volume to physical deliveries (churn rate) averaged 3.4 in 2011. Almost 30% of all Austrian imports were traded on the CEGH market.

VOLUME TRADED ON THE CEGH MARKET, OVER TIME

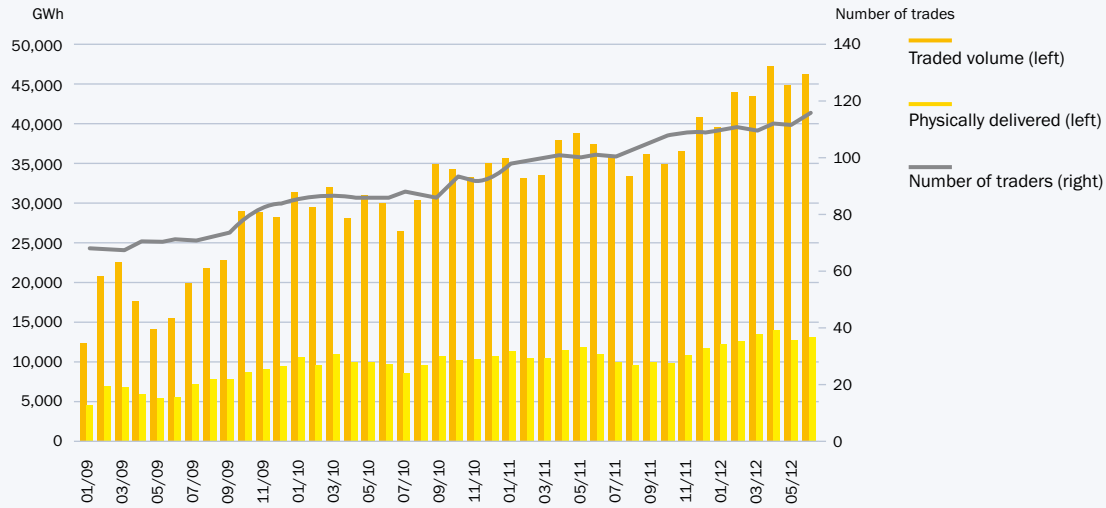

Figure 58: *Volume traded on the CEGH market, over time*
Source: CEGH

> Exchange

Trading of day-ahead baseload contracts (minimum tradable quantity: 10 MW per hour) on the spot market began in December 2009; the trading point is the Baumgarten ITAB. The futures market trades contracts for the next three front months. The minimum baseload is likewise 10 MW. The launch of a within-day product with a minimum tradable quantity of 1 MWh per hour is scheduled for the fourth quarter of 2012.

In 2011 turnover was 2,009,090 MWh on the spot market and 459,600 MWh on the futures market – far below the 435,273,319 MWh traded on the OTC market during the same year.

TURNOVER AND PRICES ON THE CEGHEX, OVER TIME

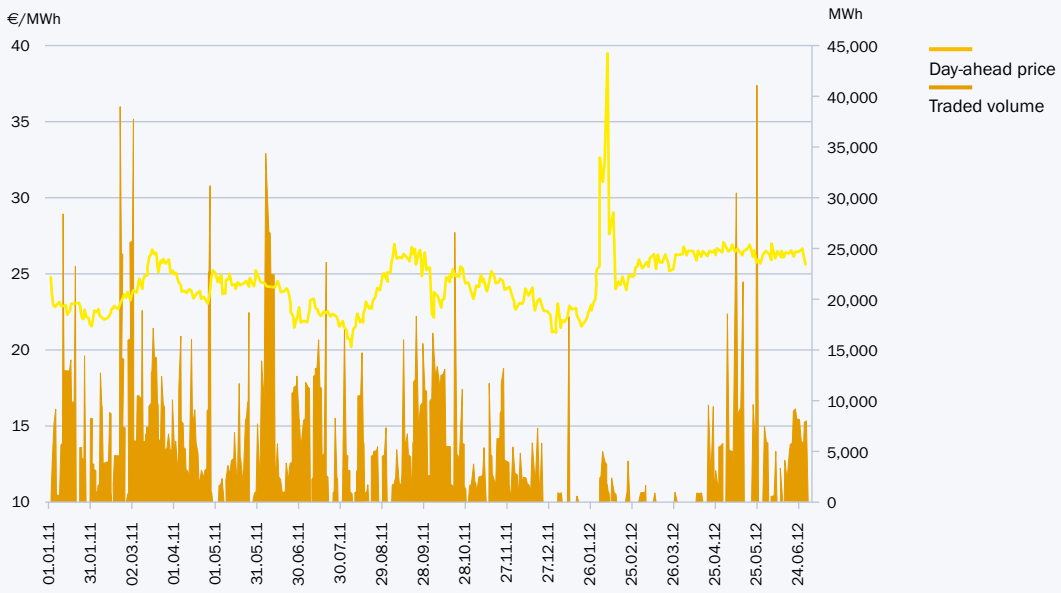

Figure 59: *Turnover and prices on the CEGHEX spot market, over time*
Source: CEGHEX

OTC volume traded has also climbing at the Dutch TTF and German NCG virtual trading points, and is well above turnover at the CEGH. Traded volume on the TTF market has risen sharply in 2012. However, exchange trading at these hubs also remains at low levels.

OTC VOLUME TRADED ON THE TTF, NCG AND CEGH MARKETS, OVER TIME

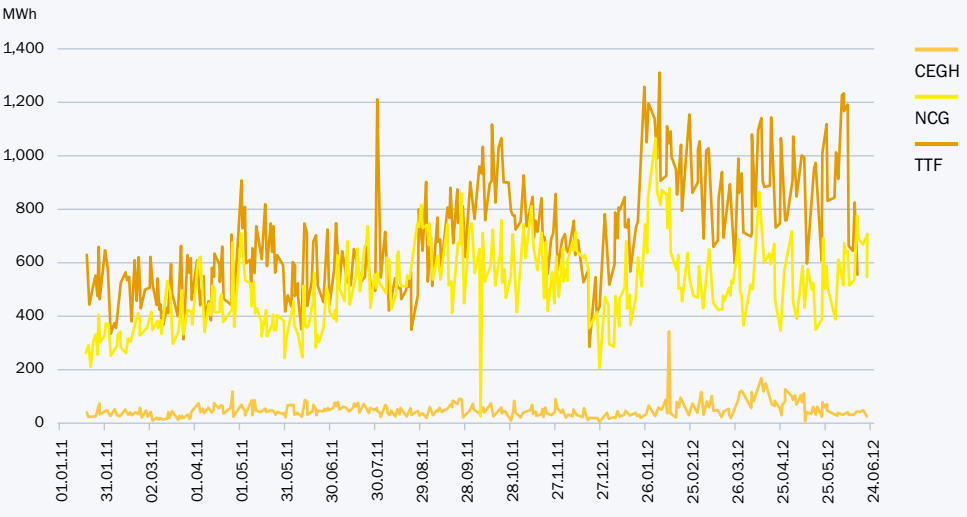

Figure 60: *OTC volume traded on the TTF, NCG and CEGH markets, over time*
Source: ICIS Heren

New market model
The new market model has cut the number of trading points (for title transfers) to one – the virtual trading point (VTP). Pursuant to section 68(2) Natural Gas Act 2011 the market area manager has designated CEGH as the operator of the VTP. Section 68(4) of the Act obliges the operator of the VTP to provide certain hub services and a back-up/back-down service, to match trade nominations, and to cooperate with exchanges and clearing houses. The Act also requires it to publish general market information online (section 68(7)(8) Natural Gas Act 2011).

Procurement on the NCG and TTF markets
Wholesalers that operate in Austria – including EconGas, GDF Suez, Goldgas, Kelag, RWE Supply and Trading, Salzburg AG, STGW and Wingas – are also registered as traders on the NGC market.[46] Both OTC and exchange trading (EEX and APX/Endex) are possible.

Among the wholesalers active in Austria EconGas, GDF Suez, Goldgas, RWE Supply and Trading, and Wingas are registered with the TTF.[47]

The import data show that since 2009 considerably larger quantities of gas have been imported from Germany. This points to heavier use of the NCG and TTF markets by Austrian traders.

Prices on the short-term markets
Figure 58 zshows the movements in the prices of OTC day-ahead products at the CEGH, NCG and TTF trading points in 2011. There was an oil price run-up in the first quarter because of the popular uprisings in Egypt and Libya, and the Fukushima disaster on 11 March 2011. The main price driver was rising oil prices, not gas demand growth. The Japanese earthquake initially had a major impact due to expectations that LNG would be diverted to Japan in order to boost generation at gas-fired power stations and replace the lost output of nuclear power plants. As LNG cargoes into the UK mostly arise from spot trades, it was thought that the most pronounced effects on prices would be felt at the NBP. Gas prices began easing in late March. Spot prices posted a strong rally at the start of August, gaining € 4/MWh at their peak, but the upturn was powered by the financial crisis rather than gas market fundamentals.[48] In September the link between the UK and Belgium was interrupted by scheduled maintenance on the Interconnector. This did not cause any significant volatility at the time, but prices unravelled after the reopening of the pipeline.

Futures (month-ahead) prices trailed spot tags in March due to events in Japan, and backwardation reappeared in August and September.

[46] http://www.net-connect-germany.de/cps/rde/xchg/SID-92173566-5B2393F4/ncg/hs.xsl/1173.htm.
[47] http://www.gastransportservices.nl/en/shippers/our_services/ttf_gas_exchange.
[48] On 6 August 2011 Standard and Poor's downgraded the USA's credit rating. This came after agreement on an increase in the US debt limit ended a protracted gridlock in Congress, averting looming insolvency. The rating downgrade touched off a stock exchange crash.

SPOT PRICE MOVEMENTS (DAY AHEAD)

Figure 61: *DA prices on the CEGH, NCG and TTF markets, 2011 and H1 2012*
Source: ICIS Heren

The prices of futures contracts for delivery in 2011 were firmer than in 2010, but were still well below long-term contract price levels. In 2010 buyers on the TTF year-ahead market (from 12 to 0 months ahead) paid about 40% less.

Prices on the CEGH market are higher than on the NCG and TTF. During the summer months this is caused by congestion at the Oberkappel border interconnection point[49], which decouples the markets from each other at times. Daily auctions of day-ahead capacity on the TAG system, which links Austria and Italy, began on 1 March 2012. As a result the spread between the CEGH and PSV markets – almost € 10/MWh during the first quarter – at times narrowed to € 1.525/MWh during the second quarter.[50] As *Figure 61* reveals, additional demand pushed up spot prices on the CEGH market, meaning that the spread to the NCG and TTF widened.

A look at the costs associated with various buying strategies shows that procurement costs again increased year on year in 2011 *(Figure 59).* Short-term procurement strategies continued to bring dividends. Spot prices advanced far more slowly than long-term contract prices.

