

Competition Issues in the Electricity Sector

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The Austrian parliament decided in 2000 to introduce a new legislation for the electricity market to become effective as of 1 October 2001 in order to liberalise the Austrian electricity market by 100 %.

Liberalisation of the Austrian electricity market was accompanied by a reorganisation of the industry's regulatory authority whereas the Electricity-Control Ltd. (E-Control) and the Electricity-Control Commission were founded. The regulatory authorities began to work in March 2001. Their major objective has been to guide and overlook the market transition, to monitor the competition and to keep a close eye on network access and especially on network charges. Distributions fees are believed to be one of the highest in the EU and diverge strongly within the country making supply competition difficult. E-Control's first move was to cut back excessive tariffs and create price transparency.

The Structure of the Austrian Electricity Sector

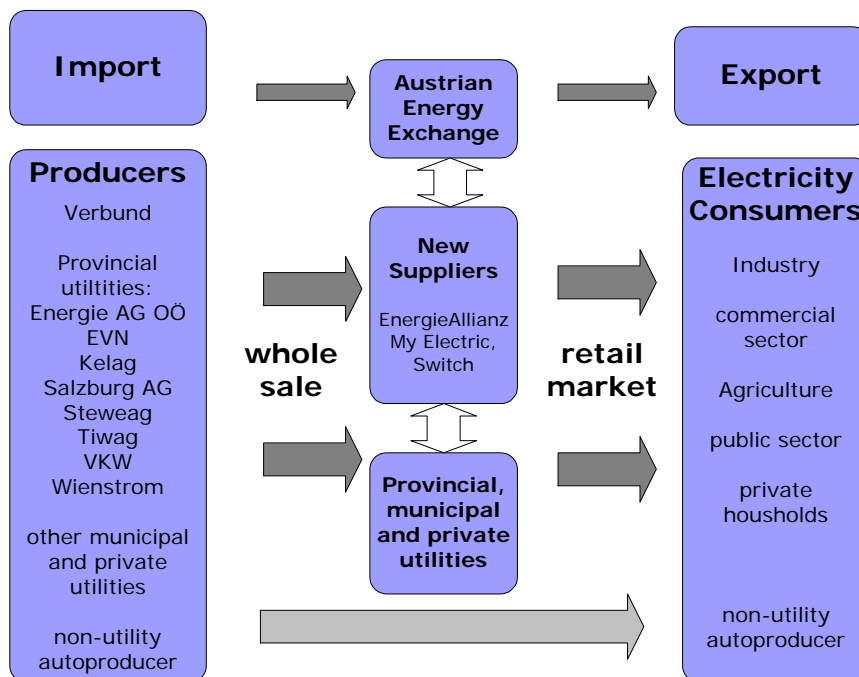
Austria's electricity market has nearly 4 million customers (approximately 3 mill. households, 150,000 farms, 19,000 industrial and public sector customers and 730,000 other commercial customers). In 2000 the annual electricity consumption of customers served by public utilities amounted to 50.7 TWh and is projected to rise to 63.0 TWh by 2015 and 67.5 TWh by 2020¹. About 85 % of the electricity consumed in Austria is provided by public utilities, the remaining 15 % come from non-utility autoproducers. The annual consumption per inhabitant by 2000 came to 6,240 kWh. Electricity consumption is divided as follows: 35.5 % industry, 23.5 % households, 13.5 % commercial sector, 16.5 % public sector (incl. public transport) and 11 % losses, internal demand and

¹ Projection made by the Austrian Institute of Economic Research

pumped storage. Changes in annual power demand are mainly determined by weather conditions and economic growth.

Electricity generation is based on the so-called hydrothermal system producing 52,8 TWh in 2000 (excl. non-utility autoproducers). The most important energy resource is hydropower. On average over the last ten years about 70 % of the power was generated in hydro power plants. Thermal-power generation and power imports are used to balance the seasonal variations of demand (peak demand in winter) and water supply (minimum hydro power supply in winter). The most important fossil fuel is natural gas. The physical power imports usually come from Hungary, the Czech Republic and Germany. During the summer under normal weather conditions excess hydropower is generated and exported to Italy, Slovenia and Switzerland. In 2000 the net-exports (=exports minus imports) amounted to 2.69 % of domestic power consumption.

