



International Center for Economic Growth
European Center

**THE EXPECTED EFFECTS OF EU ACCESSION ON THE
ELECTRICITY INDUSTRIES OF THE VISEGRÁD COUNTRIES**

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1. Introduction

This paper¹ summarizes the main findings of the four country (Czech Republic, Hungary, Poland, Slovakia) studies, concentrating on the common trends that characterize the four accession countries, but focusing also at the major differences.

2. Growth effects – increasing energy efficiency and slight growth of domestic demand

Following the political and economic transition all countries witnessed a decline in the demand for electricity. It was associated with the restructuring of their industries and the decline of their production. The restructuring resulted in improving energy efficiency – therefore as economic growth returned, the growth rate of demand for electric energy lagged behind the growth rate of GDP. This trend is expected to continue, resulting in a slight but steady growth in domestic electricity consumption. The following table summarizes the published estimates:

Country	Until	Growth y/y (%)
Czech Republic	2010	1.2
Hungary	2015	1.5 - 1.7
Slovakia	2006	1.1 - 2.8

In the case of net exporter countries (Czech Republic and Poland) improving exporting opportunities will add to the domestic growth of demand, making the electricity industry a potential growth factor and source of export incomes. Furthermore, as a vital utility, the electricity industry does contribute to the development of other industries and the welfare of the whole society. Therefore a competitive electricity industry has significant spillover effects on the economy through the supply of cheap and reliable electric energy

3. Regulation – *the acquis is largely adopted, but further adjustments are needed*

All four countries have adopted new Energy or Electricity Laws in line with EU regulations. In Hungary the new Electricity Act came into force only in 2003, due to significant resistance of supply-side interest groups. The Visegrád countries have already done the larger part of legal harmonization, but some issues have remained unsettled in every country, among others:

Czech Republic: the access to storage facilities is not guaranteed, authorization is not based on pre-defined conditions but on the discretionary decision of the regulator, take-or-pay contracts are not defined properly;

¹ Summary of the Studies on the Electric Energy Sector prepared for the AMCHAM-ICEG European Center Conference on Expected Effects of the EU Accession on the Visegrád Countries, March 20-21, 2003, Budapest

Hungary: the unbundling of supply and distribution has not been completed and regulatory control over capital flows must be abolished;

Poland: only domestic participants are allowed third-party access, foreign participants are discriminated;

Slovakia: there is no system operator, its activities as well as trading rules need to be defined.

Energy regulation authorities have been established in every country. They are assigned with the supervision of the electricity sector; since the industry is heavily concentrated and contains natural monopolies (transmission), the position of these regulators should be reinforced to be able to protect and represent the interests of consumers.

The following table summarizes the process of legislation and market opening. The proposed new EC Electricity and Gas Directive would prescribe the finalization of market opening by 2004 for non-household consumers, and by 2007 for households – if this new Directive is approved, it will be binding for new member states as well.

Country	New legislation in effect since	Date of full market opening
Czech Rep.	Jan. 2001	2006
Hungary	Jan. 2003	n/a
Poland	Dec. 1997	2005
Slovakia	2002	2005

4. Foreign Direct Investment – the main source is privatisation, often behind schedule

FDI is usually associated with the privatisation of state-owned electricity companies in the electricity industries of these countries. They are in different stages of the privatisation process.

The Hungarian state sold majority shares in all distribution companies in 1995. These were purchased by Western European energy companies (RWE, E.ON, EdF). The state-owned electricity company MVM retains minority shares in some of these firms. Although some power plants have also been sold, the MVM maintains its dominant role in generation, owning a 74% share of the top 3 power plants. The transmission network is also in the hands of the MVM. The future of this company is unknown, a feasible option would be the creation of a Transmission System Operator by merging the current Independent System Operator with the transmission network, followed by its privatisation. At present foreign investors hold 52% of all equity in the Hungarian electricity industry.

