10 YEARS

ENERGY MARKET LIBERALISATION

E-CONTROL

Contents


This tenth birthday
is something to
celebrate


Because the
consumer is king,
at last

Executive summary
A success story in brief

The tenth anniversary of the full liberalisation of the Austrian electricity market came around in October 2011 – reason enough for a critical review of the past decade and a look ahead to the next few years.

Electricity and gas markets opened up to competition

Liberalisation was a consequence of Austrian accession to the European Union (EU) and of the EU's first energy package. Electricity and gas market opening was originally aimed at enhancing the competitiveness of European industry against Japan and the USA, and creating a level playing field inside the EU. However, energy supply security and quality also formed part of the thinking behind it.

The initial liberalisation legislation passed in 1997 and 1998[1] was followed by two further electricity and gas directives, adopted in 2003 and 2005, as well as regulations on conditions for network access for cross-border exchanges of electricity and gas.[2] In a next step, the third liberalisation package, enacted in 2009, amended the existing legislation and established the Agency for the Cooperation of Energy Regulators by way of a regulation.[3] The degree and depth of regulation have grown along with the body of internal energy market legislation. Four main components of internal energy market regulation have crystallised out of the successive liberalisation packages: (1) unbundling of vertically integrated undertakings; (2) third-party network access; (3) cross-border trade; and (4) a network of regulatory and supervisory institutions.

[1] Directive 96/92/EC concerning common rules for the internal market in electricity and Directive 98/30/EC concerning common rules for the internal market in natural gas.

[2] Directive 2003/54/EC concerning common rules for the internal market in electricity and repealing Directive 96/92/EC; Directive 2003/55/EC concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC; Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity; and Regulation (EC) No 1775/2005 on conditions for access to the natural gas transmission networks.

[3] Directive 2009/72/EC concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC; Directive 2009/73/EC concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC; Regulation (EC) No 714/2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003; Regulation (EC) No 715/2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005; and Regulation (EC) No 713/2009 establishing an Agency for the Cooperation of Energy Regulators.

Setting Austria's energy markets free – ten years of liberalisation

The changes in Austria's energy markets have mirrored its obligations as an EU member state – though the first *Energieliberalisierungsgesetz* (Energy Liberalisation Act)[4] went already far beyond the requirements of the first Electricity Directive. Market opening was pushed through well ahead of the deadlines set by European legislation. The full liberalisation of the Austrian electricity market as of 1 October 2001 gave all electricity consumers a free choice of suppliers; gas consumers followed a year later. The *Elektrizitätswirtschafts- und -organisationsgesetz* (Electricity Act) and *Gaswirtschaftsgesetz* (Natural Gas Act) transposed most of the provisions of the relevant EU directives. Due to the federal division of powers, parts of the electricity sector are only covered by enabling legislation at federal level, and this must be implemented by the provinces.

2001: E-Control starts work

These changes in the legislative framework included the transfer of responsibility for the oversight of the electricity and gas markets to Energie-Control (E-Control) by the *Energie-Regulierungsbehördengesetz* (Energy Regulatory Authorities Act) 2000. The Act requires E-Control to monitor the functioning of the market and hence the energy companies' operations that are exposed to competition, as well as those that constitute natural monopolies (network operation).

The track record of regulation over the ten years since the inception of liberalisation (nine years in the case of the gas market) has for the most part been positive. The goals of increased efficiency, better service and a fair share for consumers of the gains of liberalisation have largely been attained. E-Control's mission and activities centre around electricity and gas network regulation. Effective regulation makes it possible to reduce network tariffs whilst safeguarding security of supply.

[4] BGBl. Federal Law Gazette (FLG) I no 121/2000.

However, our network regulation activities also have other major objectives. Besides boosting system operators' efficiency and leveraging savings for consumers, creating a stable investment environment and planning certainty for energy companies is also a high priority. To this end long-term regulatory regimes have been put in place for both the electricity and the gas distribution networks. In the gas sector, implementation of the third package and the related introduction of an entry/exit regime for the transmission networks will call for changes to the tarification system.

Since liberalisation there have been hefty overall reductions in the electricity and gas system charges without compromising Austria's high supply security standards. In all, these savings have cut network users' bills by about € 640 million (m).

Structural changes in the past 10 years

Extensive cross-holdings

The Austrian electricity and gas industries are hallmarked by high levels of public ownership, and vertical and horizontal integration. Most of the energy companies hold direct or indirect interests in other market participants. There have been no signs of a significant reduction in public ownership or in cross-ownership over the past decade.

However, there have been shifts in the supplier relationships between market players, particularly at the wholesale level. This is important because procurement has a major influence on competition in the retail market.

The emergence of **one** electricity wholesale market has been one of the key changes of the past ten years. The EPEX Spot/EEX, APX-ENDEX and Nordpool have become the leading power exchanges in central Europe. Austria, too, has a spot power and carbon exchange in the shape of the EXAA. Europe's energy exchanges still presented a highly fragmented picture at the outset of liberalisation, but a degree of consolidation has since taken place. One of the advantages of exchanges for market players as compared to OTC trading is the minimisation of counterparty risk; i.e. the risk of a defaulting trading partner. Apart from energy firms, market participants include banks and financial service companies, and large industrial companies. In addition, energy suppliers that are unable to meet all their needs from their own generation have to use the wholesale market. By contrast, pure traders have no interest in procuring physical supplies but instead seek to make profits from price movements.

The gas wholesale market has also undergone a major transformation in the past few years. While procurement on continental European markets was still almost entirely under long-term contracts with strict conditions (take-or-pay, oil price linkage and fixed intervals between price adjustments) at the start of the century, flexible purchasing at short-term trading points – so-called "hubs" – has since taken on a growing role, leading to increased resistance to rigid long-term contracts. At the same time the number of players on the wholesale markets has increased. Even the smaller wholesalers and traders have become active. A significant cause of these changes was a gas supply overhang in 2009, which promoted the development of liquid hubs in Europe. As with electricity wholesaling, the hubs are home to OTC and exchange trading.

Changes on the gas wholesale market

Mergers hampering competition on retail markets

Mergers have played a major part in holding back the development of competition. Horizontal mergers between retailers have significantly reduced the number of suppliers, while the hoped-for market entry of new suppliers and resultant increase in competitive intensity – which was the argument for clearing the transactions – has not transpired.

To date, the mergers in Austria have largely been limited to the retail business, though some have also involved the wholesaling segment. The other areas of the energy companies' business (system operation and generation/production) have not been affected.

The EnergieAllianz and EconGas mergers, carried out in 2001 and 2002, respectively, have led to lasting changes in the electricity and gas retail markets.

In 2001 Wien Energie GmbH (Wien Energie), EVN AG (EVN), Burgenländische Elektrizitätswirtschafts Aktiengesellschaft (BEWAG), Burgenländische Gaswirtschafts Aktiengesellschaft (BEGAS) and Linz AG für Energie, Telekommunikation, Verkehr und Kommunale Dienste (Linz AG) formed EnergieAllianz. In the second stage of the transaction also Energie AG Oberösterreich (EAG) its retail gas, retail electricity and wholesale electricity, and wholesale electricity business with EnergieAllianz.[5] Two joint ventures, EnergieAllianz Austria GmbH (EAA) and e&t Energiehandels GmbH (e&t), linked by a common top management, were formed for this purpose.

Since the merger the parties have marketed electricity directly to large consumers (annual demand of over 4 GWh) via EnergieAllianz Austria GmbH (EAA), but have continued to serve private, and small and medium-sized business consumers via the regional incumbents (the provincial electricity utilities).

[5] www.energieallianz.com/konzerninfo.html; Energie AG and Linz AG pulled out of the EnergieAllianz joint venture on 1 May 2006. This led to the retransfer of EnergieAllianz's interest in Energie AG to the Upper Austrian provincial government.

At the same time the switch retail subsidiary was set up as an “alternative” electricity and gas supplier. This line-up significantly reduced the number of potential competitors at the outset of liberalisation.

EAA sells gas to consumers with a demand of less than 500,000 cubic metres (cu m). However, the EAA parent companies continue to market a variety of products for small consumers via separate sales companies in their own grid areas. The gas merger has resulted in a de facto demarcation of the territory of their sales companies – Wien Energie Vertriebs GmbH, EVN Vertriebs GmbH and BEGAS Vertriebs GmbH – and has greatly increased concentration in the small consumer market.

The EAA partners spun off their large consumer business (annual demand of over 500,000 cu m) and gas procurement operations when establishing the EconGas joint venture in 2002. EconGas[6] is owned by OMV, which holds over 50% directly and indirectly, the EAA partners and OÖFG (via EGBV).

Markets still highly concentrated

Serious competitive concerns are raised by the stake held by OMV, which is active at every stage in the supply chain and is thus in a position to influence the costs of EconGas’ competitors,[7] and by the long-term sales contracts with local retailers, some of which are EconGas shareholders. This means that a market with a potential size of 2 billion (bn) cu m is foreclosed from competition. There has also been a sharp rise in concentration in the industrial consumer segment, but some new suppliers, such as Wingas, CEOG and Shell, have entered the market, and competition has grown due to improvements on the procurement side.

Concentration has not decreased significantly since liberalisation and the mergers, and is beyond the critical threshold in both the gas and the electricity market. Competition is stronger in the electricity and gas large consumer segments than in the small consumer segments, and new suppliers largely enter the former.

[6] See www.econgas.com/austria.
[7] This was the main issue examined by the gas industry investigation in 2005/2006.

OUTCOMES OF LIBERALISATION

Liquid wholesale markets have emerged despite structural weaknesses such as high levels of concentration in electricity generation and gas production. This increasingly extends to the gas sector, though this has traditionally been the domain of long-term oil price indexed supply contracts. Yet the growth in trading has made the problems caused by existing trade barriers such as the insufficient harmonisation of the allocation of transport capacity (gas) and cross-border capacity (electricity) more apparent. Similarly, it was the success of the exchanges and hubs, and the internationalisation of energy trading, that highlighted the need to create a transparent and fair wholesale market by introducing standardised rules – a process that has barely begun.

The widespread progress on the wholesale markets – for all the problems in some areas – is in stark contrast to the irregular pace of change on the retail markets. Switching rates are low in Austria, and the dominance of the incumbents is particularly pronounced in the small consumer segment. New entrants have been few and far between, and have mainly been active in the large consumer segment. Nonetheless, consumers have certainly benefited from liberalisation. However, due to the anticompetitive market structures, strengthening small consumers' legal position and rights by giving them access to more information (e.g. by providing the E-Control tariff calculator) will remain a high priority for us.

Positive economic impact

The reforms have had a positive economic impact. According to a comprehensive study by Kratena (2011)[8] Austrian GDP would be about 1% lower had liberalisation not taken place. This is the equivalent of almost € 3bn of GDP (wages and profits) which would have been lost without liberalisation. Consumer expenditure would be almost € 500m lower. Moreover the workforce would now be some 3,000 smaller, as the loss of about 5,000 jobs in the electricity industry has been more than offset by an increase of around 8,000 in other sectors. In other words, the efficiencies realised in the energy sector have resulted in net income gains.

Contrary to widespread fears at the time, the energy companies have prospered since 2001 – often as a result of expansion and new business strategies – and the profitability of the provincial utilities and Verbund AG has improved markedly.

The electricity generators have shared in the increases in earnings. After some Austrian companies – mainly in the electricity sector – dealt with the skeletons in their cupboards in the immediate aftermath of liberalisation (by recognising impairments) they were able to make profits even at relatively low prices. Rising wholesale prices since 2003/2004 have further improved profitability, and earnings before interest and tax (EBIT) rose by 126% (approx. € 1.2bn) between 2001 and 2010, while turnover climbed by 130% over roughly the same period.