Figure 1: The Electricity Market in Austria



The Austrian electricity sector has traditionally consisted of vertically integrated and government-owned monopoly utilities whereas Verbund generates the vast majority of electricity which accounts for almost 50 %, followed by the provincial utilities with around 27 %, and other utilities and autoproducers. The Verbund is primarily running hydro power plants and operating the high voltage

transmission network. Besides the nine provincial and four municipal utilities of the provincial capitals (Stadtwerke) there are another 150 small private utilities serving local customers (especially in the provinces of Styria and Upper Austria). The dominant distributors within the Austrian electricity supply industry are still the provincial utilities Wienstrom and EVN located in the eastern region of Austria. In general the Austrian electricity industry is still dominated by fully vertically integrated companies operating more or less on each level of the value chain.

The characteristic structure of the electricity industry – i.e. one strong utility mainly engaged in generation and transmission and several provincial and municipal utilities having their strength in distribution and supply – has both, political and historical reasons. In the course of post-war reconstruction, the parliament enacted a law concerning the nationalisation of the Austrian electricity companies (2nd Nationalisation Act) that requires either the state or the provinces to own a majority in each Austrian electricity company. The Austrian electricity industry has also been characterised by a division into regional markets where customers had no possibility of changing their local supplier. Pricing arrangements have not always been cost related and cross-subsidisation has occurred between different customer segments as well as between different public services offered by the provinces (e.g. public transport, district heating).

In August 2002 the parliament decided a new law regulating the promotion and maintenance of renewable energy as well as combined heat and power on a national wide basis. The Minister of economic affairs is responsible for setting minimum prices and tariffs in order to increase the share of renewable energy up to 4 % of total consumption and the share of small-scale hydropower production up to 9 % of total consumption. By introducing a national wide solution also the transparency is improved.

Market structure

With the so-called EIWOG 2000 not only the market was fully liberalised by the 1 October 2001 but also regulatory authorities in the electricity sector have been set up for the regulation and monitoring the difficult development from a monopoly market to a fully liberalised electricity market with the primary objective to create a proper framework for an efficient supply of electricity. This

framework should enable customers' choice, create market-based prices and foster long-term investment decisions. Beside the new regulatory bodies the Federal Ministry of Economic Affairs and Labour and the provincial governments have still certain regulatory competences. The Austrian government has opted for a system of regulated network access so that the network tariffs are published and fixed by the regulatory authorities.

By liberalising the market the value added chain was divided into monopolistic and competitive areas of operation. Whereas the distribution and transmission network remains due to the high fixed costs still a natural monopoly generation and the supply side have been opened to competition.

Besides strengthening the competition while taking into consideration the industry's public service obligations such as security of supply and environmental policy the Energie-Control Commission is also responsible for setting the price of the usage of the distribution and transmission. In 2003 a benchmark system will be implemented in order to set up incentives for distribution and transmission companies and to narrow the price differences between the network areas. Total reductions of nearly € 70 mill. have already been realised by the procedures for resetting system access charges.

The role of an effective unbundling in structuring competition in a fair and non-discriminatory way is well known. The EIWOG 2000 demands at least an organisational separation as well as a separation of the accounting of the distribution and transmission areas from the other business areas. E-Control will therefore create clear guidelines for separating generation, electricity trading, transmission, distribution and other activities and will also monitor compliance therewith.

Latest Developments

A characteristic element of the Austrian electricity sector is that public utilities hold complex cross-shareholdings in other utilities. That narrows management's room to manoeuvre because minority shareholders have substantial blocking rights under Austrian corporate law. The cross-shareholdings are mainly used not as defence against takeovers but instead as a mean to obstruct initiatives within the respective organisation.

Approximately four years ago there was the first attempt to found the so-called "Austrian Electricity Solution". Beside the state owned Verbund provincial utilities were supposed to merge or at least to cooperate in the area of the supply to industrial customers. Different perceptions of the management boards and of political leaders were at that time responsible for the failure of an overall Austrian electricity company.

