

## RESTRUCTURING OF THE POWER SECTOR IN SERBIA

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**Biljana Rakić**

Faculty of Economics, University of Niš, 18000 Niš, Yugoslavia

**Abstract.** *East European countries were far less well endowed with these key "economic institutions of capitalism", and therefore faced more serious problems of regulatory credibility when they attempted to privatize their network utilities. Privatization of Serbian power company should not be undertaken before economical recovery of the system has been completed. It is unrealistic to expect transformation of ownership of such a big and significant enterprise to be completed quickly and without difficulty. Besides, private capital will not be invested in all parts of the system nor all the subsystems are ready to privatize. Serbia after opening up towards the world, will probably be granted certain benefits such as extended adjustment terms and liberalization of domestic energy market.*

### 1. EXPERIENCES OF TRANSITIONAL ECONOMIES

Electricity supply industry has been recognized as a highly regulated domain worldwide, regardless of the existing private ownership, which means that it is based on certain regulatory body. The application of comparative analysis on energetic policies of different countries should aim at helping each particular country to find its place as we must bear in mind that the solutions arrived at in one country are in no way applicable to other countries. A chosen concept of an open, free market has been identified as common to all reforms of markets trading in sources of energy, while at the same time such regulators have been established that would enable competition, protect customers and provide minimum public service.

Privatization is a key objective of the reform process in transitional economies of Central and Eastern Europe (CEE), though progress has been slower than anticipated. There are powerful arguments for privatizing enterprises producing for competitive markets. The importance of regulating privatized natural monopolies was not widely appreciated in the CEE countries. Regulation was seen as the deadening hand of socialist ownership, to be replaced by the free and unregulated market as soon as practical. Telecommunications companies were at the top of the list of utilities to be sold, but the energy utilities, particularly gas and electricity, followed shortly behind.

Of special concern are such issues in the CEE countries, since reforms in energetic system cannot be carried out free of problems even in developed countries, and countries in transition are facing with additional limitation. Two basic ways of restructuring of power sector have singled out in particular. One is achieved by retaining existing electricity industry within governmental ownership, while at the same time allowing for private ownership to operate through building of new generating plants. The other way is by separating production from transmission and distribution of electricity, the distribution being privatized, production restructured and partly privatized (the aim is total privatization). On the other hand, transmission nets, as a natural monopoly, are not integrated by ownership with production and distribution. This means introducing free access to transmission nets under requirement that the owners provide access onwards to other producers and distributors on the same conditions.

The process of restructuring in Czechoslovakia began in 1990 with the term for gradual opening up of one such market being set for the period between 2002 and 2006, thus making it a slow, long-term process. The restructuring was carried out by means of vertical separating of production, transmission, and distributing while the transmission company remained in private ownership; independent producers entered production and distribution was done by regional (distributing) enterprises set up as stock companies. During the restructuring, the number of employees in "CEZ" (the dominant company on the Czech electricity market) was reduced from 13.723 (1993) to 7.552 (end of 2001), with a view of reducing if further down to 7.263 employees. This was followed by cost reduction, so the sale of electricity was raised from 50.428 GWh to 50.850 GWh.<sup>1</sup>

During the period between 1990 and 1992, the foreign advisers in Hungary proposed a plan of restructuring electricity supply industry after the British model, where special attention was to be given to the significance of a solid, effective regulatory system in order to achieve higher success of production. A greater interest in buying and distributing companies (all six of them sold only in the first sale) selling easier than the production ones (three sold out of seven offered) can be explained by such regulatory system which makes the purchase of generators unattractive. Unlikely, the U.S. companies, which were otherwise very successful in buying British electricity distribution companies failed in Hungary.

In Poland the government started an ambitious program of privatizing large state enterprises in 1990 aiming to privatize half of the 9,000 state enterprises within three years, but only three large power plants and a few district heating enterprises had been commercialized, though the World Bank was proposing the privatization of a cogeneration company.<sup>2</sup> Despite this rather slow start, Poland planned further privatization of parts of the energy sector, with the electricity generation companies considered the best candidates.

Slovenia wasn't forced into adopting the proposals of MMF and the World Bank insisting on faster and all-inclusive reforms because the growth rates of her economy were satisfactory at the time thus allowing for gradual reforming. Five bidders of electric power is too big a number for a market as small as Slovenia, so it has been planned to merge and fuse them into two larger firms which would raise the value of these before selling.

Croatia was planning privatization of its power company (HEP) for the period of 2002 and 2003; the model of privatization combines searching for strategic partner and capital

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<sup>1</sup> <http://www.cez.cz>

<sup>2</sup> Newbery M. David: "Privatization, Restructuring and Regulation of Network Utilities", The MIT Press Cambridge, Massachusetts, London, 2000, pp. 61

market with the estimated HEP value of between 1,6 and 2,6 billion dollars.<sup>3</sup> The overall HEP privatization procedure has been estimated to last for 2-3 years, where initial steps will be reorganizing and founding of self-operating enterprises dealing in certain activities as well as transfer to private ownership of a particular company that will act in charge of organizing and managing the electricity market.

