Dear Reader,

In the current issue of our Market Report in addition to the regular review of the past quarter's developments of the electricity sector you can find four short analyses. Compared to the earlier issues, starting from this issue we provide more reliable information about the spot prices in the Hungarian electricity market. The Association of the Hungarian Electricity Trading Companies gave us permission to publish their daily price index (HEPI – Hungarian Energy Price Index). Based on the daily trades of the Association members, the HEPI is the most accurate available indicator of spot electricity prices in Hungary. In addition, our quarterly review is further extended by an overview of the recent balancing price developments.

Our first short analysis looks behind the possible reasons of the significant increase in the electricity retail prices experienced in 2008. The second analysis uses statistical methods to assess the effect of the economic recession and electricity consumption. While in the previous issue this problem was analysed with regards to Hungarian developments, in this issue we examine the relationship on a wider scale, looking at data from countries in the neighborhood of Hungary (Austria, the Czech Republic, Slovakia, Croatia and Romania). In the working paper section we summarize the stunning results of the most recent REKK study prepared on the Hungarian biomass market. At the end of the issue in the Hot Topics section we present a review of the most important aspects of the Third Package, the Community regulation which determines the functioning of the internal electricity and natural gas markets.

We hope our current issue provides useful information, any feedback on our work is kindly welcomed.

Péter Kaderják, Director
ELECTRICITY MARKET DEVELOPMENTS

Alike in the previous two quarters, energy markets were steady also in the third quarter. Crude oil, coal and electricity futures show purely moderate movements without any significant changes.

Demand on the domestic electricity market continued falling back also in the third quarter, although to a smaller extent than in the previous quarter. In the summer of 2009, more than 23% of the total domestic consumption was derived from import, which is an outstandingly high share relative to the previous years. When comparing Hungarian prices with other countries of the region, we found that both short term power prices and 2010 futures prices are significantly higher (by 10-15 %) than those in the neighbouring countries.

International price trends

In the third quarter of 2009, raw material markets were stagnating. The price of crude oil was lower than 70 USD/barrel at the beginning of the quarter, which was followed by a relatively rapid fall until the middle of July touching the third quarter’s bottom at a price slightly lower than 60 USD/barrel. Then the price started to soar and shifted again to around 70 USD by the end of the third quarter. In the first half of the third quarter, the coal was traded at around 80-90 USD/ton, which finally stabilised at around 80 USD following a quick fallback (by 5-8 USD/ton) in September. Baseload and peak EEX prices showed a moderate change in the third quarter of 2009. Baseload prices varied between 49 and 51 EUR from the beginning of July to the middle of August, which has been followed by a slight decline. Baseload prices fell from 51 EUR/MWh in August with a continuous decline to below 47 EUR by the end of September. Peak prices showed an entirely similar tendency. Peak prices fell to below 66 EUR at the end of the quarter.

In the third quarter of 2009, the price of the European Union Emission Allowances (EUA) varied in the range between 12 and 16 Euro, similar to the previous quarter. Within this, the period until the end of July 2009 witnessed an increasing trend, followed by a slight decline. The traded quantity in the ECX was significantly lower in the summer than the annual average daily quantity.

The quarter’s most important event in relation with carbon-dioxide markets was the decision of European Court at 23 September 2009. The judgment of the Court of First Instance declares that the European Commission exceeded its powers against Poland and Estonia when it rejected the greenhouse gas emission quantities specified in their National Allocation Plans and obliged these countries to significantly reduce those quantities. It would have meant a reduction of 75 million tons for Poland and 12 million tons for Estonia, which altogether accounts for 4% of the total European Allowances. The case has an outstanding importance since it may set a precedent for other seven Central European Member States including Hungary, where the court investigations have not been closed. One potential negative consequence of the European Court’s decision is that the EUA becomes worthless due to the significant oversupply of allowances, as once it happened in the first trading period (between 2005 and 2007). An appeal may be brought before the Court of Justice against the decision of the Court of First Instance within two months.