[49] See http://www.open-grid-europe.com/cps/rde/xchg/SID-AA0C6E94-5D621FFF/open-grid-europe-internet/hs.xsl/2100.htm.
[50] See ICIS Heren, European Gas Hub Report, Q2 2012 Update, p. 18.

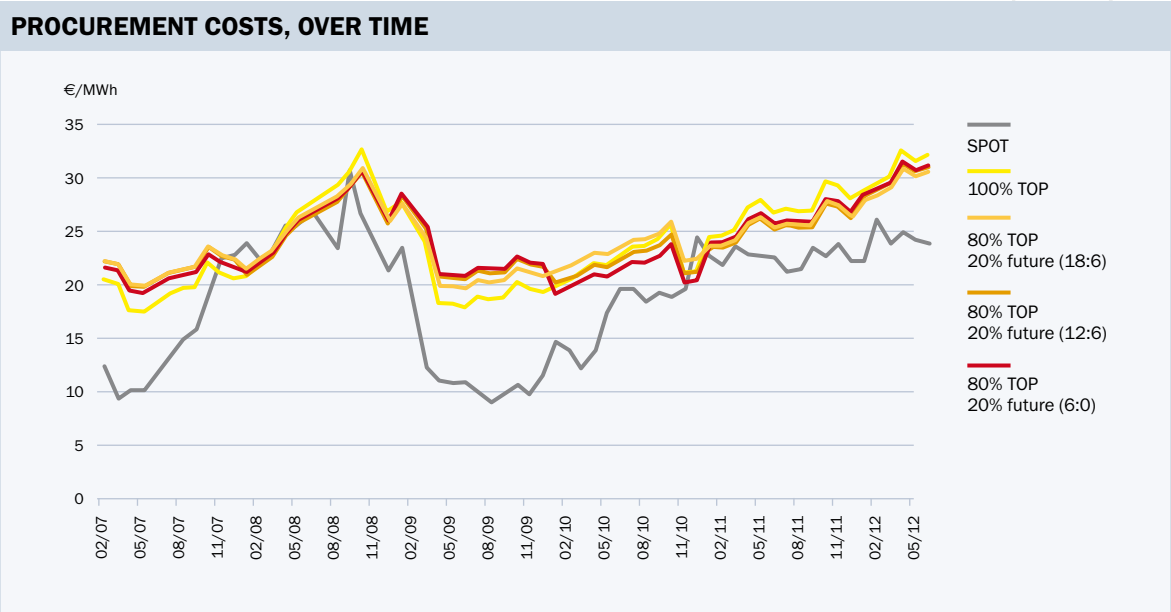

Figure 62: *Procurement costs associated with various buying strategies, over time*
Sources: Statistics Austria, ICIS Heren, Energate and E-Control calculations

Wholesale markets

Wholesale trading takes place on a number of markets. Long-term contracts are concluded for various volumes and prices. In addition, short and medium-term contracts are traded at hubs – partly OTC and partly (on a smaller scale) on exchanges.

The sellers on the various markets are not all the same. For example, Gazprom Export mainly sells directly to major importers such as E.ON and GDF, under long-term contracts. These wholesalers take quantities of 20bn cu m/year (e.g. E.ON), while EconGas is committed to purchases of 5bn cu m/year. In some cases payment is in US dollars.

Gazprom Export generally markets lower long-term contract volumes via subsidiaries, e.g. GWH in Austria. The quantities purchased from GWH by the large second-level wholesalers in Austria are far smaller than those sourced from Gazprom Export by the large first-level European wholesalers.

The Norwegian gas producers operate on a number of wholesale markets. They sell to large importers, under long-term contracts, and to second-level wholesalers; they also market their gas on the British spot markets.

The Austrian producers are likewise active on more than one market. OMV E&P has long-term contracts with Austrian wholesalers, and sells the rest of its gas to EconGas. RAG also markets directly via hubs.

Austria can be said to have a first-level wholesale market, supplied by Gazprom Export and other producers. EconGas[51] and Gazprom's marketing subsidiary GWH have long-term contracts with Gazprom Export.

Supplies to another range of large wholesalers, partly from the above, constitute a second-level wholesale market. This includes sales under long-term contracts between GWH and Erdgas Import Salzburg, Kelag and STGW.

Long-term contracts

Since 2009 spot prices have been below the oil-linked prices under long-term contract formulas. This means that wholesalers with long-term TOP contracts tied to oil prices have been at a constant disadvantage for over three years. Since the 2009/2010 gas year, these buyers have faced heavy losses, due to take-or-pay obligations amounting to about 80% of total contractual volumes, falling gas demand, and the loss of customers to new competitors that source their supplies via the hubs. Some of the TOP obligations have been rolled over to subsequent years, but with no let-up in the price spread, this has brought scant relief for long-term contract holders. With little likelihood that the oil-linked prices under long-term contracts will fall below prices at the trading hubs for sustained periods over the next two years, the wholesalers are continuing to press for renegotiation of the long-term contracts. The talks centre on tying prices to those at the trading hubs and reducing the take-or-pay obligations.

The buyers have adopted a variety of strategies in their efforts to obtain changes to the long-term contracts. Some have sought better terms when the regular price reviews have come up. If they fail to negotiate improvements they can push for arbitration, sometimes before international courts. Another approach is to bring an action against the counterparty alleging anti-competitive behaviour if it has a dominant market position.

According to Gazprom a total of ten European gas companies have sought price revisions.[52] Some have obtained reductions in their TOP obligations, enabling them to procure larger quantities of gas at the hubs, while others have left their TOP obligations in place but prevailed on Gazprom to accept linkage to gas market price trends.[53]

In a first wave of renegotiations in 2010 and 2011, wholesalers such as E.ON Ruhrgas, Wingas and GDF, and Austria's EconGas achieved spot-price linkage for part of their supplies from Gazprom Export.[54] Gazprom was said to be willing to tie 10–16% of the contractual volumes to spot prices. The importers that gained price reductions from Gazprom included EconGas and GWH – the supplier of Kelag, Salzburg AG and STGW.[55]

In 2011 STGW brought a declaratory action against its supplier, GWH, alleging that the latter was abusing its market power by means of anti-competitive gas supply contracts. The case was dropped when the parties reached an out-of-court settlement in the summer of 2012.

[51] See Gazprom names 2012 export forecast, in Argus Gas Connections, 22 February 2012, p.6.
[52] See Gazprom names 2012 export forecast, in Argus Gas Connections, 22 February 2012, p.6.
[53] See ICIS, European Spot Gas Markets (ESGM) report, 21 February 2011.
[54] See ESGM, 21 February 2011 and Argus Gas Connections, 24 February 2011, p.1.
[55] See Austria Press Agency report on 14 October 2011: Gaskartell-Verdacht – Steirische Gas-Wärme klagte Gazprom-Tochter GWH [Suspicion of gas cartel – Steirische Gas-Wärme sues Gazprom subsidiary GWH].

In January 2012 Gazprom agreed a price reduction with EconGas, GDF Suez, Sinergie Italiane, SPP and Wingas.[56] The price formula was reportedly modified to ensure that the gas prices would remain at a given level even if oil prices continued to rise[57], but the proportion of the contractual volumes tied to gas spot prices was not changed.[58] According to Gazprom Export, the companies concerned take one-quarter of all Russian gas exports to Europe.[59]

In 2011 E.ON, the Czech Republic's RWE Transgas and Poland's PGNiG announced their intention to go to arbitration with Gazprom Export. RWE Transgas instigated arbitration proceedings in April 2011, and PGNiG in February 2012.[60]

According to Gazprom, E.ON Ruhrgas – one of the Russian exporter's largest customers, with an offake of 20bn cu m/year[61] – has sought indexation of the prices under all of its long-term contracts to spot prices. To date, 15% of E.ON's purchases from Gazprom are tied to gas spot prices.[62] Gazprom refused. PGNiG sought a 20% price cut at arbitration.[63]

In March 2012 E.ON agreed a price adjustment with Norway's Statoil, which the E.ON Board of Management described as long term and "structural". At the start of July 2012 E.ON and Gazprom Export agreed to revise the terms of their contracts[64] with retroactive effect to 1 October 2010. E.ON said that the outcome of the negotiations would improve its earnings for the first half of 2012 by about € 1bn.[65] The revised formula was rumoured to leave some elements of oil linkage in place, but to bring prices closer to market levels, thereby largely eliminating E.ON's exposure to price risk associated with the spread between oil and gas prices. E.ON said that the revised long-term contracts showed that Gazprom remained a strategic partner. The settlement ended the international arbitration proceedings. Following the deal with Statoil in March, E.ON has now renegotiated all its long-term oil-indexed contracts.

Gazprom Export has indicated that it is also close to an agreement with PGNiG. It is prepared to make price concessions.[66] No information has emerged about the arbitration proceedings with RWE Transgas.

The retention of oil-price indexation despite the emergence of liquid gas markets – and hence prices that could serve as an alternative basis for the formulas in long-term contracts – is set to remain a contentious issue. The prices under the oil-linked contracts are still uncompetitive with those at the trading hubs. Even during the cold spell at the start of February, spot quotations were only above the oil-indexed prices for a few days. US producers' export plans will pile additional pressure on the TOP contract prices. Prices at Henry Hub are well below those at the cheapest European hub, the NBP. While gas use at US power plants has risen sharply, the viability of gas-fired power stations in Europe is in doubt, and Austria is no exception.[67]

[56] See Gazprom senkt Preise für Kunden in Europa [Gazprom cuts prices for customers in Europe], in Die Welt, No. 16, 19 January 2012, p. 11.
[57] See PGNiG's pricing dispute with Gazprom reaches courts, in Argus Media, 21 February 2012, www.argusmedia.com.
[58] See Gazprom gibt Rabatt für europäische Kunden [Gazprom rebate for European customers], in Die Presse, 18 January 2012, p. 16.
[59] See Gazprom senkt Preise für Kunden in Europa [Gazprom cuts prices for customers in Europe], in Die Welt, No. 16, 19 January 2012, p. 11.
[60] See PGNiG's pricing dispute with Gazprom reaches courts, in Argus Media.
[61] See Gazprom faces calls for more contract flexibility, in Argus Gas Connections, 16 May 2012, p. 5.
[62] See Gazprom faces calls for more contract flexibility, in Argus Gas Connections, 16 May 2012, p. 5.
[63] See Polen will 20 Prozent Rabatt von Gazprom [Poland looking for 20 percent rebate from Gazprom], in energate, 4 July 2012.
[64] See Lieferverträge: E.ON einigt sich mit Gazprom [Supply contracts: E.ON reaches agreement with Grazprom], in energate, 4 July 2012.
[65] See E.ON press release on 3 July 2012: E.ON reaches settlement with Gazprom on long-term gas supply contracts and raises Group outlook for 2012, http://www.eon.com/en/media/news/press-releases/2012/7/3/eon-reaches-settlement-and-raises-group-outlook-for-2010.html.
[66] See Gazprom promises record exports again this year, Interfax Natural Gas Daily, 20 June 2012, http://interfaxenergy.com/natural-gas-news-analysis/russia-and-the-caspian/gazprom-promises-record-exports-again-this-year/.
[67] See Das werden einigermaßen brachiale Verhandlungen [Those are going to be pretty brutal negotiations], in Der Standard, 18 June 2012, p. 10, interview with Leo Windtner, Energie AG; and Teures Pipelinegas sorgt im Verbund für Unruhe [Verbund troubled about expensive pipeline gas], in Der Standard, 5 May 2012, p. 21.

