GLOBALIZATION AND RESTRUCTURE OF THE ELECTRO POWER SECTOR

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Abstract

In the last decade the wave of globalization reached the electro power sector, which commonly embraces about 30% of entire state economy. Therefore, consequences of restructure and liberalization of the electro power sector are many and remarkable and have an extensive impact on the economy.

It is necessarily to have well goverment strategy and manage the electro power sector wisely, to efficiently implement that proceses. This writing represents an energy development strategy in Croatia as well as possible restructuring options of the Croatian Power Company. It also addresses the course of restructuring of commerce in Croatian Power Company and takes into consideration what has been done until now with anticipation of the future.

1. Concept of globalization

Due to faster development of new technologies (automatization and robotization) there is a reduced need for human manual work. Negative issues that supersedes the overflow of workers, at the same time enables higher standard of living for other people, making idle time for other occupations, that results with need for a new organization creation in firms, at work and currently in living.

Globalization is a world process. Technological progress lead by developed economies, that carry out world offer of merchandise and capital, extend opportunities of selling ones own services and products, and are key in the development of world prosperity.

The first wave of globalization was from 1800. to World War I, under the influence of attenuated transport costs (steamship, railway) and faster communications (telegraphy, telephony).

The second wave of globalization made world communications faster with less costs (development of microprocessors, satelites, internet, optic fibres).

Recent communications and airtransport made a global village of our planet Earth, in which we have survival process on the global market of rough competition.

Result of globalization process is a "world without borders", in which people speak one language, and proposes that everyone have the same rights and conditions

for living, creating a big association of different states (European union, North and South America, countries of ASEAN) that are among in opposition, but try to introduce parity order.

Globalization process isn't only technological, but already civilazational, where influence of the goverment in strategic planning is more and more important, because free market and privatization instead of goverment planning, doesn't solve all problems, but delivers higher unemployment and poverty.

The main "players" in globalization are capital, enterpreneurs and the world market. Enterpreneurs are the main creators that attain capital if a product or service for the market is prosepective. Development of enterpreneurship and market is a fundamental condition of economy growth in Croatia, where the main brake is bureaucracy. That development can't be achieved with protection of bureaucracy, than enterpreneurship stimulations and investing in development projects. In that perspective, HEP - Croatian Power Company is very important in public and governmental meaning, because like a public company has a role of development initiator and role of a regulator of domestic industry and market development.

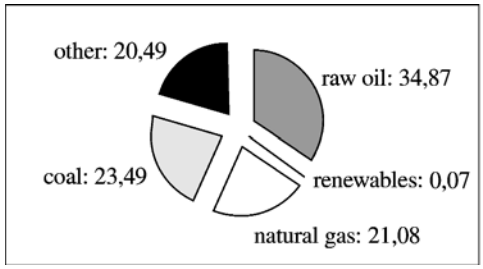
The transition of a singular system of Croatian Power Company in state ownership with monopoly on the market to a system of a dozen companies that are not necessarily in state ownership that will be exposed to competition on market is a very complex process, which instead of bureaucracy must be lead by experts and enterpreneurs, which will ultimately restructure the Croatian Power Company to achieve rational and decentralized business. This is a very long and complex process of enabling the company for open market business, so there is no chance for hastening in development projects of state importance, because waiting will bring hardly repayable losses.

2. Other side of globalization

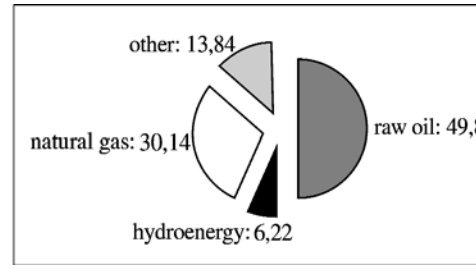
Only 10% of world population spend 50% of the world's energy resources. This is the cause of most world problems.

Every year on the planet Earth we have: 80 million more people, 3 650 thousands hectares of cultivable less land, 25 million people die because of poisoned water, 25 million people die because of hunger, more and more deserts, sand lands, gases in the atmosphere, less and less unpoisoned sea, water, raw materials and energy.

The world must be aware of limited energy resources, be prepared for the future and protect the environment for future generations.



Energy consumption (%) in the world



Energy consumption (%) in Croatia

New technologies are the key element for development, but also double-edged, because they also supersede the overflow of workers. Decreasing expenses in the electro power sector doesn't insure the future because it doesn't create inovations for future markets, doesn't encourage creativity, nor guarantee habilitation for future tasks.

Global deregulation of electro power sector enforces companies to find new solutions to cut costs and to compete more efficiently on the global market. Informatics support is very important with the aim to integrate more different systems with collimation and acceleration of information flow by decreasing expenses. Information is more accesible, and consumers are more educated with more demands and less loyality. Hence it is harder to achieve market's advantage only with technological inovation. On the global market winners are not bigger companies, but companies who are smarter competitors, with better ideas and innovations.

In the market conditions the highest priority is profit, so for survival in competition conflicts, improvement and reorganization are necessary.