General survey on Hungary

In the third quarter of 2009, the monthly temperature adjusted power consumption excluding seasonal impacts was 6.5% lower on the average than in the same period of the previous year. While the fallback exceeded 7.5% in July and September, it was purely 4.7% in August. However, this fallback is worth comparing with the figures of the previous quarter (April–June), which showed an average 10 % decline relative to the previous year, which let us conclude that the fallback was significantly less in the third quarter than in the second quarter of 2009.

In the third quarter of 2009, the share of import compared to domestic production exceeded 30%, i.e. more than 23% of the total domestic consumption was satisfied from import. This is much higher than the corresponding figures in the previous periods. Most of the reduction in domestic production is accounted for by the gas-fired power plants, which may be explained by the relatively high gas prices and low electricity prices.

A look at the results of the monthly cross-border capacity auctions held by MAVIR Zrt. in the third quarter of 2009 reveals that Hungarian prices are 0.5 to 1.5 HUF/KWh higher than the wholesale prices of the Slovakian and the Austrian markets. Capacity auctions on the Romanian border indicate that the price difference between the two markets – which accounted for 4 HUF/KWh for the benefit of the Romanian market at the beginning of the year – has fully disappeared. Export and import capacities in the direction of Croatia and Serbia were sold approximately at the same price, thus we can claim that prices on these markets are nearly equal to the Hungarian prices.

In addition to cross-border capacity auctions, day-ahead prices of the neighbouring countries’ power exchange as well as the Hungarian Price Index (HEPI) disclosed by the Association of Hungarian Electricity Traders (Magyar Villamosenergia-kereskedők Egyesülete, MVKE) provide important short-term price information. (HEPI is based on the data of day-ahead transactions provided voluntarily by MVKE members.) In the following, we compare OPCOM, EEX, OTE (operated by the Czech TSO) day-ahead electricity prices and that of the Hungarian price index, which allow us to analyse primarily short-term tendencies. In the third quarter of 2009, the average day-ahead baseline prices varied between 35 and 42 €/MWh on the region’s power exchanges, which were significantly higher than in the previous quarter. In regional comparison, the
German and the Czech power markets, which are at roughly similar price level, can be considered the cheapest. It is an interesting fact that in this period, the Romanian market was the most expensive with a price 1.3 EUR/MWh higher on the average than the German market. This is surprising since the Romanian power exchange was 7 to 25 EUR/MWh cheaper than EEX at the beginning of the year. In the first quarter of 2009, the Hungarian price index showed nearly the same price level (excluding the average price of the Romanian power exchange in April) as the prices on the region’s dominant power exchanges. However, from July 2009 there was a considerable rise in the Hungarian market. In the summer of 2009, the Hungarian market was 3 to 5 EUR more expensive than any other countries of the region. This difference decreased by September, when the average Hungarian day-ahead prices were equal to the Romanian ones, which were 3 EUR/MWh higher than the German and Czech prices.

The wholesale price of electricity is influenced by the costs of settlement of deviations from the schedule in other words by the balancing energy prices, as well. The system operator sets the settlement prices of positive and negative balancing energy based on the procurement prices of the upward and downward regulation services. The financial costs of balancing for the balance circles are determined by the spreads between the balancing energy prices and the spot price of electricity in the settlement period. The higher is the price of positive balancing energy compared to the spot price, the higher is the cost of purchasing the shortage from the balancing energy market, and the lower is the price of negative balancing energy compared to the spot price, the higher is the loss incurred from selling the surplus to the system operator (instead of selling to the market).

In the third quarter of 2009, the average hourly electricity price (HEPI) was 10 HUF/kWh, and the average settlement prices of positive and negative balancing energy were 31.5 and 0.05 HUF/kWh, respectively. The costs of balancing on the Hungarian market are very high due to the wide spreads between balancing energy prices and the market price. A negative balancing energy price close to 0 HUF/kWh means that the loss from a long position of 1 kWh is equal to the market price. However, the loss from a short position is even higher since the deficit must be covered at a price triple of the market price, i.e., at price premium of 200%.