In most CEE countries, electricity demand fell with the fall in industrial output during the transition, and forecast demands are unlikely to put pressure on current capacity until the end of the century. Most CEE countries are so energy intensive and electric intensive that improvements in efficiency caused by sensible pricing and market responses will weaken demand growth for at least a decade.

Without foreign capital, it wouldn't be possible to initiate the development of energetic in transitional economies, and the influx of foreign investments will depend primary on macroeconomics and political stability in a country, but also on the internal level of organization of energy sector. With a view of liberalizing the international energy market, the World Bank has required, in return for granting the loans intended for the building of power plants, that private electricity producers also take part in financing. Even more rigid in its requirements is MMF, which demanded, in return for financing Bulgaria, that the New Energy Act be brought in force and also that the electricity prices be liberated during the year 2002. As for this matter, European Union allows all forms of ownership over energetic system under one condition - to make these systems market(profit)-oriented.

For the time being, only EURELECTRIC exists in a form of the Association of European Electricity Enterprises, and the actual liberalization of the electricity market is about to happen only after establishing a unique European electricity market, that will consequently cause the increasing of competition and decreasing of electricity prices.

## 2. RESTRUCTURING OF THE ELECTRIC UTILITY COMPANY OF SERBIA (EPS)

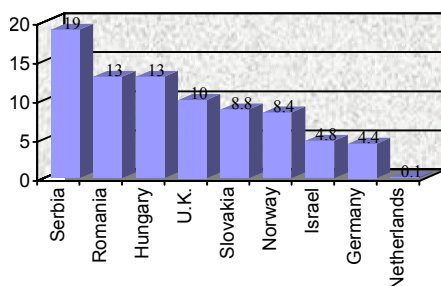
The Electric Utility Company of Serbia ("Elektroprivreda Srbije" - EPS) operates as a public enterprise employing more than 50.000 workers, and it consists of 23 separate companies: 7 for producing electricity, 4 for coal production, one for transfer and 11 for distribution. Its structure has not been adapted to modern world trends and EU regulative, so it is still vertically and horizontally integrated monopoly governed and owned by the state government.

All the problems concerning the opening of public enterprises all over Serbia since their founding (majority of them were founded in 1992) up to now, have been most prominent in EPS: the price of electricity served as an instrument of social rather than economic politics; outmoded, worn-out or worked-off capacities (including technological as well as physical damage, even break-downs) causes loss to all parts of a system; politicized (unskilled) management was dominant feature of this company as contrasted to a high-skilled levels of the staff, followed by high, unsettled or hardly payable damages giving right-of-way to certain priorities. All these prevented from successful operating of enterprises, leading up to huge foreign loans and finally the surplus employees - more than 50.000 in each part of the system.

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<sup>3</sup> <http://www.hep.hr>

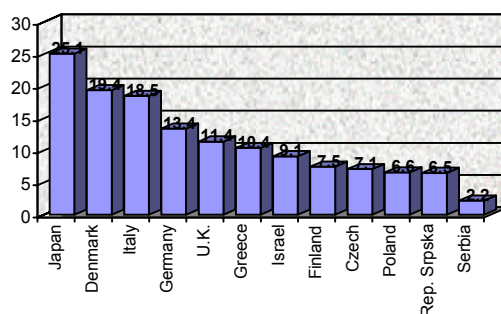
There are more problems - in the period between 1990 and 2000, less than 10% of planned funds were invested in repairs and maintenance works per year, and losses in transmission and distribution have been on the increase since 1990 and are at the highest level in Europe. (see the graph below).



Graph 1. Losses in transfer and distribution

The transformation of EPS would have to take a slower rate of development in relation to other public enterprises in Serbia, and its objectives should be reconstruction and modernization of the existing system so as to ensure a more rational production and usage, reliable high-quality supplies, concern about environment, the building of new capacities that will keep up to the growing consumption rate, changes in the set-up and property relations aimed at market economy, their coordinating with the 96/92 Directive of EU and a management that will spur the making of profits.

In accordance with the changes supposed to integrate Serbian economy into world trends, electricity will be treated as any other kind of goods put up on market, as prescribed by the World Trade Organization (WTO). Price of infrastructure services must be as close as possible to the price the consumer will pay on the (supposed) free market of those services, the one which should enable producers to cover operating costs and realize profit. Hard times the domestic electricity industry is experiencing are due to the prices being depressed for a long time, unlike prices in other countries (May, 2002) which are much higher, as seen from the graph below.<sup>4</sup>



Graph 2. Comparative overview of electricity prices (USc/Kwh)

<sup>4</sup> <http://www.srbija.sr.gov.yu>

The republic budgetary fund has been emptied of means for further subsidizing of electricity prices, while, on the other hand, the rise in prices up to an economically justified level is almost unthinkable considering the impoverished state and low means of payment with end-users hardly able to pay depressed prices.