The Czech Republic, on the other hand, started privatisation later, and did not go as far as Hungary. After the privatisation of regional distributors, about 34% of the shares was transferred to the municipalities, while 15% was sold to private investors. In 1997 municipalities began to sell their shares to foreign companies. The government decided to reverse this process, and the state-owned electricity company CEZ started repurchasing these shares. The government intends to sell a 64% share in (of its total 67%) CEZ: this huge package would contain about 70% of all Czech production, majority ownership in 5 suppliers and blocking minority in the other 3, and ownership of the transmission system operator CEPS. Up to now, none of the bidders have offered a sufficiently high price. If this deal is carried out, it practically transforms a state-owned (near-)monopoly into a privately owned one. It is indeed an objective of the Czech government to turn CEZ into a major player of the European electricity market.

Poland has seen almost 1.66 billion USD FDI inflows in its electricity sector until mid-2002, while a further 1.7 billion USD is planned. Still, the process of privatisation – expected to be finished by 2005 – has fallen behind schedule. In order to secure competition on the market, no investor will be allowed to gain a share of more than 15% in the domestic electricity market. Since the electricity generation sector is one of the largest sectors of the Polish industry, it is in the focus of the attention of politicians.

In Slovakia distributors were privatised in 2002: 49% of their equity was sold with the obligation to purchase the rest, should the government decide to sell it – which is likely, as the pension reform need resources. The buyers were E-ON, EDF and RWE. A 49% stake in the state-owned producer SE has also been offered for sale. Investors show no interest in the nuclear capacities, and the stranded costs incurring at SE discourage potential investors.

Another source of FDI inflow can be the establishment of new power plants. This has happened in all four countries to some extent.

4. Employment – *reduction of over-employment is needed*

All four countries were initially characterized by heavy over-employment in the state-owned electricity companies. This over-employment is expected to be reduced after **privatisation**. Another source of downsizing is the closing of old coal-firing plants.

In Hungary regional distributors have laid off 60% of their workforce since their **privatisation** in 1995 (about 2400 workers between 1990-95, 7000 since 1995). Power plants cut their payrolls by about 35% between 1995-2001. It is clearly visible that companies with foreign owners laid off more workers than companies in direct or indirect state ownership.

Since **privatisation** started later in the other countries, the worst downsizings still lay ahead of them. In the Czech Republic employment in the utility sector declined by 23% between 1995-2001. According to estimates electricity companies will lay off 21% (5000 employees) between 2000-2010. In the worst-case scenario, if coal plants are shut down, as many as 30,000 workers can lose their jobs. These effects will be moderated by social pacts obliging investors not to downsize full-time employment for 5 years. In Poland the current employment of around 150,000 will need to be cut by 40-50,000 to reach the European average productivity level. In Slovakia the current employment of around 20,000 will drop to 16-17,000 by 2006.

The following table summarizes the changes in employment. Note that most data apply to the electricity industry as a whole, except for the Czech Republic. Estimates are written in italics. Curiously, employment initially increased in Hungary, followed by a sharp decline (29.4% or 2.94% y/y from the 1990 level). It is difficult to draw conclusions from these data as the starting level of over-employment and labour productivity is different in the four countries. It can be seen however that the pace of layoffs will increase following **privatisation**. Compared to actual Hungarian data, estimates of the other countries seem conservative.

Country	Sector	Period	Employment at the start	Employment at the end	Total change (%)	Change y/y (%)
Czech Republic	utilities	1995-2001	n/a	70,000	-23	-3.8
	CEZ and distributors	1999-2009	23,458	18,408	-21.5	-2.1
Hungary	electricity	1990-1995	38,463	43,693	+13.6	+2.7
	electricity	1995-2001	43,693	27,142	-38.8	-6.3
Poland	electricity	1992-2002	168,900	152,400	-8.8	-1.1
	electricity	2002-?	152,400	110-120,000	-21.3 ...-27.8	n/a
Slovakia	electricity	2002-2006	20,000	16-17,000	-15...-20	-3.7...- 5

It is important to note out that the current wage level in these countries is much lower than in Western Europe. For example, Hungarian salaries amount to only 1/5 of German ones. This is a significant cost advantage at present, but with the convergence of wages it will gradually fade out.