Next year’s electricity prices in Hungary and in the Central-Eastern European region

The Prague Power Exchange (its new name is Power Exchange Central Europe) opened its Hungarian section in March 2009, where monthly, quarterly products and yearly futures can be traded. The product with the highest turnover is the 2010 baseload futures with bids equalling a total of near 1000 GWh in the third quarter of 2009. This quantity is 2.5 times more than the previous quarter’s bids.

In the following, we analyse the development of Hungarian electricity prices based on the 2010 PXE prices for Czech, Slovakian and Hungarian baseload futures and the similar EEX prices. In April 2009, German, Slovakian and Czech prices were roughly the same, then the prices in the Czech and Slovak markets have diverged form the German prices leading to a price difference of 2 EUR/MWh between the two markets, a trend that has continued in the present quarter. Hungary is the most expensive country in the region. Hungarian 2010 baseload futures cost 3.5-4 Euro more than the similar German futures.
A further price signal with regard to the next year is the virtual capacity auction held by MVM on 23 September 2009, where baseload products of a total of 250 MW (2.19 TWh) were offered for sale and non-standard products were sold in a lower quantity (1.1 TWh). The selling price of the baseload product was 13.82 HUF/kWh. Based on the next year’s currently expected HUF/Euro rate, roughly 280 HUF/Euro, this equals 49.4 Euro/MWh, which is roughly the same as the September Prague power exchange prices of the corresponding product.

**Abbreviations in the report**
- ARA: Amsterdam-Rotterdam-Antwerp
- CITL: Community Independent Transaction Log
- ECX: European Carbon Exchange
- EEX: European Energy Exchange
- EIA: Energy Information Administration
- EU ETS: European Union Greenhouse Gas Emission Trading System
- EUA: EU Allowance
- GHG: Greenhouse gases
- KAT: Mandatory Power Purchase System (Kötelező Átvételi Rendszer)
- MEH: Magyar Energia Hivatal (Hungarian Energy Office)
- OFGEM: Office of the Gas and Electricity Markets (UK)
- PXE: Power Exchange Central Europe
- SMP: Significant Market Power
- WTI: West Texas Intermediate

**Figure 9** 2010 baseload futures prices in the countries of the region in Q3 2009

**Figure 10** Quantity and price of electricity (without network tariffs) sold to retail users, including and excluding obligatory feed-in support

**Figure 10** 2010 baseload futures prices in the countries of the region in Q3 2009

**ENERGY MARKET ANALYSES**

**Developments in the Hungarian retail electricity market in 2008 and 2009**

This article aims to introduce and analyze the price trends of the Hungarian retail electricity market in the recent one and a half to two years, based on the data published on the homepage of the Hungarian Energy Office (Magyar Energia Hivatal, MEH). We made our examinations from the date of January 2007 to June 2009, the last available data point.

**Market size and prices**

Monthly figures of retail market size and average prices are depicted on Figure 10. Monthly electricity quantities sold on the free market are indicated with grey bars. In 2007, before the full market opening, these varied between 650 and 700 GWh, which accounted for 20% of the total consumption. As it is depicted in the figure, the extension of the circle of eligible customers on 1 January 2008 nearly tripled the size of the liberalized market. In 2008, the average monthly electricity consumption of the market was around 1900-2000 GWh, accounting for 58% of the total consumption. From the last two months of 2008, there was a significant decline in retail market sales, which stabilized at the beginning of 2009 at a level 12-13% lower than in the previous year.

Average market prices were rising almost continuously during the two and a half years. It is particularly striking that there was a jump of as much as 8 HUF/kWh, which is around 50%, in retail market prices at the time of full market opening at the beginning of 2008.