Given the failed introduction of a nationwide solution, in 1999 Wienstrom und EVN started a supply cooperation to serve eligible customers. In the end of 2001 the cooperation was broadened (Wienenergie, EVN, Linz AG, and BEGAS/BEWAG; Energie AG joined the then established cooperation a couple of months later) and given the name "EnergieAllianz". This strategic alliance has successfully strengthened its dominant position in the consumer market in the Eastern control area. EnergieAllianz launched a subsidiary company, which should compete against their existing brands, effectively discounting their regular deliveries to a no-frills service. In fact, this subsidiary did not really work the markets of its parent companies but went especially to other regions in Austria. EnergieAllianz also introduced a new-branded tariff program (*optima*) for small business and residential customers.

In 2001 Verbund and the German electricity enterprise E.On started negotiations about merging their hydro power plants. Both companies were supposed to bring their hydro power plants into the newly created company (EHP - European Hydro Power). The EU commission and the German and the Austrian anti-trust authorities had already consented to the creation of EHP but finally the merger was not carried out because of other political interests.

Under this political pressure Verbund and the representatives of the major provincial utilities, especially the companies that are already working together in the EnergieAllianz, started again to negotiate about a new "Austrian Electricity Solution". This time the negotiations succeeded and two companies will be created by merging parts of the parent companies. One of these companies will be a trading house, which will also coordinate the use of the common power plants. The other will supply electricity to industrial customers with an annual

consumption of more than 4 GWh. The cooperation will probably be notified to the European Commission at the beginning of October 2002.

A cooperation like this would have a severe impact on the retail market. The companies involved are controlling the majority of the generation capacity and are the major suppliers of electricity in Austria. It can be expected that they will be successful in preventing foreign companies from getting into the supply market and that would harm long-term domestic supply competition. In general, the planned merger will create a new dominant undertaking in the Austrian electricity market. Further the parents companies are holding stakes of potential competitors.

Nevertheless, there is also a business rationale behind the planned merger. Verbund is the biggest generator in Austria (2001: 23,222 GWh), running mainly hydro power plants (low marginal costs of generation) but is not serving the supply market. On the other hand the provincial electricity companies are serving the supply market but do not have substantial generation capacities (they mainly have thermal power stations which produce at high marginal costs of generation) and have to rely on Verbund for a large percentage of their wholesale needs.

Through the "Austrian Electricity Solution", the strategy of the provincial companies is to gain access to electricity generated by the hydro power plants of Verbund on a long-term basis and at the same time to prevent Verbund of gaining access to the supply market. IU is planned to buy exclusively the electricity produced by Verbund at wholesale price plus a "bonus" (1.1 €/MWh). In contrast, Verbund is trying to gain access to the market of final customers without being too much influenced by the interests of the provincial utilities. Beside the interests of the involved companies there is another driving force for the merger. In general the main purpose of the M&A activity and the creation of alliances in Austria is to increase the size in order to achieve the economies of scale needed to survive in the increasingly competitive European generation and supply markets.

In addition to cooperation between regional and/or national companies, municipal and provincial utilities also started to join forces (e.g. TIWAG and IKB, Stadtwerke Salzburg and SAFE, EStAG and Grazer Stadtwerke) in order to create

synergy effects and thereby to increase their competitiveness. The creation of Salzburg AG has been the first successful merger of a former provincial and a former municipal utility. The main goal of the merger was to cut costs and to provide more comprehensive service packages to customers (e.g. multi utility).

As customers' switching is still modest, the sole possibility of foreign companies is to buy up existing utilities. However, one has to consider that due to the described situation above the majority in each Austrian electricity company has to be owned by either the state or the provinces. Unless this law is modified it is impossible to completely take over an Austrian electricity company at the moment. The mutual cross-shareholdings of the (public) utilities makes it even more difficult to buy shares of these utilities.

For many years partnerships between the Vorarlberger Illwerke and EnBW (Energie Baden-Württemberg) as well as the Tyrolian electricity company Tiwag and E.On have existed which is mainly due to the embedding of the Western control areas into the German control block. Beside the cooperation with German enterprises it can be expected that both Tiwag and VKW will remain independent at least for the medium term. Salzburg AG is seeking a foreign partner for its gas business at the moment.

The first foreign company (EdF) started to invest in 1998 and bought shares in the Styrian energy group EStAG. RWE acquired 49 % of Carinthia's Kärnten Energieholding, which controls the Kelag utility. The only company which is working in the Austrian market on its own is the German EnBW.

New suppliers

Although the first step of the market opening was taken in 1999 most of the new suppliers started their business with the full opening of the market in October 2001. Beside smaller companies like oekostrom AG and Alpen Adria Energie AG, which specialised in energy from renewables also incumbents launched new brands in order to attract residential and commercial customers.