Restructuring the whole commerce of Croatian Power Company has two objectives:

1. open and free power market

2. company restructuring and privatization

In fact, open market is the main purpose, and restructuration and privatization are required prerequisites for the open market to function. However, speaking about free and open market, open electricity market essentially isn't open because it is terminated with many laws and commissions, so the concept of free and open electricity market is under question.

Remarkable influence on the modifications process has MMF, like a conglomerate of different foreign interests, that demand of undertaking foreign consultants for restructuration performance of electro power sector. Foreign consultants are probably the best world specialists for proposing models that suit investors in MMF.

3. New approach to electro power sector in the world

Electro power system consists of power plants and high-voltage transmission network, with consumers either connected as a direct consumer on transmission network (industry) or consumers connected via distribution networks (households and other consumers), see Illustration 1. The Electro power system is limited on the geographical area, commonly inside state borders. Neighbouring electro power systems are conected via interconnections overhead lines between high voltage transmission networks.

On the state level, dispatching service manage operations of electro power system, synchronising real demands for elecricity with possible production in power plants and with importation from neighbouring power systems, thereby security, quality and the lowest electricity price demands must be satisfied. This is a very complex demand because electricity is merchandise. It can't be stored. Therefore, electricity must be produced exactly in the amount that consumers spend. All that is ensured by complex system of power plants and electricity transmission system regulation under operation of dispatching service.

A new approach to electro power sector in the world is to consider transmision network through split observation of power-technical and power-commercial business, and other participants in electro power system (power plants, direct consumers and distribution networks) become users of transmission network, see Illustration 2.

The "System operator" manage the transmission network and provide equalized approach to transmission network for all users. Power plants produce electricity and compete with electricity prices on the market. Electricity consumers choose

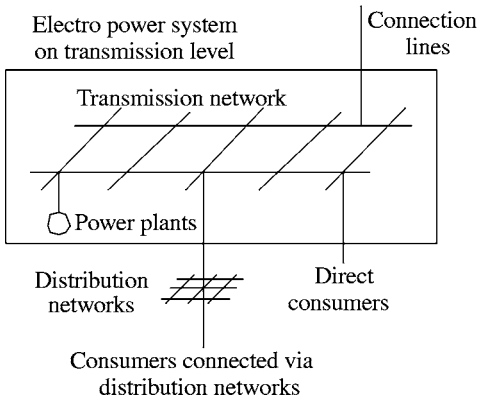


Illustration 1: Electric power system before open market

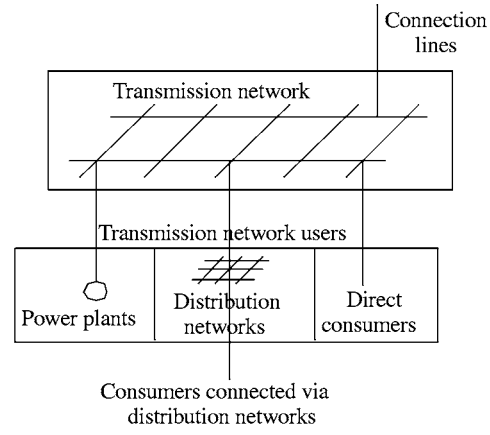


Illustration 2: Electric power system with open market

their contractors, using transmission and distribution network with compensation payments.

"System operator" could be the owner of transmission network (like in France, Germany, Slovenia, Austria, United Kingdom, Portugal and Spain) or independent (like in Italy, Hungary and Sweden).

The commercial side of power transactions in some power systems (like in Sweden and Italy) is in competence of a "Market operator", who takes care of managing the power system in the most economical way to ensure optimum electricity price for consumers. This is called "economical dispatching" of power system. But, commercial arrangements must be verified by the System operator, that acknowledges limitations and circumstances of transmission network operation. Hence, the primary request is to acomplish energetic and technological limitations of transmission network intitally before commercial interests, which whole process to do is distinctly organizationaly difficult. Tracing the management and accounting in an organization of electro power system must be separate for each participant, whereby allowing independent tracing in the commerce of each electro power system participant.

On the open electricity market there is a new player called a "Contractor", that buys electricity from power plants and sells it to consumers, hence consumers can choose their contractor. The “Contractor“ operates by paying power plants a fee for the electricity, fees for transmission network usage and fees for using the distribution network. This is how the “Contractor“ achieves a profit.

Open electricity market aims to achieve maximum profit, so there is a negative effect in that. That being poor investment into the development and maintenance of electro power facilities. The most famous consequence of this is the "Californian crisis", in the USA.

Restructuring the electro power sector must concern precise purpose and ensure development of electro power system and facilities, instead of just organizational changes.

4. Liberalization of electro power sector in Europe

Process of liberalization and privatization of electro power sector is very different in many countries over Europe and the world, therefore there is no unique model that could exist in all circumstances.

To integrate Croatia into the European union, Croatia performed the reform of the electro power sector, that embrace the market, economic, legislative and institutional key changes. The first stage of the reform was in July of 2001 with a new package of energy laws, that personify the start of the reform of power sector in Craotia, and introduce market relationships and provide progressive liberalization of power market.