We should of course take into account that the average rise in retail market prices is directly comparable not to the 2007 market prices exclusively, but to a 1.2 weighted average of market and public utility prices, since two thirds of the market consumption of 2008 fell under regulated pricing in 2007. Figure 10 shows that the consumption-weighted average of monthly power prices in 2007 was 13.67 HUF/kWh, while the average public utility energy price was 14.93 HUF/kWh in the same year. Accordingly, the benchmark for the retail price increase in 2008 is 14.51 HUF/kWh, compared to which average prices in 2008 were higher by as much as 7.75 HUF/kWh, i.e. by 53%.

The jump in free market prices can be traced back to five probable causes: (1) changes in the regulation of the obligatory feed-in scheme, (2) increasing wholesale prices, (3) a shift in the profile of free market customers (so-called composition or portfolio effect), (4) customers lacking information and experience, and (5) legislative shortcomings during the market opening process. In the following, we try to quantify the separate effects of these factors based on the available data.

**Feed-in obligation**

One of the unambiguous causes of increasing retail prices is the change in the feed-in obligation (“KÁT”) scheme. Before 2008, allowance for the price support implicit in feed-in tariffs, i.e. the difference between the average obligatory feed-in price and the public utility suppliers’ regulated procurement price from the public utility wholesaler, was one element of the regulated system...
prices would have justified a price increase of roughly 3.7 HUF/kWh on the retail market from 2007 to 2008.

Composition effect of the market size extension

The third possible cause of increasing retail prices may be found in the composition effect deriving from the large scale extension of the liberalized market. According to this line of reasoning, relatively smaller customers were forced to enter the free market at the beginning of 2008, with more expensive electricity supply than that of large customers who entered the free market earlier (mainly due to differences in load profiles), and this fact is reflected in market prices.

Since as a basis for the price change we took not only the free market, but also the slightly higher public utility prices of 2007 (with double weight), the calculated price difference of 7.75 HUF/kWh relates to the same - or at least very similar - aggregated consumption profile in both years. Therefore, the argument that refers to load profile changes is invalid as an explanation in our case.

As a comparison, we also examined the energy cost of satisfying the free market consumption profiles attracted by the EEX prices. In our analysis, we concluded that the aggregate load profile change in itself may justify maximum a 0.79 HUF/kWh higher electricity price on the retail market in 2008 relative to the one in 2007. In this case, however, we should compare the 2008 price to the pure free market price of 13.67 HUF/kWh in 2007, rather than the weighted 14.51 HUF/kWh. The free market price is lower than the weighted average by approximately as much as would be justified by the load profile change.

Consumer behaviour

We regard the market presence of uninformed and inexperienced customers as the fourth possible reason of the retail price increase. Users entering the free market by necessity were likely to have scarce information and little intent to have the various traders compete for their business, thus in many cases they automatically accepted their former public utility supplier’s offer at an unregulated market price

Under such circumstances, increasing the retail price shows rational corporate behaviour on the suppliers’ side.

Shortcomings of the legislation process

The fifth, potentially important reason of the price increase is the failure of the lawmakers to prepare the market opening legislation in time. The completion of the market regulatory background suffered a substantial delay, thus masses of free market customers used electricity in January 2008 without being aware of its exact price, for the lack of a valid supply contract. Certainly, it is not realistic to expect customers to have alternative suppliers compete in this situation, which strengthens the price increasing effect of the already existing costs of supplier switching.

The first three of the five factors listed above show a real cost effect (that is, induce a price increase on an efficient retail market), while the latter two factors draw the attention to market failures that are likely to reduce the efficiency of competition and raise the retail price margin to an unjustified extent. As a comparison, we present monthly retail price margins on the free market from 2007 to the middle of 2009 in Figure 11. The numbers support the findings of our analyses so far: the retail price margin grew significantly (by 4.47 HUF/kWh) from 2007 to 2008. In its order of magnitude, this value is close to our margin estimate (3.39 HUF/kWh), which we calculated by netting the price effect of justified cost-raising factors, such as the feed-in obligation, the wholesale prices and profile changes, from the observed total retail price change.