GAS RETAIL MARKET

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

1. **Mass market consumers** (small consumer market): households, small businesses, farms and other small consumers with an annual demand of no more than 400,000 kWh and standardised load profiles. The suppliers are legally obliged to publish their prices for this consumer segment.
2. **Individual contract consumers:** small and medium, and large-scale industrial enterprises, and service businesses with an annual consumption of over 400,000 kWh. These consumers have individually negotiated supply agreements.

Total retail gas sales fell by 6.2% year on year, to 95,634 GWh, in 2011. Household consumers account for 19.8% and other small consumers for 5.7% of overall gas consumption. The consumers with the heaviest demand are the load metered consumers at 74.5% of the total. The demand of all categories of consumers has fallen. Gas was supplied to a total of 1.35m metering points during the 2011 calendar year. Of these, 1.273m served household consumers, 70,000 other small consumers (small businesses and farms) and 6,000 load profile metered consumers (large commercial and industrial consumers).

MARKET STRUCTURE

Like the electricity market, the Austrian gas market is hallmarked by a high level of provincial and local government ownership *(Figure 63)*. Some of the suppliers are also active in the electricity market, particularly in the small consumer market (e.g. EnergieAllianz, Kelag and Salzburg AG). Another similarity is the widespread cross-holdings.

PUBLIC OWNERSHIP OF AUSTRIAN GAS COMPANIES

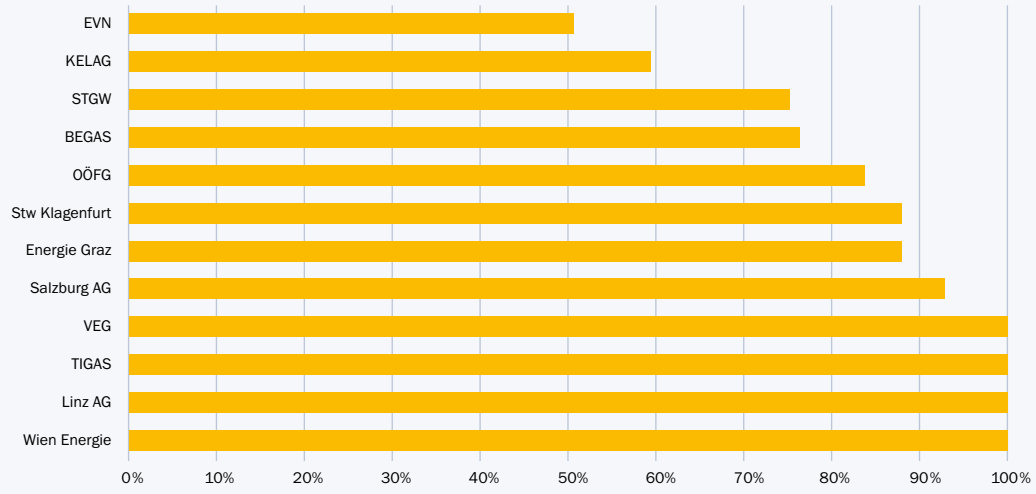

Figure 63: *Public ownership of Austrian gas companies*
Sources: Company annual reports and websites, and E-Control calculations

Mass market

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

These customers enjoy mandatory price transparency – the suppliers have a statutory duty to publish their rates. The retailers' rates can be compared using the E-Control tariff calculator, and price information is also available on most of their websites.

The suppliers in this market segment are the incumbents, namely: the EnergieAllianz partners (via BEGAS, EVN and Wien Energie), Kelag, Linz Gas, OÖ Gas Wärme, Salzburg AG, Steirische Gas Wärme, TIGAS and VEG, as well as municipal utilities (e.g. Stadtwerke Steyr and Stadtwerke Kapfenberg), some of which do not market nationwide. The regional suppliers have launched new sales subsidiaries and brands for their nationwide marketing, e.g. EnergieAllianz's switch, OÖ Gas-Wärme's gasdiskont, Salzburg AG and TIWAG's MyElectric, and STGW's Unsere Wasserkraft. For the first time since liberalisation, a foreign supplier has entered the small consumer market. A German company, Goldgas, began supplying households and small businesses throughout Austria in September 2011; this also made it the first alternative supplier in the Western control area. Towards the end of the year a new company, schlaustrom, began operating on the Upper Austrian small consumer market.

Individual contract consumer market

Market concentration

The Austrian **small consumer market** (non-load metered consumers) is highly concentrated, with an HHI of 4,047 – far above the critical level of 1,800.[68] In 2011 the combined market share of the three largest suppliers was around 75%, and that of the five largest suppliers 84%. The top ten suppliers serve 96% of all consumers.

EnergieAllianz has the highest market share in this segment, at over 62%, through its sales companies Wien Energie, EVN and BEGAS.[69] Foreign suppliers had a very low share of the Austrian small consumer market in 2011.

Small business consumers and small industrial consumers (load metered) with an annual demand of between 400,000 and 5,000,000 kWh have individually negotiated contracts. The suppliers are roughly the same as on the household consumer market. No information is available on their pricing and product strategies.

Large consumers with an annual demand of over 5m kWh

Upwards of an annual demand of 5m kWh the retail market has a different supply-side structure. The main players in this segment are EconGas, E.ON Austria, Kelag, Steirische Gas Wärme and Wingas. In the past few years they have been joined by ENI, Enlogs, GDF Suez, Shell Austria and some other suppliers, all of which market throughout the Eastern control area.

There is no data on the market shares held by suppliers of load metered consumers (which include the large consumers).

[68] Source: market statistics survey questionnaire and E-Control calculations.
[69] See information posted on the EnergieAllianz website, www.energieallianz.at.

MARKET BEHAVIOUR

Suppliers' activities: product design and marketing

Mass market

To date, product design largely boiled down to offering discounts – mainly to customers paying by direct debit and new customers — and the range of products on offer on the retail market is still very limited. Although the suppliers have similar rates (e.g. with some exceptions such as fixed price offers and online products), the large discounts can result in substantial price differences. Rebates for new customers are particularly widespread. Some retailers also offer so-called “unconditional discounts”, enjoyed by all of their customers. This form of discount played a major role in western Austria for some time. However, suppliers have recently been moving away from this strategy.

Immediately after market liberalisation in 2002, the local and regional players in the Eastern control area had to contend with only one alternative supplier, and there were none in Tyrol and Vorarlberg. This has since changed, and household consumers and small businesses can currently choose from as many as 12 products, marketed by nine different retailers. Not until last year did an alternative supplier enter the small consumer markets in Tyrol and Vorarlberg.

Ten years on from market opening, large-scale consumer advertising campaigns are still a rarity. The incumbents mainly use advertising for image maintenance purposes, so as to cement customer loyalty, rather than to launch new products, although in the past year there has been an increase in advertising by the alternative suppliers. The vast majority of marketing and advertising campaigns targets individual regions.

Energy price rises continued in 2011 and up to February 2012, and the number and size of the increases was much greater than in 2010. Some suppliers raised their prices by as much as 20%. The price increases in January 2011 and 2012 were accompanied by changes in the system charges. Overall, the gas suppliers have upped their prices more steeply than their counterparts in the electricity industry.

CHANGES IN GAS PRICES CHARGED TO HOUSEHOLD CONSUMERS, 2011–2012			
Supplier	**Time of change**	**Energy price**	**Total price**
BEGAS Energievertrieb	1 Apr. 2011	16.90%	9.60%
BEGAS Energievertrieb	1 Oct. 2011	5.80%	3.50%
Energie Graz GmbH	1 Jun. 2011	13.20%	7.60%
Energie Klagenfurt GmbH (österreichweit)	1 Jan. 2012	12.20%	Dependent on grid zone
Energie Klagenfurt GmbH (regional)	1 Jan. 2012	12.20%	6.20%
EVN Energievertrieb	1 Apr. 2011	14.90%	8.70%
EVN Energievertrieb	1 Oct. 2011	5.80%	3.60%
E-Werk Wels AG	1 May 2011	19.90%	11.30%
KELAG Kärntner Elektr.-AG (regional)	1 Jan. 2012	17.80%	9.10%
KELAG Kärntner Elektr.-AG (nationwide)	1 Jan. 2012	16.00%	Dependent on grid zone
Linz Gas Vertrieb	15 Oct. 2011	7.30%	4.20%
Linz Gas Vertrieb	1 May 2011	15.50%	8.40%
MyElectric	15 Dec. 2011	8.80%	Dependent on grid zone
OÖ Gas-Wärme GmbH	15 Oct. 2011	5.70%	3.30%
OÖ Gas-Wärme GmbH (nationwide)	16 Apr. 2011	14.90%	8.70%
OÖ Gas-Wärme GmbH (regional)	16 Apr. 2011	13.90%	7.50%
Salzburg AG	1 Jun. 2011	15.60%	8.50%
Salzburg AG	1 Feb. 2012	6.90%	4.11%
Stadtwerke Leoben	1 Jun. 2011	14.30%	8.20%
Stadtwerke Steyr	1 Jan. 2011	2.70%	5.60%
Stadtwerke Steyr	1 Apr. 2011	6.80%	3.60%
Stadtwerke Steyr	1 Jul. 2011	13.80%	7.40%
Steirische Gas Wärme	1 Jun. 2011	13.40%	7.70%
switch	1 Jul. 2011	9.30%	Dependent on grid zone
TIGAS Erdgas Tirol	1 Jul. 2011	12.74%	5.90%
TIGAS Erdgas Tirol	1 Jan. 2012	7.10%	3.50%
Unsere Wasserkraft	1 Sep. 2011	13.70%	Dependent on grid zone
VEG Vorarlberger Erdgas GmbH	1 Aug. 2011	14.50%	9.20%
Wien Energie Vertrieb	1 Apr. 2011	17.50%	9.90%
Wien Energie Vertrieb	1 Oct. 2011	9.40%	5.60%

Table 9: *Changes in gas prices charged to household consumers, January 2011 to end-June 2012 (household with a demand of 15,000 kWh/year)*
Source: E-Control

Individual contract consumer market

There is a wider range of products on the large consumer market. For example, the market leader EconGas offers fixed-price contracts, floating-price contracts with formulas based on "market price movements", and a pricing scheme featuring a variable price with the option of conversion into a fixed one for a given period of time.[70] Some other suppliers also stress their willingness to make bespoke offers to large consumers.