Salzburg AG started a cooperation with Verbund (*My Electric*). Raiffeisen Ware Wasserkraft (RWA), a cooperation of Verbund and the farmers' supply federation promises hydropower to their customers. EnergieAllianz launched *switch* that will

compete against their existing brands, effectively discounting their regular deliveries to a no-frills service. EnergieAllianz also introduced a new-branded tariff program (*optima*) for small business and residential customers. Under a simplified tariff structure the two biggest electricity companies in Styria pushed their *Select* brand to major industrial customers.

What can also be seen in Austria is - beside EnBW – the absence of foreign competitors. No foreign electricity company is serving residential customers. Foreign companies are concentrating their business on industrial customers, which are more attractive compared to small-scale business and domestic customers. It is far more expensive to gain market share in the residential customer market where cost-intensive marketing efforts are required than gaining industrial and commercial customers. Following its modest success in Germany, EnBW has decided not to introduce the widely known brand “Yello” in Austria. Although Kelag and ESTAG are not strong and big enough on their own to compete with the EnergieAllianz maybe RWE as well as EdF are able to stimulate the competition on the basis of their stakes in Kelag respectively Steweag. EdF might also increase its stake in EVN through EnBW and in ESTAG in the medium term.

Final Consumer

Prior to the liberalisation of Austrian’s electricity market the customers had no alternatives to their local supplier. So firstly, they had to gain experience as market participants in the rather complex field of the electric power market.

The new legislation (EIWOG 2000) comprises detailed instructions how suppliers have to specify their bills. In addition to legal requirements E-Control installed an electronic tariff calculator in the form of an Internet application where users receive more comprehensive information than would be possible with conventional price comparisons (www.e-control.at).

Like in other European electricity markets, which liberalised fully, the switching rates are moderate in the beginning of the liberalisation among small-scale customers. Within the last year approx. 2 % - 50,000 customers – of residential customer and 11 % of the small business scale customers changed their supplier. A survey by OGM on behalf of E-Control shows that more than 8 % of residential

customers are willing to change their supplier. In Sweden more than 20 % of residential and small industrial customers changed their supplier since the full opening of the market in 1996.

Congestion and Pricing of the Transmission Network

Totally, there are about 150 grid operators in Austria. But the ten largest operators – nine provincial utilities and APG – own 98.5 % of the transmission systems (380-kV, 220-kV, 110-kV-lines). APG owns some 92 % of the 380-kV- and 220-kV-lines, while about 80 % of the 100-kV-lines belong to the provincial utilities.

Permanent congestion occurs on the transmission line to Italy. Within the national borders the north south connection is often congested - mainly in winter due to generation of thermal power in the north, and a lack of generation in the south. In summer the appearance of congestion depends on the support of generation in the south due to congestion management measures.

Transmission Network operators are responsible for congestion management by law, but up to now no guidelines are defined for how to deal with congestion and congestion costs. In general generators currently do not get any refund of costs if they have to cut down or increase their generation due to congestion. Network operators have to make individual applications for getting accepted congestion costs.

Transmission prices are fixed and therefore not volatile, but prices differ within different areas (up to 15 areas depending on the voltage level).

The pricing system gives no locational signals for new generation. Therefore generators have no incentive for efficient location decisions. Each generator with a capacity exceeding 1 MW pays a fee depending on the capacity for ancillary services but independent of its location.

Austria has signed the ETSO CBT agreement 2002 and therefore accepts the specified rules for cross-border trading.

Lines to the Czech Republic, Hungary and Slovenia are temporarily congested, depending on season and load flows pattern. On the interconnection lines

capacity at peak time is rationed "pro rata", an auction system is planned for the future.

Presently only the TSO has the ability to upgrade the transmission network. Electricity laws and grid code set the general conditions and technical requirements for building new transmission capacity.

Concerning entry there are no special rules, which encourage new entry into generation. Since the opening of the market there has been no new player entering the generation market.

Wholesale electricity markets

The unbundling in the electricity industry and the freedom of customers' choice has created a new market – the wholesale electricity market. The participants in this market are the generators, suppliers, traders, brokers and large-scale industrial customers.