As a summary, this brief analysis lets us conclude that legislative mistakes committed at the time of market opening, the lack of market information and consumers’ inactivity (which are not completely independent from the first cause) together played at least as important a role in the actual retail price increase as the rise in wholesale electricity prices or the effects of load profile changes on the free market. It will be an interesting question of the upcoming years whether more efficient competition will be able to evolve in the Hungarian electricity retail market after this relatively weak start.

The effect of the economic crisis on the electricity consumption of the Central European region

In the second half of the last year, the economic crisis reached the countries of Central Eastern Europe including Hungary, which resulted in a significant fallback of industrial production and employment. In our previous report, we examined the effects of these events on the Hungarian electricity consumption. Considering the intensity of the regional power trade, we deem it justified to extend our analyses to the neighbouring countries as well, providing a clearer picture on the developments of electricity markets.

One of the useful indicators of economic fluctuations are the time series of monthly industrial production indices. Figure 12 depicts the monthly figures of this index concerning Hungary and five countries in the neighbourhood. The time series contains indices adjusted with the number of working days. The source of the figures is the Eurostat database.

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same time, the indicators for Austria, Croatia and Romania did not fall by more than 15% even in the worst months. After describing the development of industrial production, let us turn to electricity consumption. Figure 13 shows the percentage change of monthly electricity consumption adjusted with seasonal and temperature effects based on daily consumption figures, compared to the same month of the previous year.

In the course of the adjustment – instead of the advanced software packages introduced in our previous report – we have only used a simple regression model this time, therefore our result should be taken as a first approximation. In the estimation, we tried to match daily consumption figures to observable factors (month, day of the week, daily mean temperature of the capital, monthly industrial production index), then excluded the effect of seasonal and temperature figures from the consumption data series. Accordingly, developments depicted in Figure 13, particularly the decline in consumption since September 2008, can be assigned to the effect of economic growth and recession, respectively – as well as other, mismeasured or not measured factors.

The data in the figure show that electricity consumption touched the bottom in most of the neighbouring countries in April 2009 with a decline of 7-14% compared to the previous year. The crisis was the most severe in the Czech and the Slovakian power sectors, however, the same month witnessed a 12% decline of consumption in Romania as well. As the latest figures since April 2009 show, the fallback has been slowing down, which also reflects our observations about the industrial production index. A rapid return to the original trend, however, does not seem probable for the time being. At the middle of this year, the seasonally adjusted electricity consumption in the majority of the neighbouring countries still stood at around 95-97% of the level we saw three years earlier.

REKK made a comprehensive research with a view to analyse the Hungarian biomass market and to estimate the energy potential of the Hungarian biomass supply. The research is fully based on the data of the relevant authorities, namely on the figures from the National Forest Inventory managed by the Central Agricultural Office, Directorate of Forestry (Mezőgazdasági Szakigazgatási Hivatal Erdszeti Igazgatóság, MGSZH) with regard to forest biomass, and on the figures of the Agricultural and Rural Development Authority (Mezőgazdasági ésVIDéKfeJesztésiHivatal, MVH) with regard to energy plantations.

In the course of the research, we had continuous consultations with the relevant authorities and forestry specialists, and asked them to review our results. We published our working paper summarising the research on the REKK homepage in September 2009. Although our findings triggered large debate, we have not received any professional disproof of our conclusions. The feedback we received suggests that the regulatory shortages we revealed will be taken into account in the course of the ongoing drafting of the enforcement decrees of the new forest law.

Actual Timber Cut Substantially Exceeds Official Data

We have assembled the balance for the wood stock as well as the timber market of Hungary, looking at both the generation and use of stocks. On the supply side we acknowledged a continuous growth of the forest coverage of Hungary (2 million hectares) as well as the timber stock making up forests (350 million cubic meters), therefore the annual timber growth is also on the rise (13 million cubic meters), two-thirds of which is registered in forests specifically dedicated to lumber production (9 million cubic meters).