[70] See http://www.econgas.com/austria/deu/business/01/index.htm.

Consumer behaviour: switching

Due to the extended wave of price increases by the incumbents and the arrival of new entrants, the switching rate rose sharply in the fourth quarter of 2011. This trend persisted in the first quarter of 2012 *(Figure 64)*. The increases in the switching rate in Lower and Upper Austria were particularly conspicuous.

An analysis by grid areas shows that the switching rates for load metered gas consumers were exceptionally high in Upper Austria and Vienna. The switching rates for consumers with standardised load profiles (households and other small consumers) were above average in Lower Austria, Styria and Upper Austria.[71]

Some 15,000 consumers or 1.1% of all Austrian gas consumers changed suppliers in 2011. This was the highest overall rate since market opening, and the rates for the individual consumer categories were also the highest. A cumulative total of about 7% of all consumers have switched since liberalisation.

The switching rate for industrial (load metered) consumers has been much higher than that for household consumers. In all, 6.1% of the load metered consumers have changed suppliers, compared to just 1% of the household consumers. The increase in the switching rate for other small consumers has also been significantly lower, at 12%, and the figure for 2011 was 2.5% *(Figure 65)*.

SWITCHING RATES BY PROVINCES

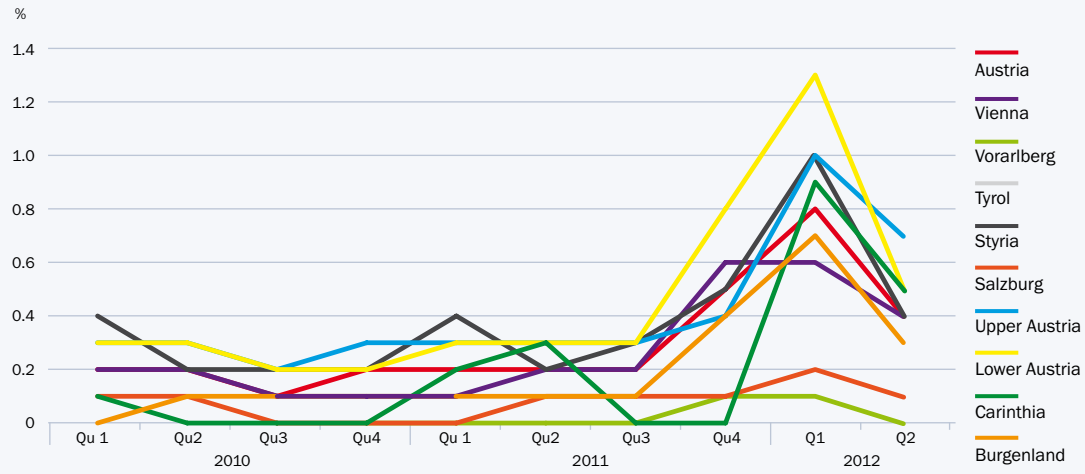

Figure 64: *Switching rates in terms of metering points, by provinces, 2010–2012*
Source: E-Control

[71] See www.e-control.at/statistik/erdgasstatistik/marktstatistik/verbraucherverhalten-versorgerwechsel.

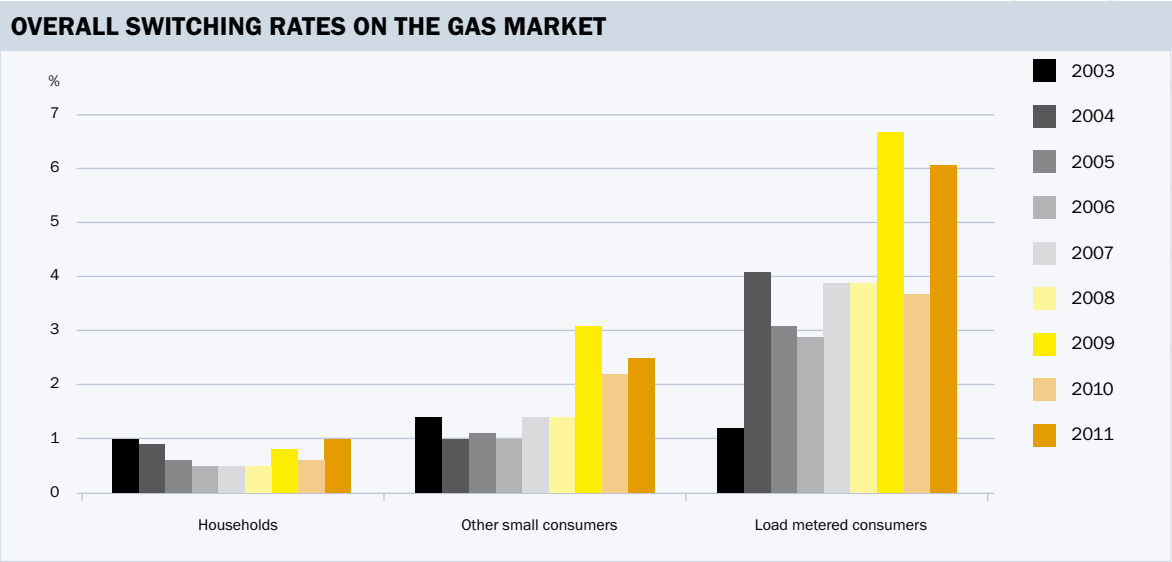

Figure 65: *Switching on the gas market: metering point switches by consumer categories, in percent, 2003–2011*
Source: E-Control

PRICE TRENDS

Mass market

The prices charged to household consumers climbed steadily from 2002 until the start of 2009 *(Figure 63).* Prices then fell before bottoming out in the course of 2010. A strong rise in the CPI in 2011 left the average overall gas price 72% above its level in 2002. Import prices were considerably more volatile over the period. *Figure 66* shows that while these fluctuations were passed on to consumers, the changes were milder and were lagged.

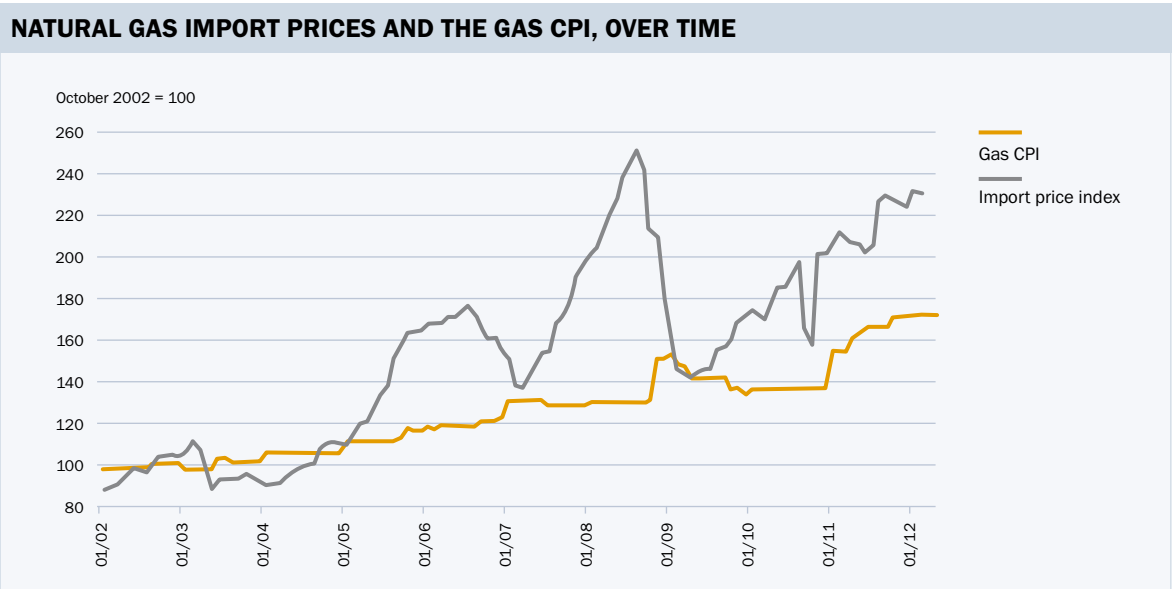

Figure 66: *Natural gas import price index and gas CPI, over time (overall price; October 2002 = 100)*
Sources: Statistics Austria, E-Control

E-Control's market statistics have included data on average revenue from non-load metered small consumers since 2008 *(Table 10).* These customers are assigned standardised load profiles. *Table 10* also shows the evolution of the heating gas prices charged to households, and small business consumers. Gas prices fell in the first half of 2010, and there was a further, much smaller decline, of no more than one percent, in the second half. Prices thereafter rebounded strongly, returning to their 2009 level in the case of the small business consumers (heating gas).

GAS PRICES CHARGED TO NON-LOAD METERED CONSUMERS

Jul. 2009 = 100	Households, detached houses, heating	Households, multi-family dwellings, heating	Small business customers, heating
July 2008	82.0%	85.3%	84.5%
Jan 2009	87.5%	94.4%	93.4%
July 2009	100.0%	100.0%	100.0%
Jan 2010	98.2%	95.4%	94.9%
July 2010	90.55%	90.32%	91.55%
Jan 2011	89.39%	89.75%	91.51%
July 2011	89.40%	90.55%	94.76%
Jan 2012	95.33%	98.31%	100.81%

Table 10: *Gas prices charged to non-load metered gas consumers, July 2008 to January 2012*
NB: July 2008 price is the average price for H1 2008
Source: E-Control

BREAKDOWN OF THE OVERALL PRICE CHARGED TO HOUSEHOLD CONSUMERS

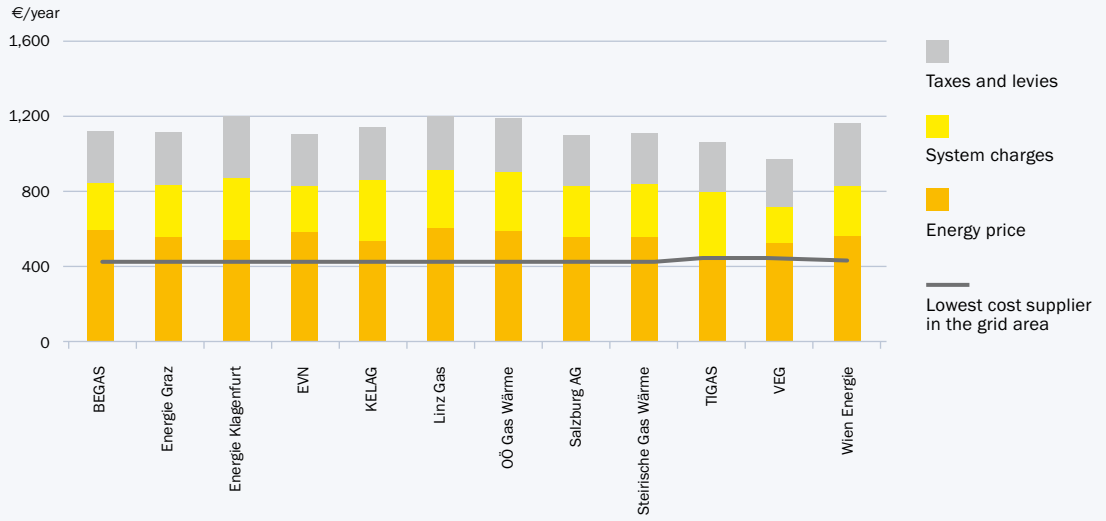

Figure 67: *Breakdown of the overall price charged to household consumers in June 2012, prices of the incumbents (local players) and energy prices of lowest cost suppliers*
Source: E-Control

Figure 67 shows the local players' energy prices, and the related system charges, and taxes and levies. Due to the varying structural and geographical characteristics of the grid areas, the system charges in the zones also differ.