[8] Kratena, K. (2011), *Gesamtwirtschaftliche Effekte der Energiemarktliberalisierung in Österreich* (Overall economic effects of energy market liberalisation in Austria), mimeo, Vienna.

Consumers have also benefited. According to Kratena's calculations (2011),[9] from 2001 to 2009 they paid around € 10bn less for their electricity and € 1.3bn less for their gas than they would have done if liberalisation had not taken place. Austrian gas prices are now mid-range as compared to other European countries, whereas they were in the top third prior to liberalisation.

EFFECTS OF LIBERALISATION, 2001–2009 (EUR BN)

	Electricity	Gas
Business consumers	8.90	1.20
Households	1.30	0.08
Total	**10.20**	**1.28**

Table 1
Source: Kratena 2011, Gesamtwirtschaftliche Effekte der Energiemarktliberalisierung in Österreich, mimeo, Vienna, own calculations

The price situation on the wholesale market has fed through to the retail market. Industrial prices (net of tax) have doubled over the period, in line with the trend on the wholesale market, but household prices (including all taxes) have risen less, mainly as a result of cuts in the system charges. However, it should be noted that retail prices are partly decoupled from the wholesale market. This has to do with the half-hearted approach of the alternative suppliers, which often do little to go out and win customers at times when the incumbents are enjoying fat margins. This is hardly surprising in view of the cross-holdings between competing companies, and of the joint projects they are involved in. The prices charged to household and small business consumers are still driven by strategic considerations, rather than being dictated by market forces. In consequence, the main effect of liberalisation experienced by these consumers to date has been reductions in system charges.

Some of the gains that would otherwise have fallen to consumers have been diverted to the state in the form of the energy levy. In the case of electricity this has deprived household consumers of about half of the benefits of liberalisation, and in that of natural gas two-thirds. In all, the tax measures (increases in the energy levies on electricity and gas) prompted by full liberalisation have recycled an annual € 300m from consumers to the national treasury.

Nevertheless, Austrian businesses and private consumers now have a very different perception of their energy supplies than in pre-liberalisation days. From uniform commodities, energy supplies have turned into a varied range of products, designed to deliver a variety of benefits, such as risk minimisation, add-on services or quality features. These additional services, which do not form part of the energy products themselves, are disregarded when a purely economic perspective is taken.

[9] Kratena, K. (2011), *Gesamtwirtschaftliche Effekte der Energiemarktliberalisierung in Österreich* (Overall economic effects of energy market liberalisation in Austria), mimeo, Vienna.

No mishaps, no mayhem – phased introduction of market-based rules

In the energy sector the past decade will mainly be remembered for the efforts to create an efficient regulation system in Austria and across the European Union. Long-established entitlements have been overturned, and the regulated electricity and gas industries have been obliged to replace the previous forms of cooperation between companies by competition for customers and profits.

Friction-free implementation

Austria has largely given a good account of itself. Market rules were established and implemented by the energy companies in good time, so as to open the liberalised market to all Austrian households. In contrast to many other member states, the move to the new system was almost entirely friction-free – indeed, Austria was the only country where full liberalisation was not accompanied by any technical or organisational problems. This success was partly achieved at the cost of allowing a lot of time for the introduction of the new market processes and tailoring them to the system operators' wishes. Many of the discussions and modifications to the system of the past decade go back to this initial decision. They were aimed at adjusting the processes gradually in the interests of increased competition and in step with its evolution, but unfortunately the main protagonists, the system operators, did not always have a strong vested interest in change. The preoccupation with the system operators' needs also explains both their pivotal role in the reforms, and the regulator's reluctance to impinge on their independence.

Energy must keep moving – coming challenges and trends

The electricity and gas sectors face major challenges. They are in line for a radical transformation over the next decade. The current situation of national markets with highly centralised generation/production of energy, transported to consumers as required, will be consigned to history. There are major upheavals ahead.

More responsiveness to demand
The next technological leap, in the shape of the installation of smart meters in the home, will result in new means of managing energy demand and enabling consumers to participate in energy markets. Intelligent meters will also open the way for a whole range of new, as yet unknown energy services.

Tough tests for the electricity and gas sectors

Creative marketing
The rapid diffusion of new ITC infrastructure and solutions in the energy sector (smart meters, smart grids, etc.) means that business processes in the energy sector can also be made cheaper, faster and more efficient. Still more importantly, this technology holds the key to a wide array of new services that will allow consumers to respond more appropriately to market situations, among other things. Ensuring that products and services are nevertheless comparable will be a challenge for regulators.

Stimulating retail competition
The policy of unbundling distribution system operation has reduced the importance of exploiting marketing synergies between this function and retailing. This and the introduction of non-energy services will help make it more normal to win and lose customers, meaning that competition becomes more intense.

Focus on energy saving consumers
Household consumers will be watching their energy use ever more closely, and not only the installation of smart meters, but also the targets set by the Energy Efficiency Directive will mean that they think harder about their electricity and gas consumption.

New functions for infrastructure

Both transmission and distribution system operators will be faced with new tasks and challenges. Electricity system operators across Europe will need to invest heavily to keep up with demand growth – and Austria will be no exception. Distribution system operators' investment costs will also be pushed up by the changeover to smart meters.

More investment in infrastructure needed

The situation for the gas industry is somewhat different. The transmission networks will need to be expanded to cope with rising demand, and increasing network flexibility will be a particularly tough test for the industry. At the same time, however, parts of the gas distribution networks will need to be scaled back because of the coming decline in space heating demand, which currently accounts for a high proportion of overall demand. Falling sales to households will naturally also pose difficult regulatory issues. For example, decisions will have to be taken on the response in terms of tariff determination. In the case of natural gas, which is in competition with other energy sources, rising system charges would accelerate the contraction in volumes, leading in turn to further tariff increases. This vicious cycle would ultimately raise questions with regard to social responsibility, and the competitiveness of those small and medium-sized enterprises that are unable to switch to other energy sources.

Cutting network costs

One of E-Control's main tasks is to ensure that the regulated infrastructure is efficiently run. Considerable increases in efficiency have already been achieved in the past few years, and the system charges have been significantly reduced. Although there is every expectation of further efficiency gains, they are unlikely to equal those of the past. The need to invest in network infrastructure will probably mean that the cuts in the system charges are lower than before. In the electricity sector, the system charges for household consumers have fallen by almost 30% between liberalisation and this year, while in the gas sector the charges for a typical household consumer with an annual demand of 15,000 kWh have been cut by over 4% since October 2002. Due to heavy investment in the high-pressure grid, the system charges are set to edge up over the next decade.

The electricity and gas distribution networks are subject to multi-year incentive regulation, and steps have already been taken to overcome the inherent disadvantages of this form of regulation. In particular, incentives have been created for maintaining sensible levels of capital expenditure. However, further modifications to the system will be required to maintain long-term supply security. For instance, explicit quality incentives should be introduced, so as to enable tariff determination to take account of supply quality criteria. The next regulation periods for the gas and electricity distribution grids are due to start in 2013 and 2014, respectively. The electricity transmission grid differs from the distribution grid in that it is still subject to cost-plus regulation, and it too would profit from a stable long-term regulatory regime.

Renewable

Renewable electricity generation is set to play an increasingly central role in energy supplies. Commitments to sustainability, EU climate goals and growth in renewable generation are driving the continued promotion and funding of green power technologies. Alongside familiar concerns such as development targets and support systems, in future the focus will increasingly be on distributed generation. The development of small and medium-sized generating stations will create new needs in terms of network infrastructure and system integration.

Energy efficiency

Whenever talk turns to the renewable contribution, sustainability, the stability and reliability of network infrastructure, security of supply or greenhouse gas emissions, one issue is always at the heart of the discussion – increasing energy efficiency. Energy efficiency will tip the scales between hitting energy and climate policy goals or missing them. Effective and coordinated implementation of energy efficiency programmes, assessment of their impact, goal setting, compliance monitoring, and the use of modern metering and communication technologies are just some of the challenges that governments will have to meet.

Politicisation of energy

Wind of change

Energy has long been a highly political issue, if only because of public sector holdings in energy companies. Now, the desire to reshape the energy sector will make growing legislative intervention along the entire supply chain inevitable. Under such conditions it is harder to maintain fair competition between market players than in the days of more light-handed regulation. The electricity wholesale market is especially prone to politicisation, and appears to be moving from a free to a “managed” market, in which only small amounts of power are subject to the free play of supply and demand. This is harmful to market depth, and promotes still greater concentration. The credibility of the market is likely to suffer, as traders will find it easier to manipulate prices in such an environment.

The changes in market structures will bring higher prices for consumers. Although some of these increases will be transparently traceable to higher taxes, it is likely that some will be factored into net energy prices (wholesale and balancing power prices). It will be harder for consumers to distinguish between market-driven price rises and other reasons for increases.

Gas and electricity market convergence

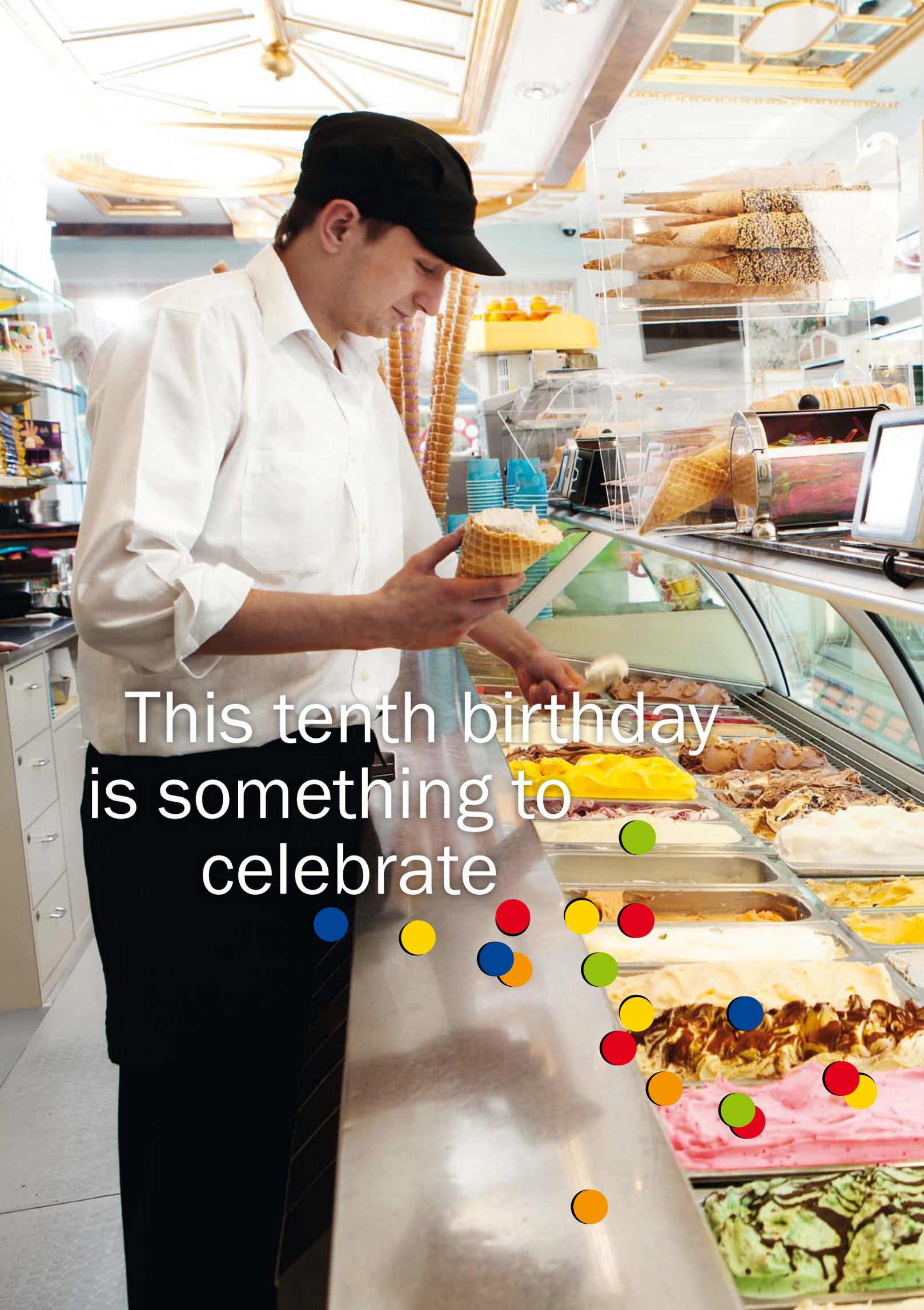
One effect of the shift towards greater dependence on renewables will be an increased role for natural gas as a primary energy source for electricity. This will mean that gas demand is increasingly driven by power station use – particularly in view of sluggish space heating sales. Greater use may be made of gas-fired power stations for load balancing, irrespective of whether they are conventional condensing power stations or combined heat and power plants. If so, utilisation of gas-fired generation capacity, and hence gas demand, will be more volatile, and this will have wide-ranging implications. The proportion of predictable gas demand will decrease, making the logic of long-term take-or-pay supply contracts increasingly questionable. There will also be growing pressure to abandon the oil price linked escalation clauses that are still a characteristic feature of import contracts today. As gas sales will largely depend on the spreads between short-term electricity and gas prices, spot price trends will play a more influential role. This will call for sufficient liquidity for credible spot price formation that can also serve as a basis for financial products.