After inspecting key data (timber stock, annual growth) in the National Forest Inventory, however, we concluded that the logging data officially published by the MGSZH is not reliable. Annually 6.5 – 7 million cubic meters of logging is registered within the inventory, while in our analysis we estimated another 3 – 3.5 million cubic meters of illegal logging, equal to about 50% of the official logging figure. The official and our estimated illegal logging together reach 10 million cubic meters a year. While this is less than the annual timber growth of all domestic forests, for the last 10 years it has exceeded the 9 million cubic meter annual timber growth of the forests specifically dedicated to lumber production.

This issue is certainly to be further investigated, since illegal logging which endangers the renewing capacity of forests will render the environmental value of timber as a renewable resource questionable.

We also compiled the national balance with regard to timber use, based on data from the Central Statistical Office (Képzonti Statisztikai Hivatal, KSH) and FAO (the Food and Agriculture Organization of the UN). The demand side of the domestic timber market is clearly dominated by

Figure 14 Logging Data Registered by the MGSZH and Estimated by REKK, million gross m³, 1990 to 2007
The Supply and Demand Side of the Domestic Timber Market, with both Official Supply Figures and Official Data Supplemented by Estimated Illegal Logging. Million m³, 1993 to 2006.

Data supplemented by estimated illegal logging. Million m³.

Figure 15

The supply side of the domestic timber market is not the official recognized 6 million cubic meters, but the size of the domestic timber market is not the official recognized 6 million cubic meters, but

the conclusion derived from the supply side of the domestic timber market is not the official recognized 6 million cubic meters, but

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our research we think that the final destination is mainly the household sector, and most sales are likely to take place without a receipt. According to our conservative estimate based on the Household Statistics surveys of the KSH our estimate is 3.5 million tons. Since firewood is the fuel used in particular by low income households, one can assume that the difference between official and estimated volumes comes from illegal logging which gets sold somewhat cheaper than the market price.

Buying firewood without a receipt is obviously not an option for the power plants. Indeed, power plants make an effort to secure authentic documents proving the origin of the purchased firewood. Therefore we examined the domestic system for the certification of origin for timber.

The Domestic Certification for Timber Does Not Work

Under current domestic practice the delivery note and the logging authorization note are used to prove the origin of timber. Unfortunately, neither documents are appropriate for this.

In practice no one inspects the content, detail and validity of consignment notes, and it is not clear how many consignment notes can be issued based on the logging documents provided by the authorities. Thus the volume on the consignment notes may exceed the logged volume validated by the authority, therefore the consignment note cannot be regarded as a valid certification of origin.

The unsuitability of the logging plan certificate is explained by the fact that it is issued before logging, thus before the supervisor of the forest authority could have validated the logged quantity and the compliance with the logging plan. The logging plan certificate does not yet include the volume of logged timber, only the identification of the forest section and

the forest manager. In practice a certificate like that can, unfortunately, be used to "prove the origin" of any amount of timber. To sum up, the logging plan certificate has also turned out to be unsuitable for validating the origin of timber.

The current Hungarian practice therefore does not permit verification of the origin of timber or of the sustainability of forest management. Thus the feed-in tariff system for renewable energy, supervised by the Energy Office, also supports the use of unverified timber. Changes of the EU regulations suggest that the current Hungarian practice cannot go on for a long time. It will have to be reformed soon due to evolving requirements on the proof of origin and quality certification, both in the field of renewable energy (guarantees of origin, tradable green certificates) and also in the field of forest management and nature protection (PEFC, FLEGT, FSC).

Few, but Promising Energy Wood Plantations

At the time of writing the study altogether about 1500 hectares were registered as energy tree plantation, and the total permitted area stayed below 2700 hectares. Based on the demand for subsidy we can assume that within a few years the harvest from 6 to 7 thousand hectares of energy plantations will appear in the market, three-fourth of which will come from energy wood plantations. These plantations will emerge in the geographical region of two actively contracting large power plants (Pécs, Szakoly). In the short run the woodchips production of the plantations will reach or barely exceed 100 thousand tons per year. This quantity (about 150 thousand m³) is negligible compared to the official data of 6 – 7 million cubic meters per year of forest logging.