In all the grid zones in the Eastern control area there are potential savings from switching suppliers. The maximum annual cost reduction is € 200 (when switching from Linz Gas to the cheapest supplier). The savings to be made by switching from EnergieAllianz companies are among the highest.

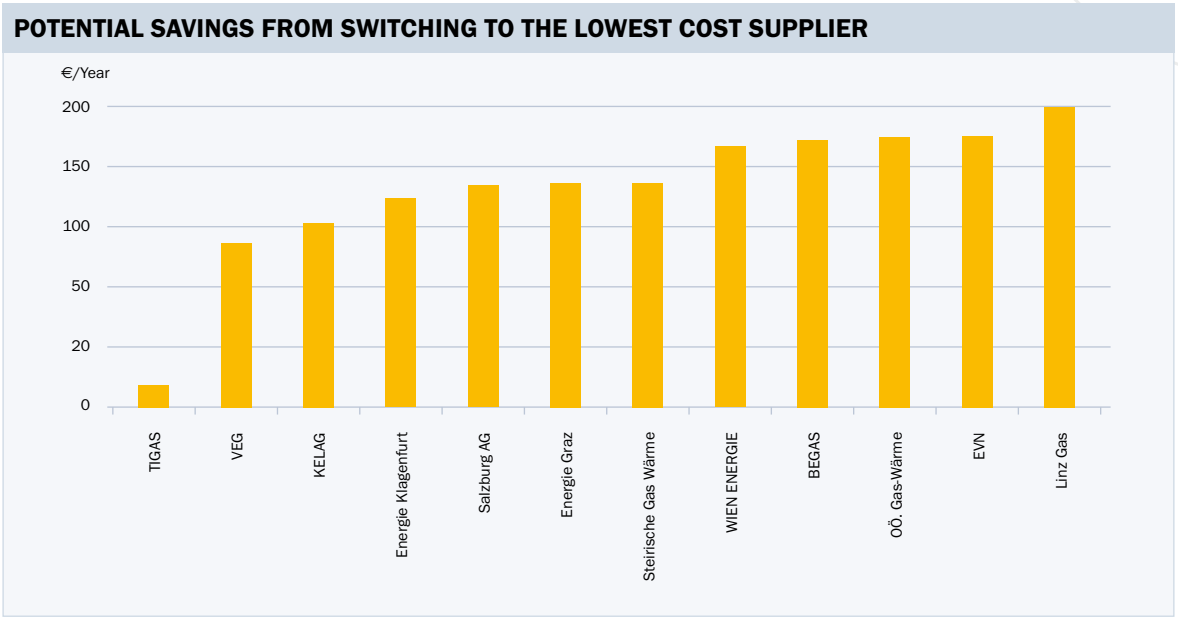

Figure 68: *Potential savings from switching to the lowest cost supplier in a given grid area (status: June 2012)*
Source: E-Control

International comparison of household prices
A European comparison reveals that overall Austrian prices including taxes and levies are in the upper mid-table bracket *(Figure 69).* Overall household prices in Austria were 0.78 cent/kWh above the EU-27 and EU-17 averages in the second half of 2011.

Household gas prices rose in most EU member states during the latter period. The exceptions were Denmark and Sweden, where prices edged down – but are still significantly higher than elsewhere.

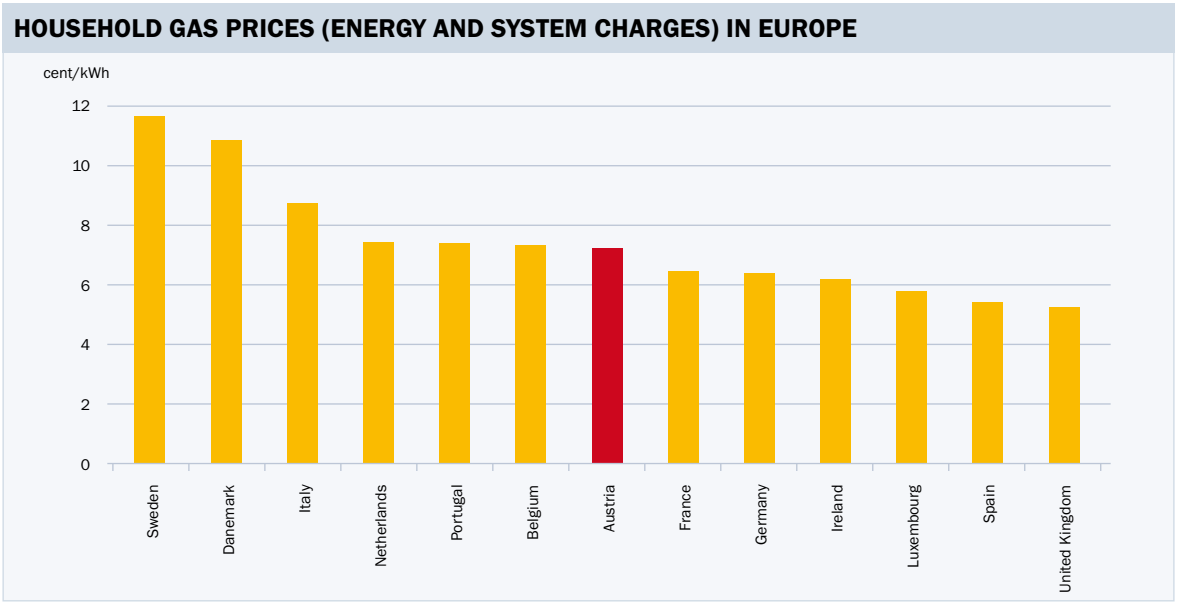

Figure 69: *Household gas prices (energy and system charges) in Europe, inc. taxes and levies, second half of 2011, consumption 5,555–55,555 kWh/year*
Source: Eurostat

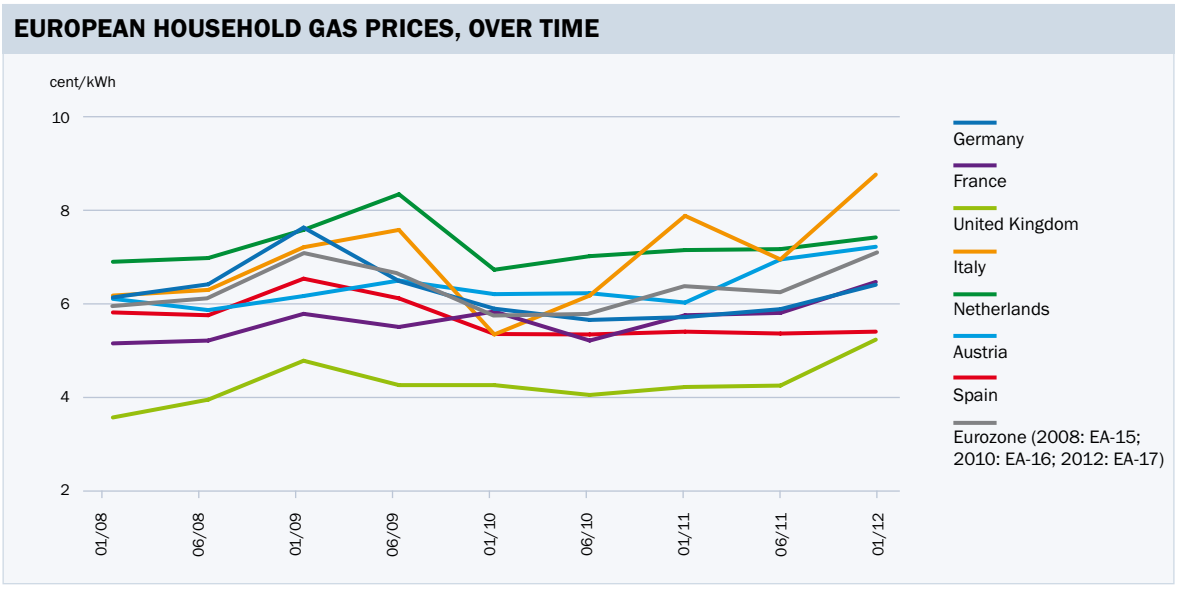

Figure 70: *Household gas prices in selected EU member states and EU average prices, inc. taxes and levies (cent/kWh)*
Source: Eurostat

HEPI

The E-Control Household Energy Price Index (HEPI) for the EU-1572 *(Figure 71)* shows a sharp downturn in European household gas prices in 2009, followed by a continuous upward trend from the start of 2010 through to the end of June 2012. The Austrian household gas prices included in the index remained largely stable up to January 2011, but leapt by an overall 17 percentage points last year.

[72] The European Household Energy Price Index (HEPI) is compiled by E-Control in cooperation with VaasaETT Global Energy Think Tank. This weighted index tracks price trends throughout Europe. It is calculated on the basis of the electricity and gas prices of the dominant supplier and its main competitor in each of the EU-15 capitals. The analysis takes the tariff most widely used by consumers in each city.