Stronger EU say in energy policy

Europeanised legal framework

Energy policy used to be entirely a matter for national governments, but is now increasingly being framed at EU level. The changes in the energy sector have made wider markets and better networks essential. The third energy package has laid the groundwork for the centralised formulation of the market rules. At present the Agency for the Cooperation of Energy Regulators (ACER) is still restricted to monitoring the transmission system operators' cooperation on the development of network codes, and setting targets.

However, it is unlikely that this will be the last word. Oversight of energy trading will soon be Europeanised, and the growing proportion of subsidised energy will probably also increase the pressure for centralised state aid policies. The large amount of supported renewable electricity generation capacity is already influencing European generators' profitability, and will probably affect that of gas market participants in future. This is in line with the EU's wishes, and will doubtless accelerate efforts at European level to harmonise policies.


This tenth birthday
is something to
celebrate


Because choice
is better
than just one
flavour

Milestones on the road to liberalisation – the big shake-up in the Austrian energy sector

Singing from the same hymn sheet

CLEAR RULES FOR COMPETITION
Austrian accession to the European Union in 1995 came with an obligation to adopt the EU's liberalisation rules, and hence to accept the notion of an internal market in which energy flows freely regardless of whether it is produced in the EU or imported. The guiding principles of the internal energy market are sustainability, security of supply and competitiveness.

GOOD FOR EUROPE, GOOD FOR AUSTRIA – LIBERALISATION IS THE WAY TO GO
Austria's decision to open up its energy markets was a consequence of the EU's first energy package.

A look at the history of EU internal energy market legislation reveals a pattern of successive waves. A new reform package has been introduced every five or six years, after the European Commission has come to the conclusion that the existing regulatory framework does not go far enough.

Series of liberalisation packages

The repeated amendments to the legislation have been necessitated by continued market failure. This is a reflection of differences in member states' approaches to the implementation of the directives, and of a failure to prevent the former monopolies' discriminatory behaviour with regard to market entry, market exit and pricing. The European Commission's energy sector inquiry, held from 2005–2007, revealed that concentration in national electricity and gas markets had shown scarcely any improvement from pre-liberalisation levels. It also revealed that there had been little progress towards integrating European energy markets, and that price formation remained opaque and inefficient.[10]

[10] Communication from the Commission – Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors.

EMPOWERING ELECTRICITY AND GAS CONSUMERS

The changes in Austria's energy market mirrored its obligations as an EU member state – though the first *Energieliberalisierungsgesetz* (Energy Liberalisation Act)[11] went far beyond the requirements of the first Electricity Directive. The full liberalisation of the Austrian electricity market with effect from 1 October 2001 gave all electricity consumers a free choice of suppliers; gas consumers gained this right a year later. The Electricity Act and the Natural Gas Act transposed most of the provisions of the relevant EU directives. Due to Austria's federal constitution, parts of the electricity sector are only covered by enabling legislation at national level, which must be implemented by the provinces.

More rights for Austrian electricity and gas consumers

THE FOUR FREEDOMS – CORNERSTONES OF THE INTERNAL ENERGY MARKET

Four main thrusts of internal market energy regulation have emerged from the successive EU liberalisation packages: unbundling of the activities of vertically integrated undertakings; third-party network access; cross-border trade; and a network of regulatory and supervisory institutions.

Unbundling

The need for unbundling to make a reality of the internal energy market arises from the special features of network-based industries such as electricity and gas. The company that owns a power or pipeline network has a natural monopoly, which it can abuse to the disadvantage of rivals if it has other business activities in the electricity or gas sector. To prevent such discriminatory behaviour the various unbundling regimes require vertically integrated companies to separate system operation from their generation/production and retail activities.

[11] FLG I No. 121/2000.

Non-discriminatory network access

Non-discriminatory third-party network access is another cornerstone of EU energy market liberalisation policies. The monopoly power and vested interests of system operators is also the rationale of statutory regulation of network access. It would clearly make sound business sense for a vertically integrated energy supply company to deny network access to other suppliers so as to maximise its sales to consumers.

Cross-border energy trade

To create a genuine European internal energy market, it is not enough to liberalise national markets – cross-border trade is essential, too. Here, too, a common European legal framework is needed to arrive at a uniform approach to issues such as congestion management, capacity allocation and the determination of cross-border transmission tariffs.

Institutional framework

International networks

Supervision of compliance with the single market rules is the responsibility of member states' regulatory authorities, which must carry out their duties impartially and transparently, and without being susceptible to political influence or pressure from regulated companies. Since the outset of liberalisation the range of tasks that regulators have been required to perform has grown steadily, and the third energy package, too, has given them added responsibilities. At the same time new, mandatory organisational structures have been put in place for transmission system operators. They are now grouped in the European Networks of Transmission System Operators for Electricity and Gas (ENTSO-E and ENSOG). Another change brought about by the third energy package was the establishment of the Agency for the Cooperation of Energy Regulators (ACER). The European Commission, which also plays a very strong role – if not the strongest – in energy market regulation at European level, makes up the fourth pillar of the institutional framework. E-Control is the Austrian regulator. It was established in 2001 and renamed as Energie-Control GmbH in 2002. E-Control was converted into a public authority on 3 March 2011.

EU ACTING TO STRENGTHEN CONSUMER RIGHTS

The Treaty of Lisbon for the first time explicitly empowered the EU to enact energy legislation.[12] The relevant provision of the Treaty requires European energy policy to pursue the goals outlined above. The EU only has a "shared competence" for energy policy. This means that member states may only legislate for this field if the EU has not yet done so or the European legislation concerned is no longer in force. In practice, the addition of this "energy article" to the primary law of the European Union changes little, as the EU was already capable of adopting energy legislation beforehand, and made extensive use of this right, as has been seen. However, in political terms this explicit competence has given energy a new status, partly because the article calls for EU energy policy to be formulated "in a spirit of solidarity between Member States". The specific measures concerned, the circumstances under which they are to be taken, and the manner in which the EU is to act "in a spirit of solidarity" have not yet been determined.

As regards liberalisation, experience with the third energy package will show whether further regulatory legislation is required.

[12] Article 194 TFEU.

Opening up to competition – ten years of change

The Energy Liberalisation Act 2000 (FLG I 121/2000) provided for the full opening of Austria's energy markets by 1 October 2002. This was much faster than was envisaged by the relevant European legislation (the Electricity and Gas directives). The Energy Liberalisation Act amended the Electricity Act and for the first time created a legal framework for the gas industry, the Natural Gas Act. As this legislation came into force at different times, market opening was not simultaneous. While full liberalisation of the electricity market entered into effect on 1 October 2001, the opening of the gas market took place a year later. These changes in the legislative framework led to the transfer of responsibility for the oversight of the electricity and gas markets to E-Control by the Energy Regulatory Authorities Act 2000. The Act requires E-Control to monitor the functioning of the market and hence of the areas of energy companies' operations that are exposed to competition, as well as those that constitute natural monopolies (network operation).

Full market opening set all consumers free to choose their suppliers, regardless of whether they are large or household consumers, small or medium-sized businesses, or farmers. The benefits of liberalisation in terms of pricing and the range of services on offer were now open to all end users instead of being restricted to large consumers. The changed legal environment necessitated the creation of completely new market models for both the electricity and the gas sectors, and these have evolved further over the past decade.

EFFICIENCIES THAT TRANSLATE INTO HARD CASH

Electricity and gas network regulation is at the heart of E-Control's mission and activities. Effective regulation brings consumers reductions in the system charges they pay whilst safeguarding security of supply. Investment incentives are just as vital as improvements in system operators' efficiency.

Lower system charges thanks to good regulation

The system charges have fallen significantly over the past decade – but this has never been the sole objective of E-Control's network regulation activities. Besides boosting system operators' efficiency and leveraging savings for consumers, creating a stable investment environment and planning certainty for energy companies is also a high priority. Because of this, long-term regulatory regimes have been implemented for both the electricity and the gas distribution networks. Heavier investment in network infrastructure is likely to be required in future. This will probably mean that cuts in the system charges do not match those witnessed over the past ten years. In the gas sector, transposition of the third energy package and the resultant introduction of the entry-exit model for the transmission networks will lead to changes in the tariff determination system.

Since liberalisation there have been hefty overall reductions in the electricity and gas system charges, but Austria's standards of supply security have remained as high as ever.

MARKETS ON THE MOVE – TEN YEARS OF TARIFF REGULATION

E-Control's establishment in 2001 coincided with the inception of regulation of the Austrian electricity grid.

We have always had a general duty to set the system charges at cost-reflective levels. This involves making annual adjustments to the system operators' cost base, either by means of regular audits (e.g. as part of cost-plus regulation) or according to a regulation formula (incentive regulation), the results of which are then translated into tariffs.

In the interests of all – electricity network regulation

There are three transmission system operators in Austria – Austrian Power Grid AG, TIWAG-Netz AG and VKW-Netz AG[13] – and some 130 distribution system operators. The tariffs of the three transmission grid zones and 14 distribution grid zones are redetermined on an annual basis. The overall revenue of the distribution system operators with their own grid zones is projected at about € 1.6bn in 2011; the large companies account for some 90% of the total. In some regions there are equalisation payments between system operators to compensate for differences in their operating costs.

During the 2001–2005 period the electricity transmission and distribution system charges were both set on a cost-plus regulation basis. Under this traditional approach the revenue accorded to system operators by the regulator tracks their audited costs. While the transmission networks are still subject to this form of regulation, a long-term incentive regulation regime was introduced for the distribution networks at the start of 2006.

Traditional approach replaced by incentive regulation

A stable environment – incentive regulation

An incentive regulation scheme for the Austrian electricity distribution networks was launched at the start of 2006. Cost-plus regulation with annual cost audits and tariff reviews remains in place for the transmission networks.

[13] Since the start of 2011 Austrian Power Grid AG has been running the Tyrolean transmission grid under a cooperation agreement with operator TIWAG-Netz AG.

ELECTRIFYING INCENTIVES FOR DISTRIBUTION SYSTEM OPERATORS

Since 2006 the electricity distribution system charges have been redetermined under the new incentive regulation system and published in an *SNT-VO* (System Charges Order) at the start of each year.[14] The audits of transmission system operators' costs play a major part in determining the distribution system tariffs. Although the regulation of distribution system operators started out on a cost-plus basis in 2001, it moved over to a multi-year incentive regulation approach in 2006. The companies are called on to meet targets for increases in efficiency set by the regulator over two four-year regulation periods (Period 1: 1 January 2006 to 31 December 2009; Period 2: 1 January 2010 to 31 December 2013).