Our calculations suggest that tree plantations have bright economic prospects. Energy tree plantations can be viewed as attractive investments with a short payback period of 2 to 5 years even without state subsidies. Their net revenue per hectare is expected to surpass the average value for grains (wheat, corn), and may reach, or possibly exceed the average net revenue of oilseed cultivation (sunflower, rapeseed). Therefore, everything else unchanged, an expansion of energy tree plantations is to be expected in Hungary.
Overview of the Third Legislative Package

The European Parliament and the EU Commission have adopted the 3rd Energy Package enacted on 13 July 2009 which will determine the future of the internal electricity and natural gas markets. In the field of energy the priority intentions of the EU between 1996 – 2006 were to create the internal gas and electricity markets. One of the last acts of the previous Parliament was to pass the directives and regulations that aim to regulate the operation of these markets. The 3rd package comprises of the followings:


The third package will bring significant changes to the current framework in many issues.

ACER

The Agency for the Cooperation of Regulators will be established (a prefiguration of a kind of European regulatory authority), which will act as a community establishment financed by the EU. The main aim of ACER will be to provide an adequate framework for the cooperation of the national regulatory authorities primarily in case of cross-border issues.

The Agency will have a decision making authority in case of cross-border access issues concerning at least two Member States, where the competent national regulatory authorities have not been able to reach an agreement, or where it is a joint request from the competent national authorities.

Furthermore the Agency shall provide reasoned opinions regarding the network codes prepared by the ENTSO for Electricity and the ENTSO for natural gas and should monitor the implementation of the codes. In addition it will provide opinions in issues related to market integration and the development of the European energy markets. Ljubljana, Bratislava, and Bucharest are the candidates to provide the ACER seat.

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In both industries, electricity and natural gas, the association of the European transmission system companies will be established, called ENTSO-E and ENTSO-G. The ENTSO-E had already been set up on July 1, 2007 comprises of 42 TSOs from 34 countries replacing six existing TSO associations: ETSO, UCTE, Nordel, BALTSO, UKTSO, ATSO. The main task of the two ENTSOs is to elaborate a European network code, and also a ten-year Community-wide network development plan. The content of the future network code is currently not clarified, but there is a consensus in that the code should at least provide rules concerning cross-border issues. The ENTSOs will be supervised by the ACER and the Commission. The network codes will be published by the Commission based on the recommendation of ACER.

Unbundling

The biggest debate around the 3rd package was related to the issue of unbundling of system operators. The debate was ended with a compromise and so instead of an unambiguous solution, the Guidelines now provide three possibilities for the Member States in this respect. These three models are the full ownership unbundling of the system operator, the Independent System Operator (ISO), and the Independent Transmission Operator (ITO). In the case of government ownership, it is considered as ownership unbundling if the system operator and the company conducting generation/trade are directed by different governmental organizations.

Table 1 summarizes the unbundling regimes applied in the continental new EU Member States in the electricity and natural gas sector. Apparently Poland and Romania has consistently carried out ownership unbundling in both energy sectors. The least stringent unbundling regulation can be found in Bulgaria, Estonia, and Latvia. It should be mentioned that the categorization of the Hungarian natural gas TSO (FGSZ) is not straightforward, as its owner, MOL although has sold the large wholesaler part of the company to E.ON, it still has a small trading part and it is also the largest domestic producer.

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The recent comments of the representatives of the owners of both Hungarian TSO companies, MOL, and MVM, regarding the third package suggest that both companies favor the ITO solution to the ISO or ownership unbundling.