In Austria electricity is traded in both, regulated (exchange) and unregulated (OTC) markets. There is no mandatory pool. The vast majority of the power produced by the generators are not traded, but directly passed on to the company owned energy marketing and supply units. Spot markets are rather used to optimise the integrated companies' energy portfolio.

The Energy Exchange Austria (EXAA) in Graz went alive on 21 March 2002 and operates a spot market with 24 single hour products for delivery next day (day-ahead). The electricity industry and the regional government mainly own the venture. The market process and the product specifications are very similar to those of the LPX (now EEX) in Leipzig, Germany. EXAA does not operate any futures market at the moment, but at least plans to do so sometime in the future.

Trading volumes has not been really catching up; the exchange has some 1 % market share (approx. 0.5 TWh/y). Austrian market prices strongly correlate with German and Swiss (Central European) wholesale prices, since there are no serious transmission constraints between these countries. As German trading volumes in absolute terms are by far larger than Austrian exchange traded

volumes we would at present certainly consider EEX as the Central European spot benchmark. OTC markets basically follow the exchanges and are regularly assessed by price reporters, such as Platts.

In terms of wholesale trading Austria is largely integrated into the Central European electricity market. Austrian generators and traders on their own have not in general enough market power to influence prevailing market prices. Those prices are set by market forces and are not regulated by Austrian authorities. Indications – if any – for gaming and abuse of market power come rather from very large (German) market participants.

Bilateral, Long-Term and Forward Contracts

Forward markets – just like OTC spot markets - are not regulated. Market participants are free to enter into long term, forward contracts. There are no separate Austrian forward quotations, German OTC numbers are widely accepted as benchmarks.

There are also no financial futures contracts organised by EXAA. Market participants looking for hedging their exposures are free to do so on the EEX in Germany.

Competition Law Enforcement

In 2002 the Austrian competition law was reformed substantially. Since then, E-Control is allowed to take up different competition law matters (e.g. the examination of cartels or vertical agreements in the energy sector). In other cases, like the examination of mergers, E-Control is dependent on the cooperation of the independent Federal Competition Authority (*Bundeswettbewerbsbehörde*) and the "Public Prosecutor in Cartel Matters" (*Bundeskartellanwalt*). In reality, the two newly established authorities usually rely on the expertise of the regulatory authority to clarify whether to take up a merger case. In addition, the regulatory authority has the possibility to deliver opinions to the Cartel Court. Beside the general competition law, E-Control is responsible for supervising the energy markets, especially in order to prevent discriminatory treatment through the incumbents.

Conclusion

Often the deregulation of markets leads to expectations that greater efficiency and lower prices are achieved automatically. However most of these expectations are not based on market considerations and the conditions necessary for competition to function effectively. When evaluating the achievements and effects of the liberalisation of the electricity market this has to be considered.

One major aim of the deregulation and liberalisation of the electricity market in Austria was to foster competition on the market to the benefit of all customers. After one year of full market liberalisation a first evaluation can be made. When measuring the success of liberalisation beside changes in prices also the behaviour of the electricity companies as well as of the end customers have to be considered.

Prices for electricity (up to 10 % for residential customers, up to 50 % for industrial customers) and the use of transmission network (up to 17 % depending on the network area) have decreased essentially over the last year, although taxes and other levies (e.g. renewable energy charges, charge for CHP) compensated partly the liberalisation gains. It also has to be considered that electricity companies reduced their energy price before full liberalisation started. Therefore not only the last year has to be taken into account when evaluating the liberalisation effects on energy prices.

In order to orientate the pricing of networks more with real costs E-Control will implement a benchmark system next year. This will also help to stimulate competition by an increasing transparency of network charges and decreasing network tariffs.

It is difficult to predict how prices and competition in different customer segments will develop in the near future in particular when a market has been a regulated monopoly for a very long time. Above all due to the fact that Austria is in a common price area with the German and Swiss wholesale market and only one foreign supplier – EnBW – has still a subsidiary in Austria which shows that either the Austrian market is not attractive at the moment as a whole or the electricity price is too low in order to enter the Austrian electricity market successfully. Further one cannot predict how the concentration of the Austrian

electricity market will effect the competition in the electricity market and in the final electricity prices.

A comprehensive evaluation of the first year with a full liberalised electricity market will be finished within the next weeks and will be published as a working paper on the homepage of E-Control (www.e-control.at).