Before the transition to the second regulation period, extensive consultations were held with the industry and some adjustments to the system were agreed.

The distribution system charges have been reduced by a cumulative total of about € 610m since the outset of regulation in 2001. In spite of this E-Control has ensured that there are sufficient incentives to invest. Net investment by electricity system operators has surged by 154% since 2001, with much of this growth coming after 2005.

EVOLUTION OF THE SYSTEM CHARGES SINCE 2001

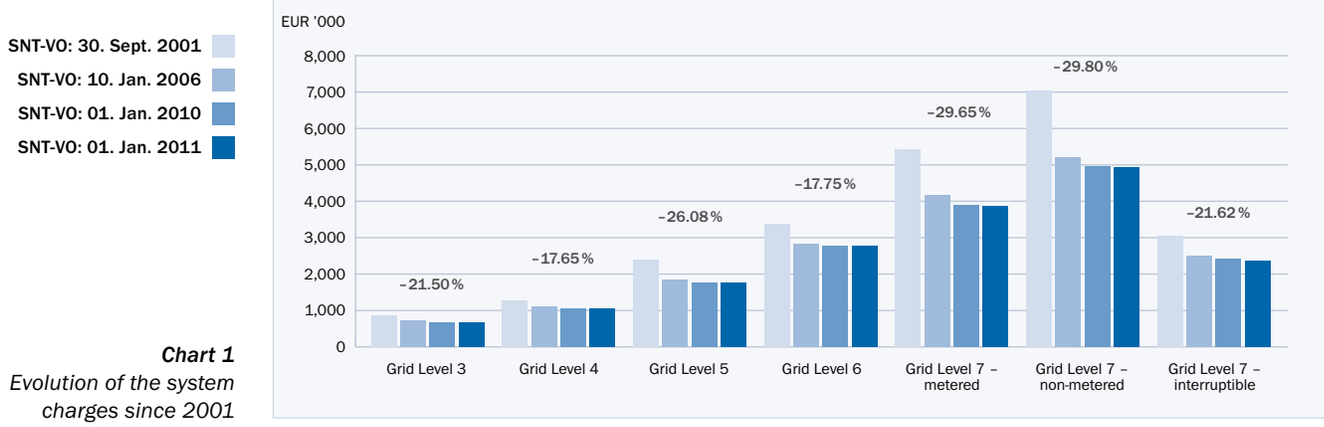


Chart 1
Evolution of the system charges since 2001

Regulation of both the electricity transmission and the distribution grid is presenting E-Control with new challenges. Preparations are under way to shift the power transmission grid from cost-plus regulation with annual cost audits to a long-term regulation system. The run-up to the third regulation period for the distribution networks also began at the start of 2011.

[14] See the SNT-VO 2006 and SNT-VO 2010, and the explanatory notes to the orders for a comprehensive understanding of the regulation system.

Under the new legislation, the costs of all companies that supply more than 50 GWh of power will be regularly audited in future. In our opinion, in future the same regulatory regime should apply to all firms, and there should no longer be different treatment under separate systems. However, it goes without saying that account should continue to be taken of structural differences due to businesses' size and the nature of the areas they serve. Section 50 of the Electricity Act 2010 also provides for the introduction of a regulation account to reconcile differences between actual revenue and the revenue estimates taken as a basis for the System Charges Order. While all of the benefits of rising supply volumes have hitherto gone to the system operators, in future system users will gain.

SO THAT CONSUMERS CAN PICK AND CHOOSE – GAS NETWORK REGULATION

The Austrian gas market was fully liberalised in 2002. Since then gas consumers have been free to choose their suppliers, and energy prices have been set by market forces, but the regulatory authority has determined the charges for use of network infrastructure. There are 20 gas companies with their own grid zones. In common with the large electricity system operators, during the early years of regulation their tariffs were calculated on a cost-plus basis, using regular cost audits. On 1 February 2008 the gas distribution grid was turned over to a long-term incentive regulation system.[15] Since October 2007 the methods by which the three transit system operators (BOG, TAG and OMV) fix their rates have been subject to the approval of the regulatory authority.

Incentive regulation in the gas industry is similar to the system in the electricity industry, though there are differences in the design of some parameters due to the need to cater for specific features of gas infrastructure.

As with the electricity industry, preparations for the second period of incentive regulation of gas distribution system operators have been under way since the start of 2011.

The current regulatory models for the electricity and gas networks can be summarised as follows.

OVERVIEW OF REGULATION SYSTEMS

	Electricity		Gas	
	Transmission	Distribution	Transit	Distribution
Regulation system	Cost-plus-regulation	Incentive regulation	Approval of tarfiff setting methods	Incentive regulation
Period allowed for eliminating inefficiencies	ongoing	8 years	–	10 years
Regulation period	1 year	4 years	4 years	5 years

Table 2
Overview of regulation systems

[15] See GSNT-VO 2008 (Gas System Charges Order 2008) and explanatory notes for a detailed insight into the system.


This tenth birthday
is something to
celebrate


Because
competition needs
to find its feet, too

Reshaping ownership structures – from tangle to transformation

Cutting the knot – Austrian energy markets in transition

The past decade has seen changes in the supplier relationships between market players, particularly at the wholesale level – a key development because procurement has a major influence on competition in the retail market.

The Austrian electricity and gas industries are hallmarked by high levels of public ownership, and vertical and horizontal integration. Most of the energy companies hold direct or indirect interests in other market participants. There have been no signs of a significant reduction in public ownership or in cross-ownership over the past decade.

Mergers have played a major part in holding back the development of competition. Horizontal mergers between retailers have significantly reduced the number of suppliers, while the anticipated market entry of new suppliers and resultant increase in competitive intensity – which was the argument for antitrust clearance – has not transpired.

Wholesale change to upstream markets

New wholesale market landscape

Wholesaling is the link in the chain between power generation and gas production, and the respective downstream markets. In both the electricity and the gas sector, the wholesale markets have been transformed over the past 10 years.

A NEW BALLGAME – LEARNING TO LIVE WITH THE ELECTRICITY WHOLESALE MARKET

The emergence of the wholesale electricity market has been one of the groundbreaking changes of the past decade. Apart from energy firms, the market players include banks and financial service companies, and large industrial companies. In addition, suppliers that cannot meet their needs from their own capacity are obliged to turn to the wholesale market. By contrast, pure traders have no interest in procuring physical supplies, and seek to make profits from price movements.

In a report on its electricity industry investigation, the Federal Competition Authority (FCA)[16] defined the wholesale market as electricity trading, i.e. "the sale and purchase of electricity at own risk and for own account". The report distinguishes between the following sub-markets:

- Over-the-counter (OTC) trading, i.e. individually negotiated bilateral contracts, mostly concluded off regulated markets, though power exchanges may act as clearing agents.
- Exchange trading of short-term (day ahead) contracts for physical delivery or paper futures contracts.
- Trading in other financial derivatives such as options.

[16] Source: Federal Competition Authority (2004), Allgemeine Untersuchung der österreichischen Elektrizitätswirtschaft, Endbericht 1. Zwischenbericht (General Investigation of the Austrian Electricity Industry, First Interim Report).

Major energy exchanges in Europe

The EPEX Spot/EEX, APX-ENDEX and Nordpool are currently among the leading power exchanges in Central Europe. Austria also has a spot power and carbon exchange in the shape of the EXAA. There were still a wide variety of exchanges at the outset of liberalisation, but a degree of consolidation has since taken place. One of the advantages of formalised exchanges for market players as compared to OTC trading is the minimisation of counterparty risk. Members of the exchanges must post collateral (so-called "margins") whenever they conclude a futures transaction to cover the default risks. This aspect of exchange trading is handled by clearing houses. The main clearing house in Central Europe is European Commodity Clearing AG (ECC), a subsidiary of EEX AG. ECC is a partner of the APX Endex and EEX exchanges, as well as Austria's Central European Gas Hub (CEGH) market. The large exchanges also offer the option of clearing OTC trades via their clearing houses.

The supply side of the Austro-German wholesale market is dominated by the four major generators, EnBW, E.ON, RWE and Vattenfall. The power generation market is highly concentrated, although the disposal of some capacity and procurement rights by E.ON cut the big four's share of generating capacity from 85% in 2007 to 80% in 2009. The Austrian generators play only a minor role due to their low market shares.

Whether and if so how these dominant generators exploit their market power is the object of a number of investigations and remains under scrutiny. In the past their ability to keep prices artificially high by adjusting their buying behaviour has been regarded as a particularly critical issue. As the latest sector inquiry by the German Federal Cartel Office[17] into the electricity generation and wholesale markets did not reach definite conclusions, the Cartel Office will keep competition and transparency in the sector under observation.

The power generation mix in Austria and Germany has changed markedly over the past decade. Support for renewable generation by means of injection tariffs and the introduction of the EU Emission Trading Scheme have made investment in coal-fired power stations less attractive, and greatly accelerated the development of wind power in Germany.

Apart from wholesaling and direct sales, system services are an important distribution channel for electricity. These mainly relate to the services required to maintain system operation.

[17] Source: Federal Cartel Office (2011), Sektorenuntersuchung Stromerzeugung Stromgroßhandel (Sector Inquiry into Electricity Production and Wholesale), Bonn.

A vital factor in maintaining the stability and reliability of electricity networks is the load frequency control services that keep the frequency on the ENTSO-E Regional Group Continental Europe (RGCE) interconnected grid (the former UCTE area) at 50 hertz. The fact that electricity cannot be stored means that load fluctuations (e.g. due to power station outages or other unpredictable variations in injection and withdrawal) must be rapidly balanced so as to maintain frequency stability. The control power and the balancing energy serve the same purpose in physical terms, namely keeping a balance between generation and demand. A deviation from forecast supply or demand in a balancing group (e.g. as a result of an outage) gives rise to balancing energy. The net balancing energy in all the balancing groups in a control area represents the control power requirements that the control area manager must meet (the total quantity of balancing energy may be many times the control power, as the balancing groups' needs may offset each other).

The balancing energy used is invoiced to the balancing groups on the basis of the quantities recorded and the calculated costs. The manner in which these costs are passed on to suppliers and consumers is for the market players to decide. Because balancing power balances supply and demand in a given control area, it is an integral component of the electricity market.

Efforts are increasingly being made to introduce market-based mechanisms to this part of the supply chain. Because of the technical requirements that the capacity of a generator wishing to offer electricity on the control power market must meet (e.g. the link with the controller and the response speed), the number of participants in the markets for the various products – and especially primary and secondary control power – is limited.

PREMIUM ON FLEXIBILITY – ALL CHANGE ON THE WHOLESALE GAS MARKETS

The wholesale gas markets have been transformed over the past few years. While procurement on continental European markets was still almost entirely under long-term contracts with strict conditions (take or pay, exclusive oil price linkage and fixed intervals between price adjustments) at the start of the century, flexible procurement at short-term trading points or "hubs" has since taken on a growing role, leading to scepticism about rigid long-term contracts. At the same time the number of players on the European wholesale markets has increased, and even the smaller distributors and traders have begun dealing. A major catalyst of change was oversupply in 2009.

The 2008/2009 economic crisis led to a sharp decline in gas demand, especially from industrial consumers. Meanwhile rising gas production in the USA and a resultant decrease in imports meant that LNG cargoes were re-routed to Europe, providing an additional source of supply. This has fuelled the growth of the trading hubs in Europe.