One of the commonly mentioned arguments in favor of ownership unbundling is that in setting the TSO the company does not have disincentives to realize investments in case of scarce cross-border capacities, therefore such a TSO is characterized by larger investment activity than a vertically integrated TSO. This larger investment activity has a beneficial effect on the integration of national energy markets and competition.

Based on the TSO’s financial reports of the year 2008 we have investigated, whether this argument could be verified by the actual numbers of the EU countries in the CEE region. Graph 16, indicates that in the natural gas sector it is true that those TSOs were the most active concerning investments which were ownership unbundled. In the electricity sector however we have not found such a straightforward relationship.

Table 1

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<thead>
<tr>
<th>Country</th>
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<th>Natural gas TSO</th>
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In case of the ISO model the network assets stay at the integrated company, and only the system operation’s independence can be guaranteed (this model was implemented in case of MAVIR, the electricity system operator in Hungary between 2002 and 2006).

The Integrated Transmission Operator (ITO) owns the network assets and can stay within the integrated company. However the Guidelines laid down very stringent rules to be followed by an ITO in order to guarantee their independent functioning. Among these conditions there are the unbundling of accounts, auditing, and IT systems, full financial independence, establishment and implementation of a complaint program and detailed managerial unbundling. The regulator is given very stringent rights for supervision regarding the financial transactions between the mother company and the ITO. For example the regulator has to approve all commercial and financial contracts that were settled between the ITO and the mother company. The mother company does not have voice in the investment activity of the ITO, therefore an ITO could be a fairly risky investment for its owner.

Table 1 summarizes the unbundling regimes applied in the continental new EU Member States in the electricity and natural gas sector. Apparently Poland and Romania has consistently carried out ownership unbundling in both energy sectors. The least stringent unbundling regulation can be found in Bulgaria, Estonia, and Latvia. It should be mentioned that the categorization of the Hungarian natural gas TSO (FGSZ) is not straightforward, as its owner, MOL although has sold the large wholesaler part of the company to E.ON, it still has a small trading part and it is also the largest domestic producer.
The aim of the Regional Centre for Energy Policy Research (REKK) is to provide professional analysis and advice on networked energy markets that are both commercially and environmentally sustainable. We have performed comprehensive research, consulting and teaching activities on the fields of electricity, gas and carbon-dioxide markets since 2004. Our analyses range from the impact assessments of regulatory measures to the preparation of individual companies’ investment decisions.

### Research

Geographically, our key research area is the Central Eastern European and South East European region:

- regional electricity and gas price modelling
- CO₂ allowance allocation and trade
- supports for and markets of renewable energy sources
- security of supply
- market entry and trade barriers
- supplier switching

### Consultancy services

- price forecasts and country studies for the preparation of investment decisions
- consultancy service for large customers on shaping their energy strategy on the liberalised market
- consultancy service for regulatory authorities and energy supply companies on price regulation
- consultancy service for system operators on how to manage the new challenges

### Key activities of REKK:

### Trainings

Our training programmes:

- summer schools
- courses for regulators
- trainings and e-learning courses in the following topics:
  - price regulation
  - electricity markets
  - market monitoring
  - gas markets
- occasional trainings for companies based on individual claims

Nowadays, due to market opening, energy markets cannot be analysed without taking into account regional environment. We monitor the market situation and developments of the countries of the Central Eastern and South East European region. We have built a regional electricity market model including 15 countries to forecast regional electricity prices.

The experts of REKK with their energy regulatory experience and academic background can supply scientific solutions taking also into account the specialities of the given markets.

### Our reference partners:

**Regulatory authorities and ministries**

MEH (Hungarian Energy Office),
GVH (Hungarian Competition Authority),
KVVM (Ministry of Environment and Water),
GKM (Ministry of Economy and Transport),
FVM (Ministry of Agriculture and Rural Development)

**Energy companies and large customers**

Mavir, E.ON, MOL, MVM, ELMŰ, Főgáz, Alcoa, DRV

**International organisations**

DG TREN, USAID, ERRA, CEER, NARUC