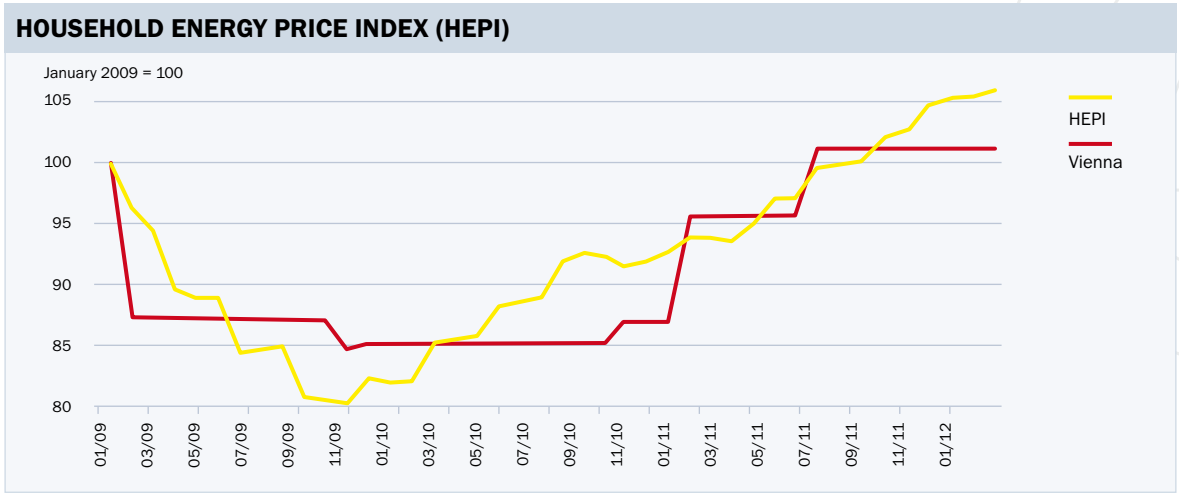

Figure 71: *Household Energy Price Index (HEPI): volume-weighted household price index for the EU-15 capital cities, excluding tax (January 2009 = 100)*
Source: E-Control

Austrian household consumers are still gaining little from the changes on the wholesale market. A comparison of household prices in Austria (Vienna), Germany (Berlin) and the Netherlands (Amsterdam) suggests that household consumers whose gas comes from a liquid wholesale market benefit more from falling prices. However, prices rose significantly in Berlin in 2010, and only in Amsterdam did they remain at a low level. The chart reveals a steady upward trend in gas prices in Vienna, while the upturn came later in the other two countries *(Figure 72).*

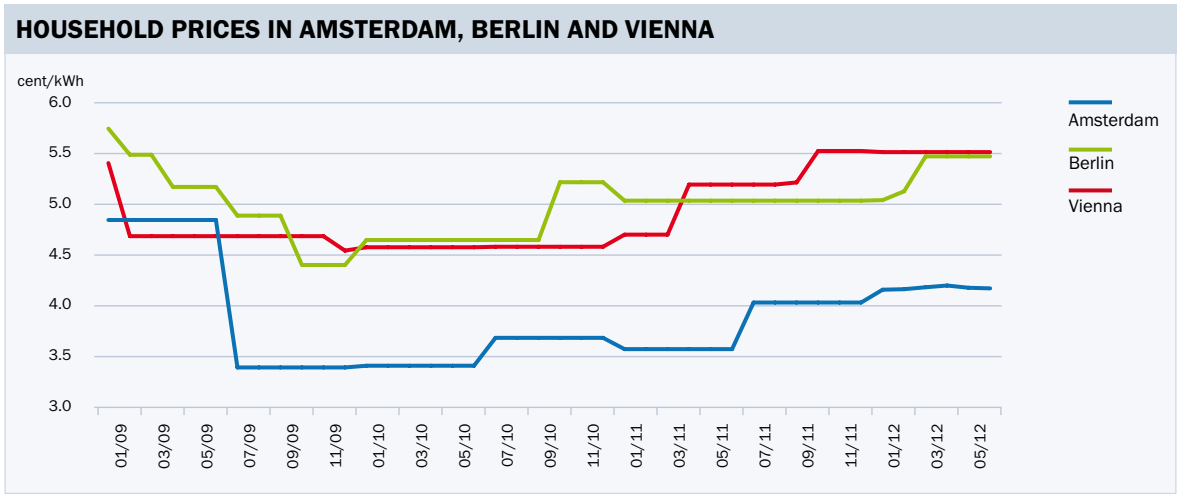

Figure 72: *Household prices in Amsterdam, Berlin and Vienna (based on the data used for the HEPI calculations), excluding taxes and levies*
Source: E-Control

Individual contract consumer market

To date, the gas prices charged to load metered industrial consumers have only been surveyed on a sample basis, as required by the Gas-Statistik-Verordnung (Gas Statistics Ordinance). Since the second half of 2003 E-Control has surveyed the energy prices paid by Austrian industrial consumers directly, on a biannual basis (January and July), using an online form.[73]

The latest results *(Table 11, Figure 73)* show year-on-year gas price rises across all consumption categories, and the highest prices since the surveys began. In Category A the absolute increase is lower than that in import prices. A feature of the results that stands out is the lengthening of average contract terms in all categories.

RESULTS OF THE INDUSTRIAL GAS PRICE SURVEY

	Measure	H1 2012 cent/kWh	H2 2011 cent/kWh
Category A Annual consumption > 100 GWh	Median	2.76	2.75
	Arithmetic mean	2.87	2.82
	Standard deviation	0.42	0.56
	No. of companies	36	32
	Ave. contract term	28 months	23 months
Category B Annual consumption > 10 GWh und ≤ 100 GWh	Median	3.00	2.90
	Arithmetic mean	3.07	2.96
	Standard deviation	0.52	0.53
	No. of companies	81	73
	Ave. contract term	29 months	23 months
Category C Annual consumption ≤ 10 GWh	Median	3.16	2.99
	Arithmetic mean	3.28	3.11
	Standard deviation	0.60	0.67
	No. of companies	95	92
	Ave. contract term	27 months	19 months
Total	Median	3.03	2.89
	Arithmetic mean	3.13	3.01
	Standard deviation	0.56	0.61
	First quartile	2.75	2.63
	Third quartile	3.35	3.40
	No. of companies	212	197
	Ave. contract term	28 months	21 months

Table 11: *Results of the industrial gas price survey*
Source: E-Control

[73] The results are posted on our website (www.e-control.at).

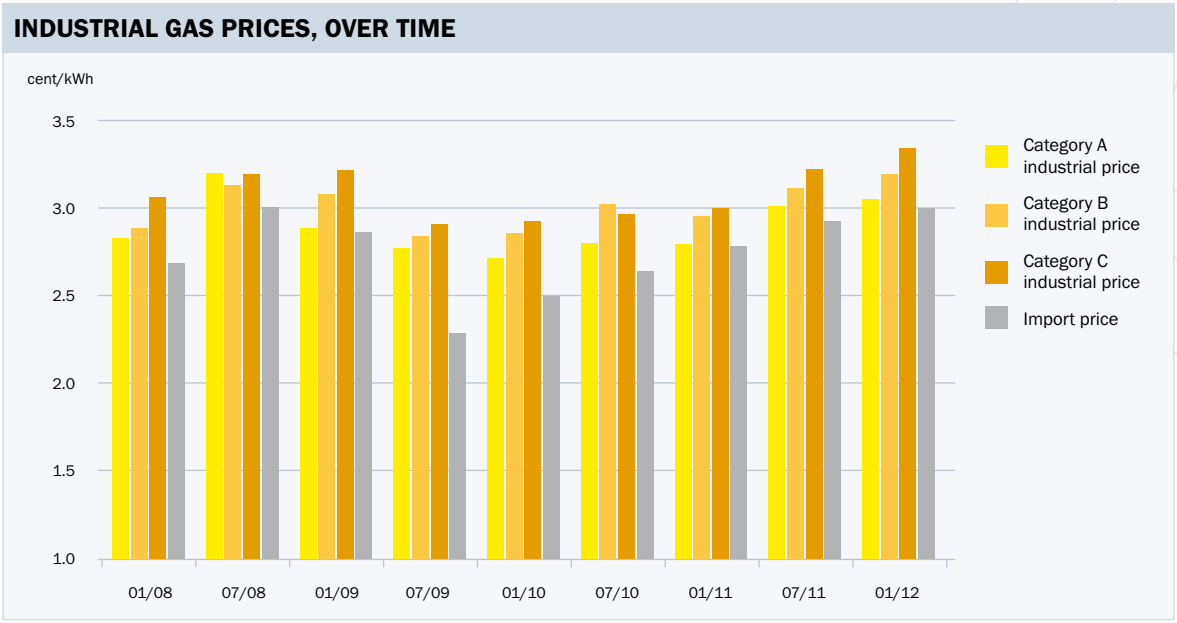

Figure 73: *Industrial gas prices, over time*
Source: E-Control industrial price survey

Industrial consumers no longer regard the linkage of gas and oil prices as justified. This was one of the findings of a poll of large consumers with an annual demand of over 2 GWh conducted by E-Control in November 2011.[74]

European comparisons

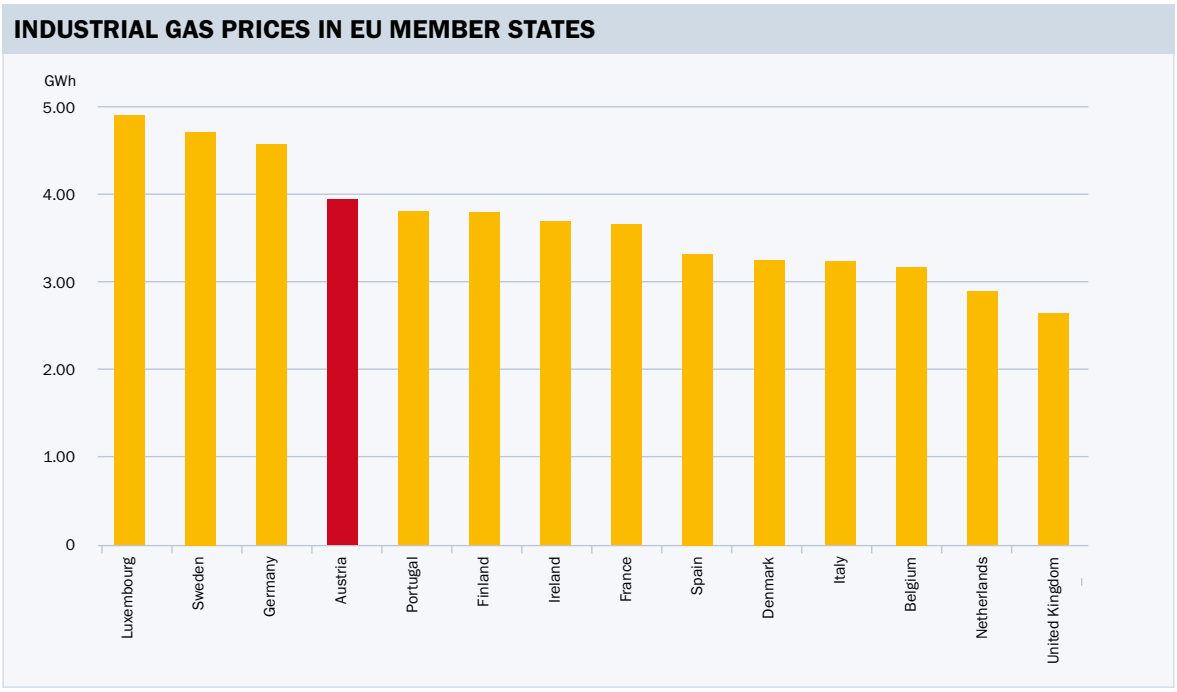

Figure 74: *Comparison of industrial gas prices in EU member states, 1 January 2012, consumption 2.8–27.8 GWh, cent/kWh*
Source: Eurostat

[74] See http://www.e-control.at/de/industrie/news/aktuelle-meldungen, Industriebefragung 2011 [2011 industrial survey] (German only), p. 34.