European gas hubs gaining traction

Today the British NBP, established in 1996, is the most liquid hub in Europe. Balancing energy is also traded on the NBP. Due to the link with the continent via the Interconnector, which entered service in 1998,[18] permitting exchanges with other markets, the NBP also influences prices at other hubs. The Zeebrugge hub was set up in 1999, and was followed by the TTF (2003), NCG and the Gaspool hubs. Other European trading hubs include France's PEG, Italy's PSV and Spain's DCG. Austria's CEGH goes back to 2001, but trading only developed towards the end of decade, after the technical conditions for it had been improved.

The gas trading on these markets is OTC or exchange-based. A drawback of exchange trading is the fact that the products in question are strictly standardised, whereas OTC trading permits bespoke quantities and product specifications.

A DEAL MORE DEPTH – LIQUIDITY AT HUBS INCREASING

The merging of market areas in Germany and the inclusion of trading in balancing energy has given a significant boost to liquidity at the hubs.[19] The Dutch TTF is rated as the most liquid continental European gas hub.[20] The CEGH only has a liquid OTC spot market, and futures trading is still sparse.

While the advent of wider procurement options for gas suppliers over the past decade certainly represents a major change, the opportunities to exploit them are restricted by the inflexibility of the legacy supply contracts. As a result, Gazprom Export has maintained its dominance of the Austrian market. Greater procurement flexibility will depend both on closer integration with developed markets like Germany, and on the openting up of new transport routes and sources of supply.

[18] www.interconnector.com/company/History.htm/.
[19] There are a number of measures of liquidity including the frequency with which physical volumes of gas are traded (churn rate), the spreads between bid and offer prices, the frequency of trading activity and the number of traders.
[20] See ICIS Heren, European Gas Hub Report, Quarter 1/2011, p. 2.

CRUCIAL TO THE FREE PLAY OF MARKET FORCES – BALANCING AND STORAGE SERVICES

The balancing energy market created by the Natural Gas Act 2002 is confined to the Eastern control area.[21] The market is based on hourly balancing of nominated quantities and actual (metered) gas deliveries. The number of balancing energy suppliers has risen since 2002, and stood at 11 in 2011. Several of the new players on the Austrian gas market are balancing energy suppliers and hold significant shares of the balancing market.

Supply substitutability is severely limited by the existing storage contracts and the capacity available under them. Experience has shown that, apart from some refinements to the market rules, improvements in the supply side structure depend on new entrants to the retail markets. So far, the increase in the number of suppliers has come entirely from entrants to the industrial consumer market segment. Access to storage capacity – crucial to firms' ability to offer balancing energy – has improved due to increased availabilities in 2010/2011.

Low balancing energy price volatility

The balancing market not only provides physical balancing energy but also fulfils the function of an intra-day spot market by enabling companies to trade accrued balancing energy. Ever since the launch of the market, balancing energy has traded in a range between long-term supply contract prices and day ahead spot quotes, and volatility has been low.

Reservoirs of strength – the Austrian storage market

Austria leads Europe in terms of storage capacity, but is also heavily import dependent. Dependence on a single import route and favourable geological conditions (domestic gas production) led to the development of large amounts of storage capacity. The storage facilities played a pivotal role in maintaining security of supply during the curtailments to Russian gas deliveries in January 2006 and 2010. Gas suppliers are under no legal obligation to stockpile supplies.

Due to the accelerated development of storage facilities over the past decade, capacity reached 4.5bn cu m or 50% of annual demand (approx. 9bn cu m) in 2010. Although storage capacity has more than doubled in the past ten years, market concentration remains high, as only a part of the capacity can be used to supply the Austrian market due to the fact that not all of it is linked to the Eastern control area.

[21] www.e-control.at/portal/page/portal/medienbibliothek/gas/dokumente/pdfs/AB-BKO-AGCS-Anhang-AE-Bewirtschaftung-V4_0.pdf/.

Since liberalisation in 2002 the number of domestic storage customers and the interest of foreign companies in Austrian storage services have grown. Nevertheless, most of the storage capacity is still reserved for incumbents, as is the case in some other European countries.

Connecting all the storage facilities in Austria to the Eastern control area is crucial to increased competition, as it would greatly reduce market concentration.

Some European storage operators – particularly in Germany – still had free capacity at the start of the 2011 storage year. Examples were heavyweights Storenergy (France), E.ON Gas Storage, VNG and Wingas (Germany), and the Austrian storage operators. In some cases efforts were made to shift this unused capacity by offering discounts. In addition, the storage operators are being increasingly responsive to customer requirements and offering innovative products such as day ahead contracts with prices tied to TTF spot prices. Meanwhile, auctions of storage capacity are gaining ground.

Storage market on the move

The storage market is in transition. Increased liquidity at the trading points and the growing use of gas for electricity generation has given the storage facilities a more important role as a source of additional flexibility. But utilising storage capacity sometimes comes at a heavy price.

More flexibility for local and regional gas distributors

In Germany competition has been given a shot in the arm by changes in the wholesale market segment upstream of municipal utilities and regional suppliers. The Federal Cartel Office has outlawed long-term contracts between transmission companies such as E.ON Ruhrgas, Wingas and RWE, and local and regional distributors, and contracts that meet all of a distributor's needs. As a result some distributors are now procuring gas on the wholesale markets, and this has automatically given a fillip to competition. No such developments have been seen in Austria.

Local distributors are still being supplied under long-term contracts, some of which cover all of the buyer's needs. Some of these contracts have flexibility clauses. There has been no change in the high levels of concentration on the supply side in this 2bn cu m market since liberalisation in 2002, and it is still foreclosed by long-term contracts.

Retail markets transformed by new line-ups

To date the mergers in the Austrian energy sector have been largely confined to retailing, and have had only a minor impact on the wholesale markets. The other areas of the energy companies' business (system operation and generation/production) have not been affected.

Large mergers soon after liberalisation

The EnergieAllianz and EconGas mergers, carried out in 2001 and 2002, respectively, have led to lasting changes in the electricity and gas retail markets.

In 2001 Wien Energie GmbH (Wien Energie), EVN AG (EVN), Burgenländische Elektrizitätswirtschafts Aktiengesellschaft (BEWAG), Burgenländische Gaswirtschafts Aktiengesellschaft (BEGAS) and Linz AG für Energie, Telekommunikation, Verkehr und Kommunale Dienste (Linz AG) formed EnergieAllianz. In the second stage of the transaction Energie AG Oberösterreich (EAG) its retail gas, retail electricity and wholesale electricity businesses with EnergieAllianz.[22] Two joint ventures, EnergieAllianz Austria GmbH (EAA) and e&t Energiehandels GmbH (e&t), linked at boardroom level, were formed for this purpose.

Energie AG and Linz AG pulled out of the EnergieAllianz joint venture on 1 May 2006. This led to the retransfer of EnergieAllianz's interest in Energie AG to the Upper Austrian provincial government. The withdrawal of the two Upper Austrian electricity companies only led to a temporary reduction in market concentration. On 1 July 2007 the retail activities of Energie AG and Linz AG were merged into a new subsidiary, ENAMO GmbH, and the concentration ratio rose accordingly.

Since the merger the parties have marketed electricity directly to large consumers (annual demand of over 4 GWh) via EAA, but have continued to serve private, and small and medium-sized business consumers via the regional incumbents (the provincial electricity utilities). The switch retail subsidiary was set up as an "alternative" supplier at the same time as EAA. This structure significantly reduced the number of potential competitors at the outset of liberalisation.

EAA sells gas to consumers with a demand of less than 500,000 cu m. The company sells gas and electricity to small consumers nationwide via the switch brand, and also operates in Germany. However, the EAA parent companies continue to market different products for small consumers via separate sales companies in their own grid areas.

[22] www.energieallianz.com/konzerninfo.html/.

The EAA partners spun off their large consumer business (annual demand of over 500,000 cu m) and gas procurement operations to the EconGas joint venture in 2002. EconGas is owned by OMV, which holds over 50% directly and indirectly, the EAA partners and OÖFG (via EGBV).

The shareholders had access to supplies under long-term Russian and Norwegian import contracts via Austria Ferngas GmbH (AFG), as well as contracts with domestic producers and storage contracts via the AFG storage pool. These contracts have since been transferred to EconGas, and the parent companies have concluded long-term gas supply agreements with it.[23]

The EconGas joint venture raises serious competitive concerns due to the stake held by OMV – which is active at every stage in the supply chain and is thus in a position to influence the costs of EconGas' competitors[24] – as well as the foreclosure of a market with a potential size of 2 bn cu m by the long-term sales contracts. Market concentration in the industrial consumer segment has also risen sharply, but competition has emerged due to the arrival of some new suppliers, such as Wingas, CEOG and Shell.

Room for improvement

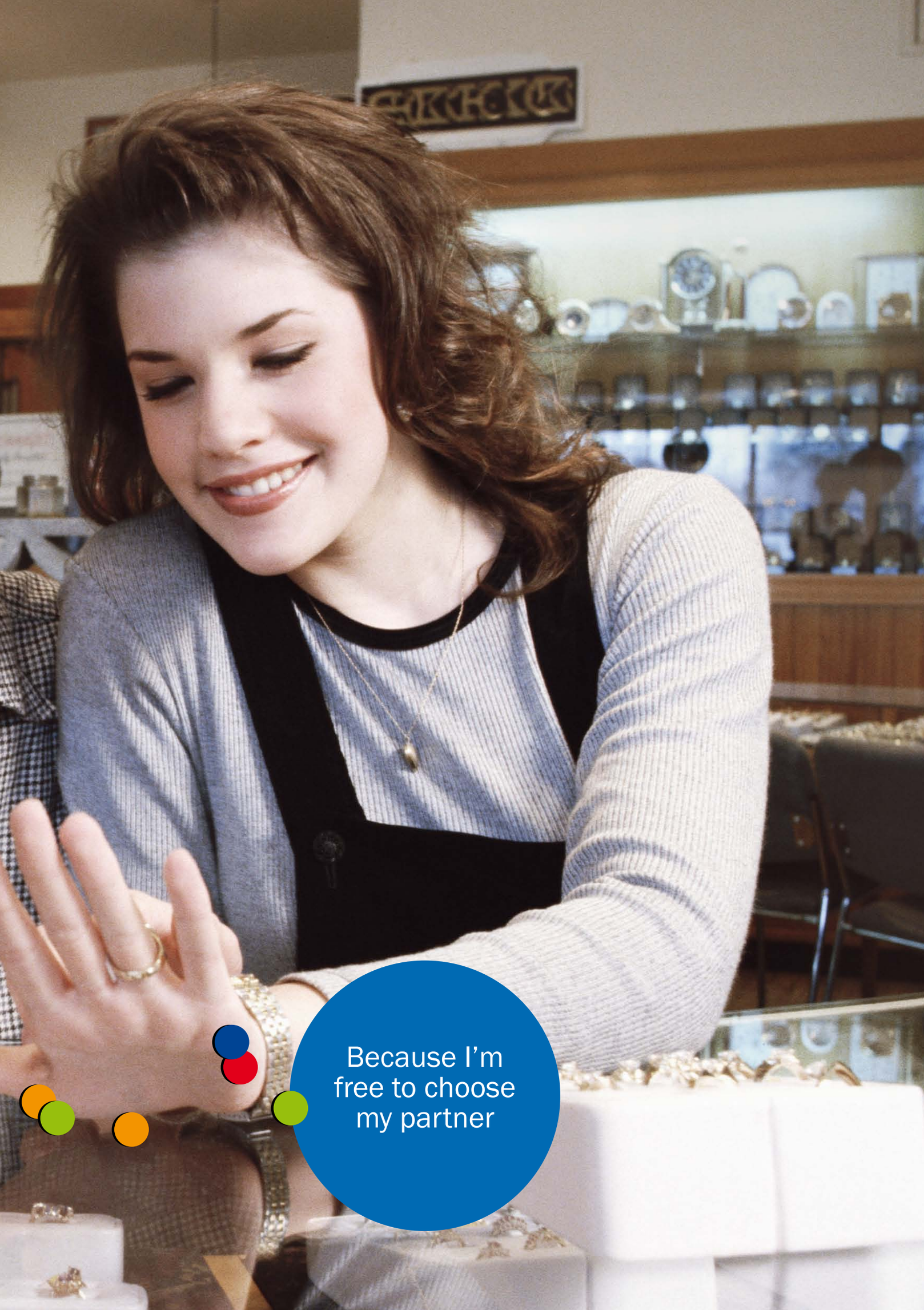
The Federal Competition Authority investigated the competitive situation in the electricity market in 2004/2005, and carried out a gas industry probe in 2005/2006. It found that the former monopolists still exerted a great deal of power in the retail market, and especially in the small consumer segment. The trends in the switching figures and market concentration since 2006, and the paucity of new entrants indicate that the situation has not improved.