The authors agreed that no migration is expected, and that labor quality will need to improve to adapt companies to a competitive, market-based environment. This is consistent with trends in the Western European electricity industries: management, trading and marketing skills will gain importance as firms compete for consumers.

5. Foreign Trade – *will increase both for exporters and importers*

The Czech Republic and Poland are net exporters of electric energy (9.5 and 6.7 TWh net exports respectively in 2001) – they expect their exports to rise after the EU accession, as their main trading partners are current or future Member States. Competition will increase on the common market and the restructuring of production becomes inevitable. The Czech Republic will have significant cheap surplus capacities after the full commissioning of its nuclear plant in Temelin – it should be noted however, that this nuclear plant has caused much controversy and even the boycott of Czech electricity in Germany. These two countries have comparative advantages in raw materials (coal) and labour cost. However, coal-firing plants are subject to environmental limitations, and labour cost advantages will gradually disappear (as mentioned above).

The Czech government intends to **privatise** its electricity company CEZ in order to make it more competitive and shape it into a European level player.

On the other hand, Hungary and Slovakia are net importers of electricity. Their expected imports will rise, pressing domestic electricity prices downwards. As the wholesale market is monopolistic (or oligopolistic at best) – due to the fact that there are insufficient surplus capacities and market concentration is significant – competition of imports seems the only way to avoid monopolistic rents in liberalized prices.

In both cases cross-border capacities need to be extended and inefficient long-term contracts must be supervised (this point was raised in relation to Hungary).

Exchange rates will affect these countries' electricity industries in different ways. The Balassa-Samuelson effect (real exchange rate appreciation due to the catch-up in productivity) is a common phenomenon: the appreciation resulting from it is definitely advantageous for the importing countries. In theory it does not deteriorate the competitiveness of exporters either – in practice exporters are not likely to acknowledge this easily. However, stronger currency cheapens imported inputs, which is equally favourable for all countries regardless of their net exporting position.

6. Market structure – *competition depends on surplus capacities, influential state-owned companies*

The issue of market structure is closely related to **privatisation**. Initially all countries had a single vertically integrated, state-owned electricity company. First some sort of unbundling was implemented to separate production, transmission and distribution. Then followed (or follows) **privatisation**. Distributors are organized on a regional basis, and as public utility suppliers they have formal obligation to supply to all consumers on their territory. Therefore competition in the regional distribution segment was not present. This is going to change with market opening, as consumers become eligible to choose their supplier. In the transition period the supply obligation remains as well. Competition in retail supply is a question of the future.

Electricity generation and wholesale trade is another market with potentially significant competition. This segment is dominated by the state-owned electricity company in all countries (CEZ in the Czech Rep., MVM in Hungary, SE in Slovakia). If these are sold to a single buyer (as planned in the Czech Rep.), their monopolistic position will remain. However, competition does not just depend on the number of companies in the generation sector, but also on the size of surplus capacities. If these capacities are large – as in the case of the Czech Rep. and Poland – there is the potential that prices will decrease. In the absence of surplus capacities, electricity imports can help to introduce competitive pressures.

Stranded costs are another important obstacle. These are costs associated with inefficient long-term contracts of the state-owned electricity companies. They undermine the profitability of these firms, making them less attractive to investors and forcing them to appeal for state subsidies. The paper on Slovakia mentioned this as the greatest problem of the electricity industry.

An organized power exchange is already functioning in Poland. This is a significant step towards creating a competitive wholesale market.

7. Policy recommendations

The following policies seem to be common goals in all four countries:

Extension of cross-border capacities and removal of the obstacles of cross-border electricity trade,

Completion of **privatisation** with the goal of improving efficiency and competition,

Reinforcement of regulating authorities to protect competition and the interests of small consumers,

Regulation of natural monopolies and the creation of incentives to promote investments in order to improve the safety and quality of supply,

Promotion of energy efficiency and environmental goals.

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