Austrian industrial gas prices are above the EU average *(Figure 74).*

AUSTRIAN GAS COMPANIES' MARGINS

Both the gas suppliers' procurement costs and the prices charged by them to consumers increased in 2011. The extent to which higher purchasing prices are passed on to consumers is an indicator of competitive intensity in a market.

To assess the gas suppliers' retail margins, E-Control and Frontier Economics[75] have developed a margin calculation model that simulates a variety of procurement strategies. The model takes strategies based on long-term contracts and approaches relying entirely on spot market buying as the opposite ends of the spectrum. Austrian import prices are used to estimate the margins on gas sourced under long-term contracts. It is assumed that 90% of the contractual volumes are covered by take-or-pay obligations.

The volume calculations are based on the monthly consumption of a typical household. The model factors storage costs into the costs associated with all the strategies apart from pure spot market procurement. Balancing energy costs, derived from historical data, are also included in the calculations. The gas suppliers' margins are computed as the difference between the procurement costs to which the strategies lead and the average energy price charged to Austrian household consumers.

Whichever purchasing strategy is assumed, the model shows gross margins (excluding sales costs) to have been above € 5/MWh for most of the past five years *(Figure 76).* In October 2008 margins topped € 10/MWh. Since January 2011 gross margins have fluctuated between € 5 and 10/MWh, except where spot market purchasing is assumed.

The margins are lowest with conventional procurement under oil-indexed long-term contracts, and highest with pure-play spot market procurement. Even though, in reality the latter is not a feasible option, greater recourse to short-term procurement strategies would undoubtedly leave more leeway for price reductions. This could be realised either by building gas spot and futures prices into the price formulas under the long-term contracts or by engaging in more direct purchasing on the spot and futures markets.

[75] See Marktbroschüre [Market Brochure] 2010 (German only), p. 17, www.e-control.at/publikationen.

GROSS MARGINS, OVER TIME

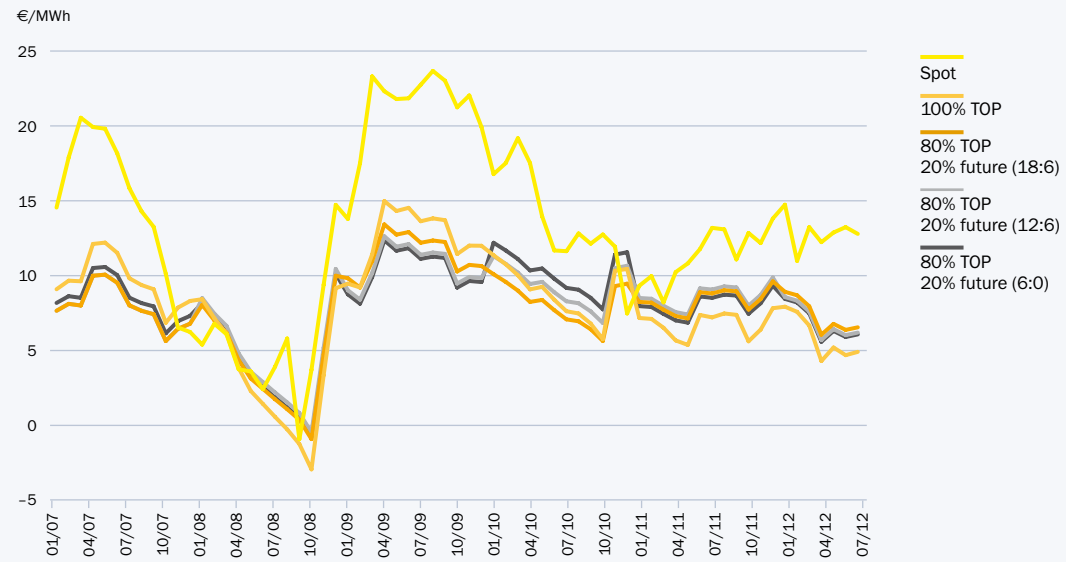

Figure 75: *Gas suppliers' gross margins, calculated as the difference between the procurement costs associated with various strategies and the average energy price charged to Austrian household consumers*
Sources: Statistics Austria, ICIS Heren, Energate, E-Control calculations

HOUSEHOLD AND WHOLESALE GAS PRICES, OVER TIME

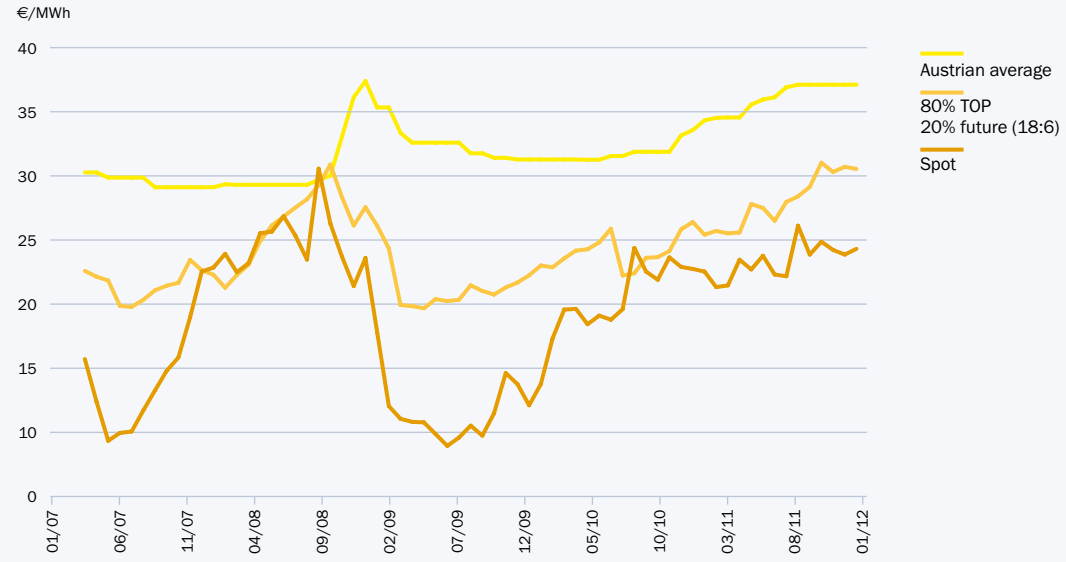

Figure 76: *Household and wholesale gas prices, over time, €/MWh*
Sources: Statistics Austria, ICIS Heren, Energate, E-Control calculations

WIDER GAS MARKET MONITORING DUTIES FOR E-CONTROL

E-Control's market monitoring powers were extended when the Natural Gas Act came into force on 22 November 2011. Section 131 Natural Gas Act transposes Art. 41 Directive 2009/73/EC, which lays down the duties and powers of regulatory authorities. Our responsibilities include watching over adherence to the Natural Gas Act (compliance monitoring) and market oversight (market monitoring).

E-Control is tasked, among other things, with monitoring the level and effectiveness of market opening, and competition at wholesale and retail levels, including any distortions or restriction of competition, as well as transparency and network quality (section 131(1)).

For the first time since the introduction of regulation, E-Control can now regularly collect data to help it perform these monitoring tasks; previously it was only able to do so for statistical purposes. The legal basis for these activities will be provided by a new ordinance, to be enacted under section 131(2). The ordinance must, as a minimum, require the collection of the types of data listed in section 131(2).

Besides these ongoing monitoring responsibilities, we are charged with drawing up studies, expert reports and opinions on market and competitive conditions in the electricity and gas sectors (section 21(2) E-Control Act). In addition, section 34 E-Control Act empowers us to inspect all documents of market participants, system operators, storage companies, balance responsible parties, and clearing and settlement agents, and to request information on all matters relevant to their activities.

INVESTIGATIONS AND MEASURES TO PROMOTE COMPETITION

In transposition of Art. 41(4)(b) Gas Directive, section 21(2) E-Control Act requires E-Control to investigate, report on and issue opinions on market and competitive conditions in the electricity and gas sectors. Section 21(3) gives E-Control rights to make applications and deliver opinions under the Cartel Act 2005. In addition, section 24(1)(2) charges us with general competition oversight of market participants.

No investigations were carried out in 2011.

CONSUMER PROTECTION

See p. 68 Consumer protection.

Security of supply: gas

DOMESTIC SUPPLY AND DEMAND BALANCE

Around 80% of supply comes from imports. Previously, import levels were usually comparatively constant, except in summer when additional volumes were required to refill the storage facilities. This pattern is increasingly giving way to wider seasonal swings, with imports tending to fall in winter and rise in summer. The reduced imports in winter are compensated for by additional storage capacity *(Figure 77)*.

AUSTRIAN NATURAL GAS SUPPLY AND DEMAND BALANCE

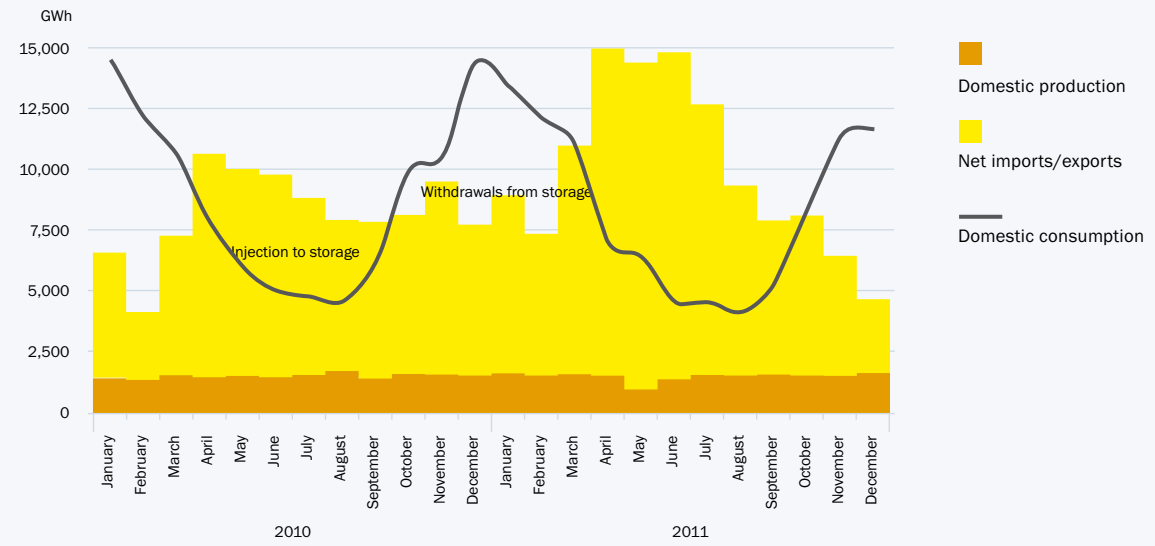

Figure 77: *Natural gas supply and demand in Austria, 2010 and 2011*
Source: E-Control

Austria has two domestic gas producers – OMV Austria Exploration & Production GmbH and Rohöl-Aufsuchungs AG. Some 1.6bn N cu m of natural gas[76] were produced in 2011 – equal to about 20% of domestic consumption. OMV Austria Exploration & Production accounted for the lion's share – approx. 83% of the total (Table 12).As at 1 January 2011 the two companies' combined proven and probable reserves totalled 24.7bn N cu m.