Market concentration has not decreased, and is beyond the critical threshold in both the gas and the electricity market. Competition is stronger in the electricity and gas large consumer segments than in the small consumer segments. There is no information on the market shares in the large consumer segments, but it is clear that the new suppliers are largely confined to them.

[23] www.energieallianz.com/konzerninfo.html/.

[24] This was the main issue examined by the gas industry investigation in 2005/2006.


This tenth birthday
is something to
celebrate


Because I’m
free to choose
my partner

Impact of liberalisation – a breakthrough for freedom

Throwing off the shackles – the first post-liberalisation decade

The tenth anniversary of liberalisation is the ideal time to take stock of the main changes in the Austrian energy market, and raises an inevitable question: What have the efforts and reforms of the past decade achieved? On closer inspection it can be seen that some expectations have been met but others have not.

Liquid wholesale markets have emerged despite structural weaknesses such as high levels of concentration in electricity generation and gas production. This increasingly also applies to the gas sector, traditionally the domain of long-term oil price-indexed supply contracts. Yet the growth in trading has made the problems caused by existing trade barriers such as the insufficient harmonisation of the allocation of transport capacity (gas) and cross-border capacity (electricity) still more apparent. Similarly, it was the success of the exchanges and hubs, and the internationalisation of energy trading that led to the recognition of the need to create a transparent and fair wholesale market by introducing standardised rules – a process that has barely begun.

Benefits for consumers

For all the problems in some areas, the widespread progress on the wholesale markets is in stark contrast to the halting pace of change on the retail markets. Switching rates are low in Austria, and the dominance of the incumbents is particularly pronounced in the small consumer segment. New entrants have been few and far between, and have largely been confined to the large consumer segment. Nevertheless, on the whole end users have clearly benefited from liberalisation. However, due to the anticompetitive market structures, strengthening small consumers' legal position and rights by giving them access to more information (e.g. by providing the E-Control tariff calculator) will remain a high priority for us.

The reforms implemented in the past decade have also had a positive effect on the economy. They have created an additional 3,000 jobs and increased GDP by around 1%. Contrary to widespread fears at the time, the energy companies have flourished since 2001 – often as a result of expansion and new strategies – and the profitability of the provincial utilities and Verbund AG has improved markedly.

UNFREEZING WHOLESALE MARKETS

In hindsight the emergence of wholesale markets in Central Europe has been one of the most important changes of the past ten years. A system which a decade ago was geared solely to technical aspects of operations such as dispatching – the deployment and management of generating stations and gas storage facilities – has been transformed into a market based model. Generators and suppliers have become commercial undertakings that not only market their own electricity and gas but are also increasingly involved in domestic and international power, gas, coal, carbon and oil product trading. Risk and portfolio management, and hedging, once the preserve of the financial community, are now an everyday reality in the gas and electricity sectors.

Transparent energy exchanges – a strong case for harmonised oversight

Because of the different situation at the outset, these developments occurred earlier in the electricity than the gas sector. The establishment of energy exchanges in many EU member states was a direct consequence of energy market liberalisation. The resultant product standardisation has made it easier to handle large numbers of transactions, whilst increasing liquidity and giving traders greater protection against counterparty risk. Power exchange prices are a benchmark for electricity trading as a whole, and an important indicator of electricity market trends. Austria takes its lead from the electricity trading on the Vienna Stock Exchange (with the EXAA as clearing and settlement agent), the Leipzig-based European Energy Exchange (EEX) and its EPEX Spot subsidiary in Paris. In Europe gas spot and futures products are traded on the EEX, APX/PN-Endex, Powernext and ICE/APX, as well as Austria's CEGHEX; delivery is at the respective hubs.

The lack of harmonised EU-wide oversight of power exchanges and of mechanisms for combating abuse of European wholesale energy markets has become a central issue as a result of these new structures. Germany and Austria concur on most aspects of power exchange regulation. Spot electricity trading on the Vienna Stock Exchange is licensed and regulated by the Ministry of Economy, Family and Youth. In Germany these tasks are the job of the economics ministries of the states concerned, and in consequence the Leipzig based EEX is licensed and regulated of the State of Saxony SMWA (State Ministry for Economic Affairs, Labour and Transport). The transfer of spot electricity trading from the EEX to the EPEX Spot Paris – which does not require a licence and is unregulated – underscores the need for harmonisation of oversight of Europe's energy spot markets. In 2011 Europe's energy regulators addressed this issue by calling for EU-wide harmonisation of the regulation of energy exchanges.

Wholesale market still growing fast

In the past few years it has become clear that the introduction of electricity spot markets and the European drive to reduce CO_2 emissions are exercising an ever stronger influence on the Austro-German wholesale market. The combination of subsidised feed-in tariffs for renewables and the EU Emission Trading Scheme (ETS) has brought major changes in Europe's mix of generating capacity, and had a substantial impact on the level and volatility of wholesale prices. On the Austro-German wholesale market the large quantities of wind or solar power injected into the grid on windy or sunny days cause oversupply – especially on days when demand is low – and in turn very low or even negative prices for some hours. The wholesale market has undergone a radical transformation in the past decade, and is likely to continue to grow very fast.

Carrying the can – spreading risk in the wholesale gas market

The supply overhang in 2009 gave added impetus to the growth of the wholesale gas market. A raft of competition legislation in Germany, one of Europe's biggest gas markets, has prompted growing numbers of suppliers to optimise their procurement and bypass wholesalers by sourcing at least some of their gas from hubs, either through OTC or exchange based trading.

This has resulted in an uneven distribution of risk between gas producers and European wholesalers. The long-term supply agreements between producers and transmission companies, signed in the formative years of the European gas industry when imports were starting to arrive, included take-or-pay clauses that forced the buyers to assume the risk associated with selling given quantities.[25, 26] The introduction of escalation clauses, under which gas prices are tied to oil price movements (oil price linkage) with the aim of ensuring that gas is competitive with oil, created a mechanism that shifted the price risk (change in the profit margin) back to the producer.[27] The long-term supply agreements used in continental Europe typically included escalation clauses referenced to the price of light fuel oil and low sulphur fuel oil.[28]

[25] See Claus Bergschneider and Ralf Schumacher, Langfristige Gaslieferverträge: Wurzeln und Entwicklungsperspektiven (Long-term gas supply agreements: roots and development perspectives), emw, Volume 2/2004, pp. 12ff.

[26] See Friedel Bolle, Take-or-Pay-Verträge und vertikale Integration im Erdgashandel (Take-or-pay agreements and vertical integration in gas trading), in Zeitschrift für Energiewirtschaft, Issue 4, 1989, Volume 13, pp. 249 ff.

[27] See Claus Bergschneider, Ralf Schumacher, Langfristige Gaslieferverträge: Wurzeln und Entwicklungsperspektiven (Long-term gas supply agreements: roots and development perspectives), emw, Issue 2/2004, p. 13.

[28] See Morten Frisch, Current European Gas Pricing Problems: Solutions Based on Price Review and Price Re-Opener Provisions, Centre for Energy, Petroleum & Mineral Law & Policy, International Energy Law and Policy Research Paper Series, Working Research Paper Series No. 2010/03, p.7.

The features of long-term gas import contracts (take-or-pay clauses and oil price linkage) are passed along the supply chain and are thus found in agreements with distributors, and in some cases with retailers. In other words the risks arising from import contracts were passed on to consumers. This is no longer possible. Especially in Germany, distributors now procure gas directly at hubs, where prices are lower. Industrial consumers are insisting on prices in line with those quoted at the hubs. The use of gas for electricity generation has made sales forecasting much more difficult, so wholesalers now buy less gas under long-term supply agreements. However, the take-or-pay obligations remain in place. Gas wholesalers are confronted with volume risk in respect of unsaleable take-or-pay volumes in their long-term agreements. They also face price risk, since spot prices can be seen as an opportunity costs, meaning that losses should be recognised on this gas.

Long-term contracts, long faces – new suppliers cheered by spot prices

The outcome of all this is a dual-track pricing mechanism on the European wholesale gas market, under which prices can move in opposite directions. Prices on the spot and futures markets at the hubs are mainly driven by the supply situation. Interruptions in transit flows and withdrawals from storage, and in LNG shipments have a direct impact on prices. Spot prices tumbled in 2009–2010. However, prices under long-term supply agreements mainly reflected oil price movements, and therefore initially declined because of the economic crisis but began to rebound in mid-2009.

The fact that spot prices undercut those under long-term supply contracts for an extended period meant that new entrants were able to take market shares from the established wholesalers. This was particularly prevalent in Germany, where the Federal Cartel Office opened the market for supplies to municipal utilities and regional distributors. As a result many suppliers were unable to meet the minimum quantities specified by the take-or-pay clauses – usually 85–90% of annual offtake.[29]

The wide spreads between spot and long-term contract prices have prompted importers to seek talks on contract amendments such as the introduction of price review clauses.[30] Sliding prices at the hubs in the 2009–2010 period hit importers hard. Onerous take-or-pay obligations of 80% or more, combined with a shrinking demand and the loss of customers to new suppliers that procure their gas at the hubs have faced these wholesalers with heavy losses, and as a result some are attempting to renegotiate their long-term contracts.

[29] See Morten Frisch, Current European Gas Pricing Problems: Solutions Based on Price Review and Price Re-Opener Provisions, Centre for Energy, Petroleum & Mineral Law & Policy, International Energy Law and Policy Research Paper Series, Working Research Paper Series No. 2010/03, p.8.

[30] See Morten Frisch, Current European Gas Pricing Problems: Solutions Based on Price Review and Price Re-Opener Provisions, Centre for Energy, Petroleum & Mineral Law & Policy, International Energy Law and Policy Research Paper Series, Working Research Paper Series No. 2010/03, p. 15.

Stand-alone storage market

Long to reign under us – surging Austrian storage capacity

Restructuring of the wholesale markets has led to the development of a separate storage capacity market. Customer numbers and the range of products on offer have grown since 2002. Storage capacity has jumped by 150%, but not all of this is accessible for the Austrian market, since the new Haidach and 7Fields facilities will not be directly linked to the domestic grid until 2014. The Austrian storage facilities are thus used for cross-border supplies, and have also traditionally been used by transit shippers.

Austria leads Europe in terms of storage capacity relative to demand. It is also heavily import dependent, so the primary function of its storage facilities is still to safeguard supply security. However, other sides of storage use are gaining in importance. The growth of liquid hubs means that reserving storage capacity has become an attractive option for gas traders looking to capitalise on seasonal and day-to-day price shifts.

European storage capacity has increased by a third since 2002, and a further significant rise is expected over the next 15 years. The Gas Storage Europe (GSE) Storage Investment database forecasts expansion of up to 70 bn cu m, with the UK accounting for the lion's share, assuming that all of the new storage projects go ahead.[31] Europe's growing dependence on gas imports makes it essential to expand storage capacity. However the extent to which this will actually happen is hard to gauge, as other channels, such as LNG shipments, also provide flexibility.