The English model of vertical separation is rapidly becoming the reference model for reform in developed economies where the electricity supply industries is mature provided that the system is large enough to support a number of competing generation companies. Restructuring a previously vertically integrated network utility to separate off the potentially competitive parts requires defining boundaries between the core natural monopoly and the rest of the industry. In electricity this is reasonably simple - the wires businesses are the obvious natural monopolies, while generation and supply are potentially competitive. Various ancillary services to maintain stability and security of supply may need to be centrally managed but can be competitively supplied (through tendering, through contracting, or through the market). A fully competitive solution also requires open access to transmission and distribution, and a electricity market into which any (licensed) generator is free to sell and all customers above a certain size are free to buy.

There are some economic and objective constrains for restructuring EPS:

- Very low GDP p.c. (~1200 USD), but consumption of almost the average primary energy use in the world (~1.5 toe/p.c.).
- Electricity price (2.21 USDc/kWh) and price of space heating from DHS (1.61 USDc/kWh) are below real production costs.
- Lack of some fuels causes use of electricity for space heating.
- Serbian residential electricity consumption of 6000 kWh/dwelling is too high compared to 4000 kWh/dwelling in EU.
- Short time and insufficient financial support for full sanation and rehabilitation of energy infrastructure.
- Lack of policy, measures and financial incentives for RUE and EE (on the energy supply and demand sides).
- Too low family income for investment in households "gasification" and buildings renovation.<sup>5</sup>

Privatization of Serbian power company has been legally justified and was even supported by making up a Program of its restructuring in 1997, which was effectuated at the beginning of 2002 due to the dynamic changes occurring at the time. It was then presented for considering to the management and syndicate of EPS. Nevertheless, privatization should not be undertaken before economical recovery of the system has been completed. The phase one of restructuring must include discarding all those additional activities that electroenergy system shouldn't deal with, and then a vertical separating should be done within the already "cleansed" basic activity in order to get three separate companies: production, transmission and control and distribution of electricity. In phase two, public infrastructure (the operator for transfer of electricity) must be separated from domains exposable to market (production and distribution). Transmission ought to remain a unique activity in Serbia not likely to divide or privatize in the foreseeable future. Transfer will

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<sup>5</sup> Studović Milovan: "Serbian Government Policy on Energy Efficiency", EBRD Annual Meeting and Business Forum, Bucharest, May 20, 2002

be collectible whereas an independent Regulatory Agency will control all important parameters (criteria of transfer and purchase of electric supply), which is currently performed either by government or EPS. If network utilities are to operate successfully under private ownership, they will need a credible system of regulation, in which the utility is confident that the regulator will allow it to earn a fair rate of return on its past investment. Regulatory flexibility may be desirable to encourage efficiency, by retaining the right to disallow imprudent costs, but there is a fine line between flexibility and arbitrary discretion. Regulatory discretion needs to be restrained by dispute resolution mechanisms that are costly to invoke, deterring actions that undermine credibility.

The aim of efficient economic regulation is to protect consumers and producers "evil monopoly", and to ensure maximization of social welfare. The argument for liberalization is that competition provides stronger and less manipulability incentives to efficiency than regulation. Perfect competition would provide the strongest incentives for efficiency and would transfer all the gains to consumers and thus solve the problem of bargaining over rents. But competition is never perfect, and the practical question is how competitive markets have to be in order first, to yield higher efficiency than regulation, and second, to transfer efficiency gains to consumers.

In finding optimal relationship between regulation and competition (state and market) from the point of maximizing efficiency, it has to be started from market conditions. If the market is competitive or potentially competitive - state policy will be deregulation, and market policy liberal, in addition to eliminating subsidies and keeping antitrust policy. When network market is concerned, where private ownership and competition are possible vertical or horizontal separation can be done, barriers to entry on the market removed, and antitrust policy kept followed by deregulation policy.

Relation between competition and (de)regulation on the network market where competition is possible can be done in the other way as well, by inducing competition and removing barriers to entry on the market, the state can regulate prices, conditions for joining the network, quality. In conditions of natural monopoly where market competition is possible, market behavior will consist of competing for a contract, while state will invite tenders and conclude contracts and control quality and prices. At last, real natural monopoly where there are no conditions for competition should stay in the state ownership and be subject to regulation of prices, quality control and financial limitations.