NATURAL GAS PRODUCTION IN AUSTRIA, 2011

	m N cu m	%	% change vs. 2010
OMV Austria Exploration & Production	1,319	82.9	-10.8
Rohöl-Aufsuchungs AG	272	17.1	20.4
Total	**1,591**	**100.0**	**-6.6**

Table 12: *Natural gas production in Austria, 2011*
Source: Geologische Bundesanstalt (Geological Survey of Austria), http://www.geologie.ac.at/

[76] Including associated gas.

Shifts in gas demand are mainly driven by outdoor temperatures and power station use, while industrial demand represents a relatively steady baseload. Supplies to households, small and medium-sized enterprises, and large-scale industry are always sufficient, so all in all supply and demand can be seen as well balanced.

In 2011 about 80% of all physical gas imports were re-exported. Physical imports totalled some 488 TWh during the year. Most of the physical exports – around 280 TWh *(Table 13)* – went to Italy.

AUSTRIAN NATURAL GAS TRADE BALANCE, 2011

	Imports		Exports	
	GWh	m N cu m	GWh	m N cu m
Germany	82,304	7,355	35,533	3,175
Switzerland	-	-	611	55
Italy	-	-	279,583	24,985
Slovenia	-	-	16,832	1,504
Hungary	-	-	46,799	4,182
Slovakia	405,346	36,224	5,110	457
Czech Republic	549	49		
Total	**488,199**	**43,628**	**384,467**	**34,358**

Table 13: *Physical imports and exports, 2011*[77]
Source: E-Control

FORECAST DEMAND AND AVAILABLE SUPPLIES

The demand projections shown in *Figure 75* are derived from a forecast by the distribution area manager AGGM. The estimates are based on demand growth forecasts for small consumers, and on specific projects. The results of a survey of balance responsible parties indicate that long-term demand growth is not covered by supply. However, it can safely be assumed that supply will be expanded as soon as the size of the shortfall is definitely known. This will be an opportunity for new suppliers and sources of supply, so infrastructure development planning will need to accommodate network flexibility, especially at entry points.

[77] Physical metering data at the cross-border interconnection points.

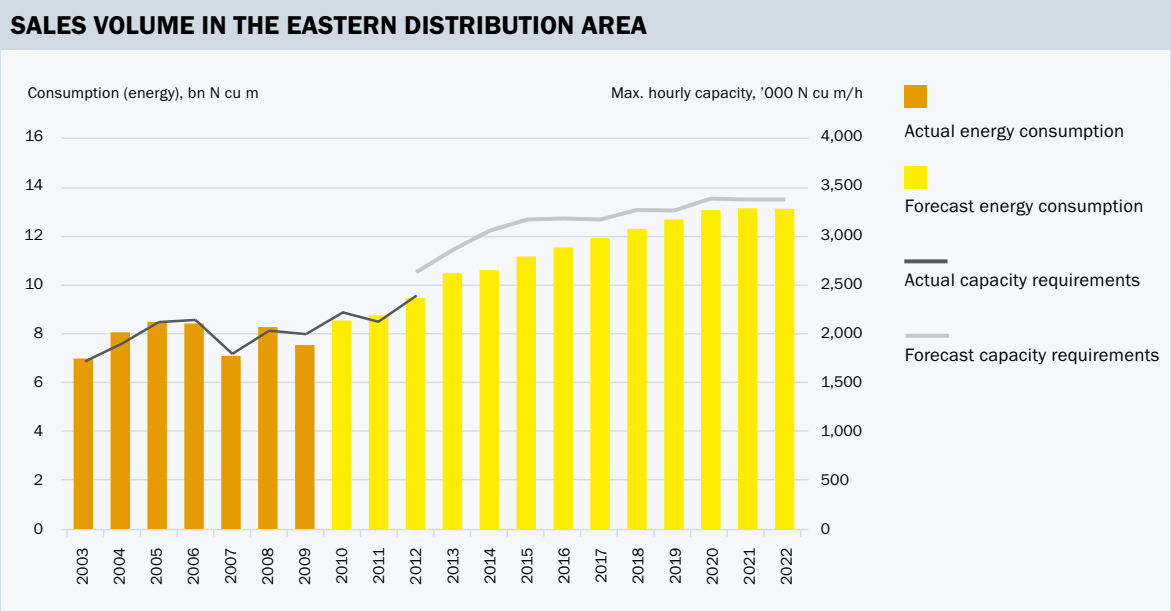

Figure 78: *Forecast maximum hourly capacity and demand in the Eastern distribution area*
Source: AGGM

ADDITIONAL CAPACITY BEING PLANNED OR UNDER CONSTRUCTION

On 1 April 2011 Gas Connect Austria GmbH commissioned 424,400 N cu m/h of physical reverse flow capacity from Germany to Austria at the Überackern interconnection point.

On 1 October 2011, 1,552,960 N cu m/h of physical reverse flow capacity from Italy to Austria was brought onstream at the Arnoldstein interconnection point (TAG).

The capacity of the WAG pipeline system is currently being expanded in both directions. The WAG Plus 600 project was completed during the first quarter of 2011. The WAG Expansion 3 project is scheduled for completion by 2013. This will raise capacity by approx. 230,000 cu m/h in both directions.

A new compressor station entered service in Baumgarten during the first quarter of 2012. This project, aimed at keeping pace with domestic demand growth, was approved as part of the 2007 long-term plan.

QUALITY AND LEVEL OF SYSTEM MAINTENANCE

System operation and maintenance must comply with the relevant technical rules (the ÖNORM and ÖVGW standards). A study commissioned by E-Control78 gives a comprehensive account of the minimum requirements for safe and reliable gas network operation.

The technical quality of network services is largely a reflection of the level of system operation and maintenance. Key aspects are supply reliability, gas quality and operational security of supply (system operation, maintenance and dispatching). The aim is to ensure that the right quantity of natural gas conforming to the quality and operating pressure specifications is delivered to customer installations without interruption.

We survey technical quality indicators as part of our efforts to monitor the quality of the system services provided by Austrian gas distribution system operators. Chapter XII(3) General Terms and Conditions of distribution system operators requires the latter to publish such indicators for the preceding calendar year annually, on 1 March.

ACTION TO MEET DEMAND PEAKS AND RESPOND TO OUTAGES OF ONE OR MORE SUPPLIERS

In principle, all consumers have equal priority, but it is safe to say that at peak times there would not be enough gas and transportation capacity to supply all customers at the same time – especially if all the gas-fired power stations were operating at full load. As the supply-side options are limited, congestion management is performed by adjusting deliveries to power stations. The demand peaks of households, small and medium enterprises, and industry can always be accommodated.

As the normal balancing system is only capable of meeting a small part of any shortfalls caused by supplier outages, there are contingency plans for a range of congestion management measures, chosen according to the severity and duration of under-supply. Section 25 Natural Gas Act 2011 requires the distribution area manager to prepare and implement an action plan in consultation with the affected system operators, balance responsible parties, suppliers, clearing and settlement agents, and storage and production system operators in the event of short or medium-term congestion.

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

Storage capacity

The Austrian gas storage facilities have a total working gas capacity of about 7.4bn cu m and a withdrawal capacity of around 3.6m cu m/h. Companies operating on the Austrian market can also use the Pozagas Lab 4 facility in Slovakia (working gas capacity: 652m cu m; withdrawal capacity: 285,416 cu m/h[79]).

[78] G. Kiesselbach, TÜV Austria, Zusammenstellung von allgemein gültigen Mindestanforderungen an einen sicheren und zuverlässigen Gasnetzbetrieb entsprechend den gesetzlichen und technischen Rahmenbedingungen in Österreich [Survey of general minimum requirements for safe and reliable gas system operation according to the legal and technical conditions in Austria], December 2005 (German only), http://www.e-control.at/de/publikationen/publikationen-gas/studien/gasnetzbetrieb.

[79] See http://pozagas.sk/en/ungsf-lab-4/.

Long-term gas supply contracts

The long-term contracts currently in place provide for:

> Approx. 7bn cu m/year of Russian gas from Gazprom Export;[80]
> Approx. 1.2bn cu m/year of Norwegian gas;[81]
> Smaller quantities from German suppliers.

As announced in press releases, in 2006[82] Gazprom Export concluded new Russian gas import contracts to run until 2027 with EconGas, GWH Gashandel GmbH and Centrex. The same importers have contracts with Norwegian suppliers. We do not know of any other import contracts.

REGULATORY FRAMEWORKS DESIGNED TO PROVIDE ADEQUATE INCENTIVES FOR INVESTMENT

Section 33(2) Natural Gas Act 2011 creates an incentive to invest in transportation infrastructure by providing for network development contracts. These result in reciprocal obligations on the part of system users and operators in the interests of increased planning certainty for transmission pipelines and other investments. Investment security is also underpinned by the approval of the projects concerned by E-Control as part of the long-term plan, which section 18 Natural Gas Act 2011 requires the distribution area manager to draw up. This procedure assures system operators of regulated tariffs adequate to finance their investments, meaning that system users and customers can be certain that the projects will go ahead.

IMPLEMENTATION OF REGULATION (EU) NO 994/2010 CONCERNING MEASURES TO SAFEGUARD SECURITY OF GAS SUPPLY

A working group under the chairmanship of the Ministry of Economy, Family and Youth, consisting of representatives of the gas industry, industrial and other consumers, and the regulator, drew up a risk assessment pursuant to Art. 9 of the Regulation. The group looked into compliance with the infrastructure standard (N-1 rule) established by Art. 6 and the supply standard established by Art. 8.

The calculation applying the N-1 rule in accordance with Annex I yielded a result of 161%. This means that the existing Austrian gas infrastructure conforms to the infrastructure standard (result of over 100%).

The risk assessment generally showed that, given the development status and quality of the Austrian gas network, and storage and production facilities, most of the analysed incidents do not represent major risks towards the supply of protected customers. for those failures that were found to involve medium or large risks, remedies were recommended as part of the crisis prevention plan. Some of these are corrently being implemented.

The working group also developed an emergency response plan that was consulted with the competent neighbouring authorities. This process could greatly draw on the crisis prevention handbook for the gas sector, developed as early as 2007.

[80] See APA ots news, 29 Sept., 2006.
[81] See Norwegian Petroleum Directorate, http://www.npd.no/en/Publications/Facts/Facts-2009/; Chapter 6, Norwegian gas exports, p. 49.
[82] See OMV press release dated 29 Sept. 2006 on www.omv.com/.

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