The storage market is in a state of flux. Liquid markets and the growth in gas-fired power generation have increased the importance of storage as a source of flexibility – and added to the number of takers for capacity. The new customers see the economic benefits of storage differently to the incumbent gas retailers, which must not only procure gas cheaply but also need to ensure that they are able to meet their supply obligations. Demand for peak load capacity is on the increase, whereas the attractions of seasonal capacity are waning. Moreover, storage faces growing competition from other means of enhancing flexibility, such as minimising the take-or-pay volumes written into long-term contracts. This has made evaluating the economic viability of storage projects a far more complex and inexact science.

[31] //www.gie.eu/maps_data/GSE/database/downloads/2010.03.15_Storage%20Projects%20Database_Update_Jan2010.xls/.

A CHEQUERED DECADE THAT LEFT ITS MARK ON ENERGY BILLS

Electricity prices including taxes and levies have followed the overall trend of rising energy costs over the past ten years. Prices climbed by almost 50%, from 13.25 cent/kWh in the first half of 2001 to 19.67 cent/kWh in 2010. This partly reflects a change in calculation methods, which resulted in price rises in many countries in the 2007/2008 energy year. Nevertheless Austrian gross electricity prices were about 10% above the EU-15 average in 2010 and some 15% above the EU-17 average.

The prices charged to Austrian household gas consumers are close to the European average. The average gross energy price has risen by approx. 40% over the past decade, but in 2010 it was still 10% lower than in the Netherlands and all of 40% below that paid by Danish households. However, it should be noted that energy taxes in Denmark are considerably higher than in other EU member states. In the first few years after liberalisation, the gas prices paid by Austrian industrial consumers were around the European average, but today they are among the highest. Austrian industrial consumers pay almost 10% more than their German counterparts.

KEEPING A LID ON PRICES

Wholesale electricity and gas prices rose sharply from the middle of the past decade until the onset of the financial and economic crisis. To reach firm conclusions as to whether liberalisation has held prices down, a comprehensive analysis similar to that performed by Kratena (2011) is required.[32]

In the case of electricity liberalisation, which began in 1998 for industrial consumers, this did indeed bring price declines. However, as crude oil prices escalated from 2004 onwards, retail electricity prices also rose strongly. It is noteworthy that the prices charged to both small and large consumers started to rise a good deal sooner than would have been justified by oil and gas price movements alone. This suggests that the reduction in system charges had a greater impact on overall prices than, for example, the renewable electricity surcharge. In a scenario without liberalisation, prices for industrial consumers would have been around 56% and those for household consumers some 13% higher.

Energy prices would have been higher without liberalisation

[32] Kratena, K. (2011), Gesamtwirtschaftliche Effekte der Energiemarktliberalisierung in Österreich, mimeo, Vienna.

Liberalisation has also had a significant effect on gas bills. The positive impact of market opening is highlighted by the evolution of retail prices. Comparing a "no liberalisation" scenario with actual price trends reveals that industrial gas prices would be 42% higher than they are today, while household gas consumers would be about 15% worse off without market opening.[33]

Consumers still reluctant to switch

Greater willingness to contemplate changing suppliers and actual switching could be the reason for the larger liberalisation dividend enjoyed by industrial consumers. Despite the substantial savings on offer and the wide gap between the energy prices of the cheapest suppliers and those of most local players, a mere 1.7% of household electricity consumers switched in 2010. Switching rates for Austrian mass market consumers such as households and small businesses average 1–2%, and have remained low in comparison to other European countries since liberalisation. In the Nordic countries, churn rates have increased steadily and currently stand at around 10%. Switching rates in the British mass market consumer segment have long ranged from 17–20%, and German and Belgian households are also much more likely to change suppliers than their Austrian counterparts, with rates in both countries around the 5% mark.

The picture is similar in the gas market. Switching in countries like Austria, where consumers are loathe to transfer, is even lower than in the electricity market, hovering close to zero. Once again, switching behaviour is much more developed in the UK, and churn rates have held at a steady 16–20%. Meanwhile 10% of all Dutch and Norwegian consumers have been changing suppliers, and small-scale gas consumers in Germany are also increasingly footloose, with switching rates of just under 4%.

In response to this problem E-Control has developed a range of services aimed at giving retail consumers all the information they need to make informed decisions. The focus is mainly on price information, provided by an online price monitor and tariff calculator, and on keeping in contact with consumers via the E-Control hotline, the internet and the arbitration panel.

[33] Ibid.

ENERGY FIRMS AND THE ECONOMY BOTH BENEFITING

Over the past ten years the earnings performance of the provincial energy utilities and Verbund AG (as measured by revenue, EBIT, EBIT margins and profit after tax) has improved substantially. The companies' aggregate revenue soared by 130% or around € 9bn between 2001 and 2009. As mentioned, this is partly due to help they have had from energy prices, opportunities to break into new lines of business (especially in the environmental and water sectors), and expansion of their energy and environmental activities abroad. This has been clearly reflected in revenue, which has either risen or at worst remained constant across the board.

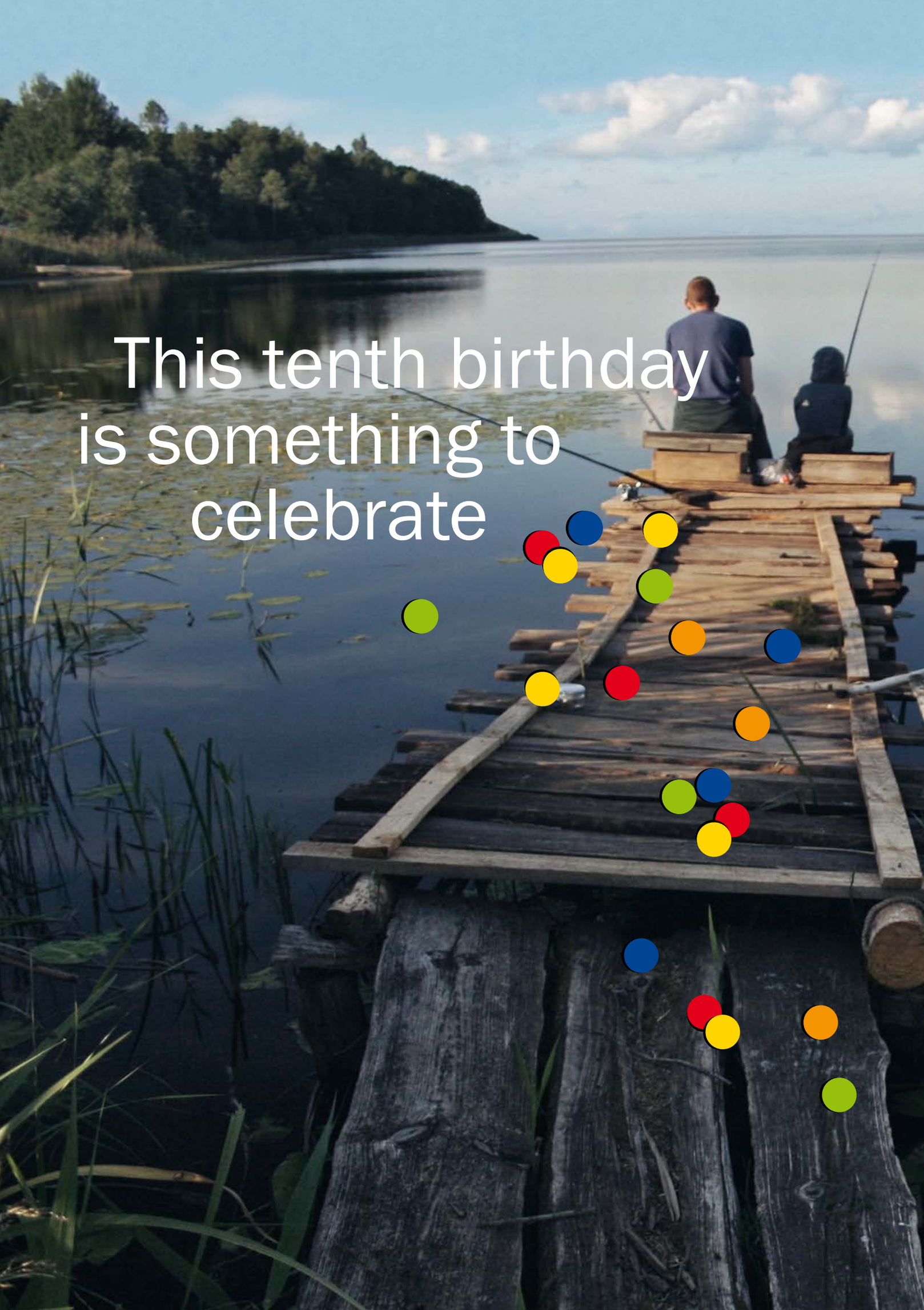
The companies' balance sheets have grown strongly over the past decade. Since 2001 the aggregate total assets of the provincial energy utilities and Verbund have risen by 60% or € 13.7bn, and the average equity ratio for the period has been around 34%. The utilities' equity ratio has remained close to 40% in the past three years, giving them a solid and sustainable capital base. As the scope for expansion on the home energy market is limited, the provincial utilities are looking for growth from equity investments and expansion into activities such as environmental technology and water supply – particularly abroad. If their annual reports are anything to go by, the companies will be pursuing such strategies even more vigorously in future, in an attempt to achieve the growth rates expected by their shareholders and other stakeholders, and to remain competitive against other European energy suppliers.