What is special about electricity that seemed to require centralized control rather than decentralized markets? Why is electricity not like other commodities? "The key difference between electricity and other primary commodities is that producers and consumers must be physically linked, with changes in supply and demand propagated through the entire network at the speed of light. Since electricity cannot be stored, supply and demand must be kept in balance second by second."<sup>6</sup> Changes in supply by any producer or demand by any consumers thus create external effects on all others connected to the network, and these externalities threaten the efficiency of decentralized markets.

When analyzing further steps in the process of restructuring, one option is to regard the overall electricity production as a whole, where even coal production and generating

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<sup>6</sup> Newbery M. David: "Privatization, Restructuring and Regulation of Network Utilities", The MIT Press Cambridge, Massachusetts, London, 2000, pp. 205

stations would operate as one plant. The alternative is to disintegrate production itself to the production of thermal energy and hydro-energy which will then influence further procedures. Distributive companies can form according to geographical principle (regional or local distributors). An open question remains as to the number of these, but a mutual competition between production and distribution companies is certainly to be expected, and that will undoubtedly reflect on the final price.

In order for electricity industry to be transformed in matters of ownership, competition should be introduced, prices should be coordinated with world trends and measures and state regulatory bodies should be adjusted to economic conditions governing the market. It is unrealistic to expect transformation of ownership of such a big and significant enterprise to be completed quickly and without difficulty. Besides, private capital will not be invested in all parts of the system nor all the subsystems are ready to privatize. Transmission of electricity is a typical example of a natural monopoly where solutions will be sought in regulation within which more effective ways will be found, in accordance with the new operating system.

The work on three particular documents relevant to these are currently underway: Strategy of Development, The Energy Act and Reconstruction Program of EPS. They are all necessary in order to coordinate the making of electricity market with an independent Market Regulator and the Serbia Energy Efficiency Agency. Therefore, the initial transformational steps have been taken - namely, the activities not directly related to electricity industry are being defined and directed towards the market, the positions of enterprises within EPS are being specified, certain procedures of property evaluation and preparation for the property and organizational transformation have been employed. All these changes are aimed at creating a more effective internal system, opened up for foreign investments and ready to cooperate with similar capacities, with an intention of high rating in the uniform European market.

EPS will be among the last in a row to privatization owing to the peculiarity of the system and the prices of electricity, which dictate the standard of living and influence the success and speed rates of reforms. With regard to the numerous atypical problems we were facing with in the previous decade, but also a favorite attitude of the international community towards Serbia after opening up towards the world, we will probably be granted certain benefits such as extended adjustment terms and liberalization of domestic energy market. Successful carrying on of the process is to be one of the preconditions for inclusion into European and world economic flows.

Taking into account high capital intensity, that is one of the basic infrastructure characteristics, and financial incapability of our country, it is real the entry of foreign partners in those areas to be expected. Sale of telecommunication was the first step in unknown terrain for us, and it was criticized very much due to numerous failures in every stage of the procedure, and it is just because of that, that every step like that will have to be prepared carefully and done in public.

After leading the transition process at the beginning of the decade, Serbia started lagging behind the most advanced transition economies. Now, Serbia have fast transition, perhaps faster than other CEE country. The problem will be the fact that neither restructuring nor ownership transformation can be carried out at once. Those are long-lasting procedures, especially in delicate fields of network utilities.

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## RESTRUKTURIRANJE JAVNOG SEKTORA U SRBIJI

**Biljana Rakić**

*Restrukturiranje i privatizacija su karakteristike energetskeg tržišta današnjice, a ostvareni stepen ovih promena je različit od zemlje do zemlje jer su drugačiji uslovi u kojima se ovi procesi odvijaju. Ono što se može indentifikovati kao zajedničko svim reformama energetskeg tržišta je izabran koncept otvorenog tržišta i otvorenih granica tržišta, uz istovremeno osnivanje regulatora koji omogućuju konkurencije, štite potrošače i obezbeđuju minimum javnih usluga. Posebno su zanimljiva kretanja u ovoj oblasti u zemljama u tranziciji jer reforme energetskeg sistema se ne sprovode bez problema ni u razvijenim tržišnim privredama, a u ovim zemljama nailaze na dodatna ograničenja. U skladu sa promenama koje bi srpsku privredu trebalo da integrišu u svetsku, električna energija će se tretirati kao bilo koja druga roba na tržištu na šta obavezuju i pravila Svetske trgovinske organizacije (WTO). Dok se "Elektroprivreda Srbije" svojinski ne transformiše treba preduzeti mere uvođenja konkurencije u određene segmente, uskladiti cene sa svetskim i prilagoditi mere i instrumente državne regulative tržišnim uslovima privredjivanja. Međutim, privatizaciju EPS-a ne bi trebalo preduzimati pre nego što se omogući ekonomsko ozdravljenje ovog velikog i značajnog sistema.*