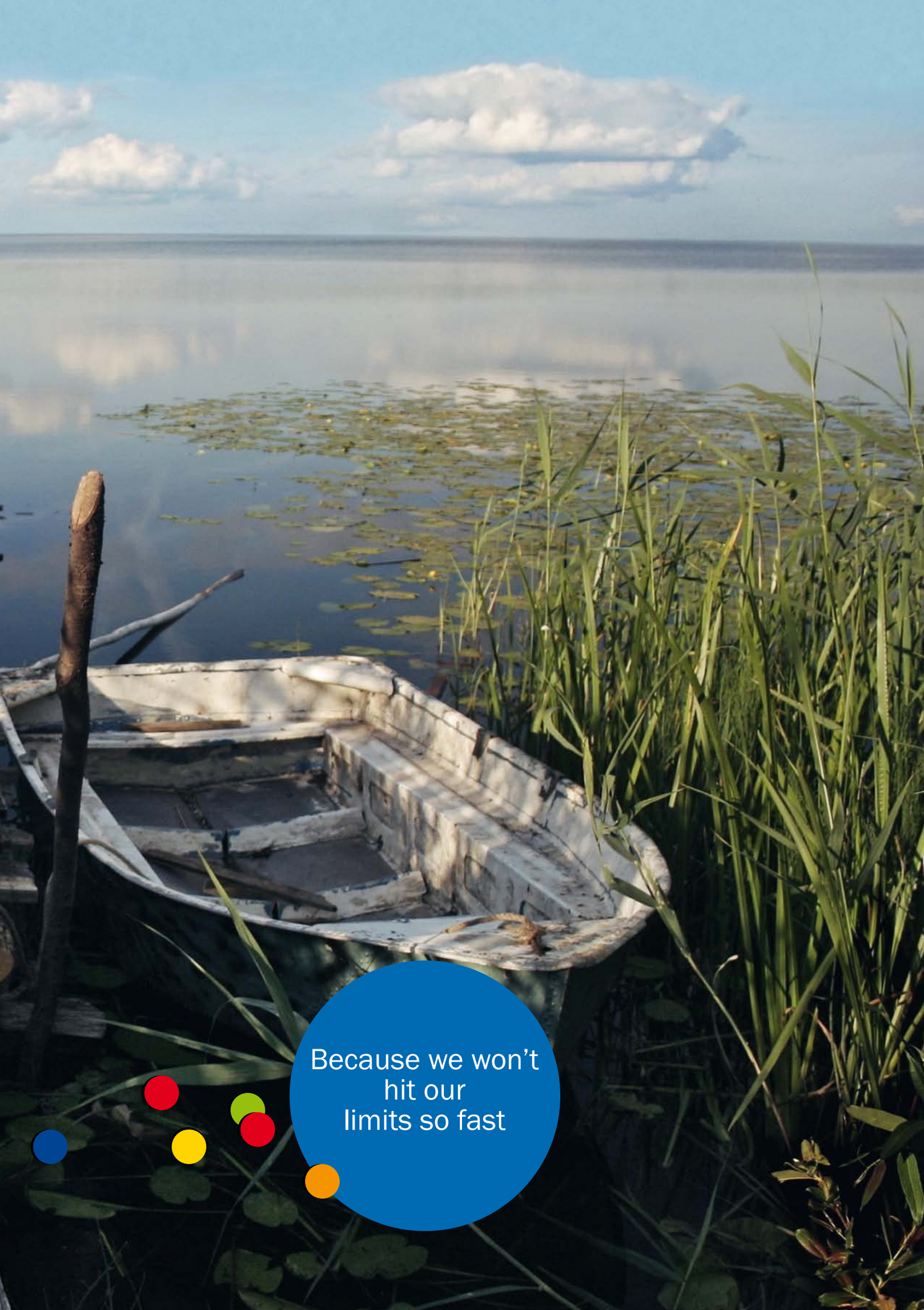
Boost to GDP from liberalisation

Only a macroeconomic analysis can provide answers as to whether liberalisation has had a positive overall effect on the Austrian economy, and for businesses and households. To this end, an economic model was used to investigate the impact of energy market reform.[34] Such estimates are inevitably based on a number of assumptions, such as the rationality of economic agents. In spite of this, dynamic econometric input-output models have proved to be effective tools for evaluating the effects of alternative courses of action and economic policy decisions.

Using an alternative, "non-liberalisation" scenario, Kratena demonstrates that without market opening gross domestic product would have been about 1% lower in 2009.[35] Moreover, higher domestic energy prices in the absence of liberalisation would have made Austria less competitive and more import dependent. The increase in GDP is large for an effect generated by a single economic sector. The model also shows that energy-intensive sectors such as paper and board, and rubber and plastics would have suffered if the energy market had not been liberalised.

[34] Kratena, K. (2011), Gesamtwirtschaftliche Effekte der Energiemarktliberalisierung in Österreich, mimeo, Vienna.
[35] Ibid.


This tenth birthday
is something to
celebrate


Because we won’t
hit our
limits so fast

Opportunities and challenges for the next decade

Electricity and gas sectors set for radical reform as the European idea takes hold

The electricity and gas sectors face major challenges. They are in line for a radical transformation over the next decade. The current situation of national markets with relatively highly centralised generation/production of energy, transported to consumers as required, will be consigned to the history books. There are major upheavals ahead.

1. Responding to demand
The next technological leap, in the shape of the installation of smart meters in the home, will open up new approaches to managing energy demand and enabling consumers to participate in energy markets. These devices represent a new type of infrastructure that is suited to a host of uses – from automating the home and operating appliances on the basis of price and contractual criteria to providing customers with basic information on their current energy consumption.

2. Creative marketing
The new technology will enable business processes to be made cheaper, faster and more efficient. Still more importantly, it holds the key to a wide array of new services that will allow consumers to respond more appropriately to market situations, and permit suppliers to offer a service package that extends far beyond providing energy. Many suppliers have already gone down this road, often with marketing objectives in mind. Expanding the service portfolio will potentially require sales companies to develop completely new services, and will also open up a range of new retail channels.

The need to ensure that products and services are nevertheless comparable will present challenges for regulators.

3. Stimulating retail competition
The policy of unbundling distribution system operation has already reduced the importance of exploiting marketing synergies between this function and retailing. In some cases the images of these functions will become more contrasting. System operation will be seen as a technical, relatively uncreative activity, while the objective in marketing will be to project a more innovative image. This will help make it more normal to win and lose customers, meaning that competition becomes more intense.

4. Focus on consumers
Household consumers will be watching their energy use ever more closely. The installation of smart meters and implementation of the required legal framework will ensure that customers receive more up-to-date information about their energy consumption and the resulting costs. Related information and a range of other new services will help consumers to become more aware users of energy and enable them to act promptly to reduce high consumption. In addition, by opening the door to new energy pricing models and products, consumers will be encouraged to devote more attention to their electricity and gas supply. The Energy Efficiency Directive is likely to be followed by additional EU legislation in this area.

In light of the upward trend in energy prices and the current economic situation, the affordability of energy will become a vital issue. The number of customers who have been disconnected and those claiming a basic electricity supply – the procedure for which was recently revised – will serve as a useful pointer in this regard. A new range of indicators related to affordability will make it possible for the first time to measure consumer vulnerability. Only time will tell whether the nationwide supply of energy to all consumers is guaranteed under the present legal framework.

The legislation also establishes E-Control as the central point of contact for all matters relating to the energy market. This step safeguards, but also extends the regulator's remit as a source of information and advice. E-Control is taking advantage of tried-and-tested methods, as well as innovative online tools such as new media to provide consumers with extensive information on energy-related issues.

5. New functions for infrastructure
Both transmission and distribution system operators will be faced with new tasks and challenges. Electricity system operators will need to invest heavily to keep up with growth in demand – and Austria will be no exception. Distribution system operators' investment costs will also be pushed up by the changeover to smart meters.

The situation for the gas industry is somewhat different. The transmission networks will need to be expanded, and increased network flexibility will be a particularly tough test for the industry. In the EU the concept of a main direction of gas flow is likely to become increasingly obsolete. At the same time, parts of the gas distribution networks will need to be scaled back because of the decline in space heating consumption, which currently accounts for a high proportion of overall demand.

6. Renewable electricity

Renewable electricity generation is set to play an increasingly important role in energy supplies. Commitments to sustainability, EU climate goals and growth in renewable generation are driving the continued promotion and subsidisation of green power technologies. Alongside familiar concerns such as development targets and support systems, in future the focus will increasingly be on distributed generation. The expansion of small and medium-sized generating capacity will create new needs in terms of network infrastructure and system integration.

7. Energy efficiency

Whenever talk turns to the renewable contribution, sustainability, the stability and reliability of network infrastructure, security of supply or greenhouse gas emissions, one issue is always at the heart of the discussion – increasing energy efficiency. Energy efficiency will tip the scales between meeting energy and climate goals or missing them. The challenges that governments will have to meet include effective and coordinated implementation of energy efficiency programmes, assessment of their impact, goal setting, compliance monitoring, and the use of modern metering and communication technologies.

8. Cutting network costs

One of E-Control's main tasks is to ensure that the regulated infrastructure is efficiently run. The past few years have already seen considerable increases in efficiency, and the system charges have been reduced. The cost adjustment process has largely been by consensus, and has so far resulted in total reductions of about € 610m. These have shaved as much as 30% off the system charges paid by some household consumers. Although further efficiency gains are expected, these are unlikely to reach the levels seen in the past. As a result, and on account of the need to invest in network infrastructure, the cuts in the system charges are likely to be lower than before.

The electricity and gas distribution grids are subject to multi-year incentive regulation, and steps have already been taken to overcome the inherent disadvantages of this form of regulation. In particular, incentives have been created for maintaining sensible levels of capital expenditure. However, further modifications to the system will be required to maintain long-term supply security. For instance, the introduction of explicit quality incentives should enable tariff determination to take supply quality criteria into account. In the gas sector, increased competition with alternative energy sources in the heating market will be an important consideration when it comes to establishing a regulatory framework.

These are just a few of the challenges that will need to be discussed with representatives of both industries in the run-up to the next regulation periods for the gas and electricity grids, The next regulation periods for the gas and electricity grids are due to start in 2013 and 2014, respectively. The electricity transmission grid differs from the distribution grid in that annual cost audits are still carried out to adjust the cost base. It too would stand to gain from a stable long-term regulatory regime.

9. Politicisation of energy

Energy has been a highly political issue for some time now, not least because of public sector holdings in energy companies. And today the desire to recast the energy sector is increasingly calling for legislative intervention along the entire supply chain. Under such conditions it is harder to maintain fair competition between market players than in the days when the government took more of back seat role. Every intervention risks improving conditions for some market players but not for others, and the interests of potential future competitors also need to be considered. There are particularly strong indications of a politicisation of the electricity wholesale market. The growing quantity of supported power is leaving ever smaller amounts of marketable electricity. Insufficient network capacity is also prompting more frequent intervention in market mechanisms and price formation. Proposals to eliminate the risks associated with new investment in power generation capacity by means of still more market intervention are on the table. A move from a free to a “managed” market, in which only small amounts of power are subject to the free play of supply and demand, seems to be the predestined outcome. This would be harmful to market depth, and promote still greater concentration. The credibility of the market would suffer.

The changes in market structures will bring higher prices for consumers. Although some of these increases will be due to higher taxes, it is likely that some will affect net energy prices (wholesale and balancing power prices). This will make it harder for consumers to distinguish between market-driven price rises and other reasons for increases.

10. Gas and electricity market convergence

One effect of the shift towards greater dependence on renewables will be a greater role for natural gas as a primary energy source for electricity. This will mean that gas demand is increasingly driven by power station use – particularly in view of shrinking space heating sales. Greater use may be made of gas-fired power stations for load balancing, irrespective of whether they are conventional condensing power stations or combined heat and power plants. If this is so, utilisation of gas-fired generation capacity, and hence gas demand, will be more volatile, and this will have wide-ranging implications. The proportion of predictable gas demand will decrease, calling into question the logic of long-term take-or-pay supply contracts.

There will also be growing pressure to abandon the oil price linked escalation clauses that are still a characteristic feature of import contracts today. As gas sales will largely depend on the spreads between short-term electricity and gas prices, spot price trends will play a more influential role. This will call for sufficient liquidity for credible spot price formation, which may then also serve as a basis for financial products.

The volatility of gas demand is increasing the need for services, such as linepack and storage use, that provide additional flexibility. The challenge will be to create sufficiently deep markets for such services.

The ongoing discussions of a market vision are geared to designing a model for market integration. Cross-border entry/exit systems would be introduced. These would make it easier to trade standard and flexibility products, and can also facilitate competition between the two. The goal will be to create more liquid trading points through market integration.

11. Europeanised legal framework

Instead of being purely national, energy policies will increasingly be formulated at European level. The outcomes of casting the EU in a pure coordinating role, in which it merely maps out objectives by means of directives, have not been entirely satisfactory, and this approach has not been appropriate to network industries like gas and electricity supply. The transformation of the energy sector has made wider markets and more efficient networks essential. The third energy package has laid the groundwork for centralised formulation of the market rules. At present the Agency for the Cooperation of Energy Regulators (ACER) is responsible for monitoring the work of the transmission system operators' cooperation as they develop network codes and set targets.

However it is unlikely that the last word has been spoken. Oversight of energy trading will soon be Europeanised, and the growing proportion of subsidised energy will probably also increase the pressure for centralised state aid policies. The large amount of supported renewable electricity generation capacity is already influencing European generators' profitability, and will also probably affect that of gas market participants in future. This is in line with the EU's wishes, and will doubtless accelerate efforts to harmonise European policies.

Editorial

Publisher and proprietor: Energie-Control Austria, Rudolfsplatz 13a, A-1010 Vienna;
tel. +43 (0)1 247240; fax +43 (0)1 24724-900; e-mail: office@e-control.at

Editorial responsibility: Walter Boltz and Martin Graf, Executive Board
Energie-Control Austria
Graphic design: FABIAN Design und Werbe GmbH
Text: Energie-Control Austria
Printed by: Druckerei Hans Jentzsch & Co GmbH

Editorial deadline: June 2011