Deregulation of power market is a prerequisite for restructuring, introducing competition and privatization, that are basic conditions for development of distribution of electricity. The main question is, electricity production on the market and competition principals under private ownership, with regulatory problems that provide competition between big centralized and small decentralized systems, i.e. between electricity producers and distributors on the one side, and electricity contractors on the other side.

In transition countries like that of Middle and Eastern Europe there is an expectation for significant shift in deregulation of electricity power sector during period from 2005. to 2008., because market oriented regulation is not realized yet.

In European countries (Germany, Denmark, Portugal, Spain, Switzerland and Austria) process of deregulation is in performance during last six years, with different results and deregulation models, so open electricity market is still in development.

5. Liberalization of electro power sector in Croatia

The strength of the Croatian electro power sector reform manifested in complexity and the sector's interlaced references between political, social, economical and technical subjects involved in power sector's working. The majority of the countries power sector takes up about 30% of total economy, so the smallest change has great influence on the national economy.

Organisational and legislative adaptation of the economy, whereby the power sector belongs to, is required of Croatia for admittance into the European Union. Directive 96/92 of European union order financial and law separation of production from transmission, distribution and trading of electricity. The main purpose is to separate technical from commercial part of business, that results with different models of the power sector restructuring.

The open free electricity market accentuate transit of electricity, so high voltage transmission network becomes the key element of the electricity market. Influences of electricity transit onto transmission network of each country the domain of ETSO (European Transmission System Operators), UCTE (Union pour la Coordination de la Production et du Transport de l'Electricite) and European power convention.

For liberalization of electricity market in a small country like Croatia it is necessary to have quality transmission paths to neighbour power systems, where the main objective is importing electricity under better conditions and with remarkable savings.

Interconnection of Croatian Power Company's transmission network with neighbour's power systems allows competition approach to transmission, supply and delivery of electricity, eliminates monopolistic situation, pressures and blackmails, so it is necessary to build and complete new interconnection paths.

Prediction changes and creation of open electricity market in Croatia should have important influence on increasing the use of renewable sources of energy, but prerequisite of that is a good new law and policy for renewable energy sources with strong promotion and system of stimulation measures on state level.

Croatia is dependable by energy importing from neighbouring electro power systems, so to solve the problem of secure power supply by taking measures to decrease the dependency on energy import through increasing the domestic energy resources and improvement of energy efficiency.

6. Energy development strategy in Croatia

Significant events of world energy stages at the begining of the 21st century, like the energy crisis in USA during 2001., scandals with Enron and other electric power companies, power systems black outs in USA, Canada and some European countries, terrorist attacks in USA on 11th of October 2001 and antiterroristic occupation of Afghanistan and Iraq in region of the biggest world's reserves of oil and gas, brings safety of energy supply and energy development in the center of interests of the energy policy in USA and EU.

On the basis of new package of energy laws, energy development strategy in Croatia proclaim renewable energy sources and energy efficiency, but concrete statutes are not adopted yet.

The six energy development goals are:

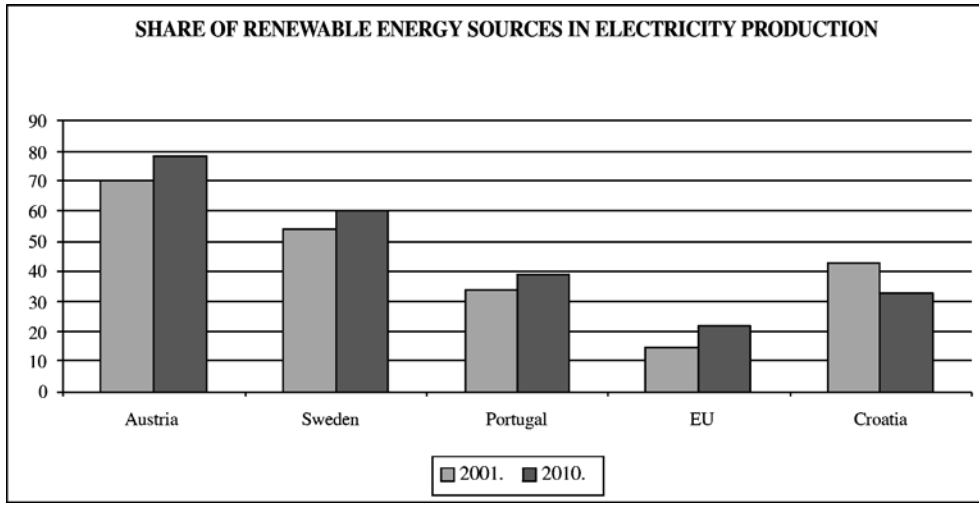
1. increase energy efficiency
2. safely supply and power
3. diverzification of energy sources
4. utilization of renewable energy sources
5. maintain energy prices and the development of energy market
6. protection and environment safety.

Strategy goals are not specified in time, nor is the trend of desired increase of energy efficiency.

While countries in EU plan to increase share of renewable energy sources to 43% until 2010., Croatia plan to decrease share of renewable energy sources to 23%.

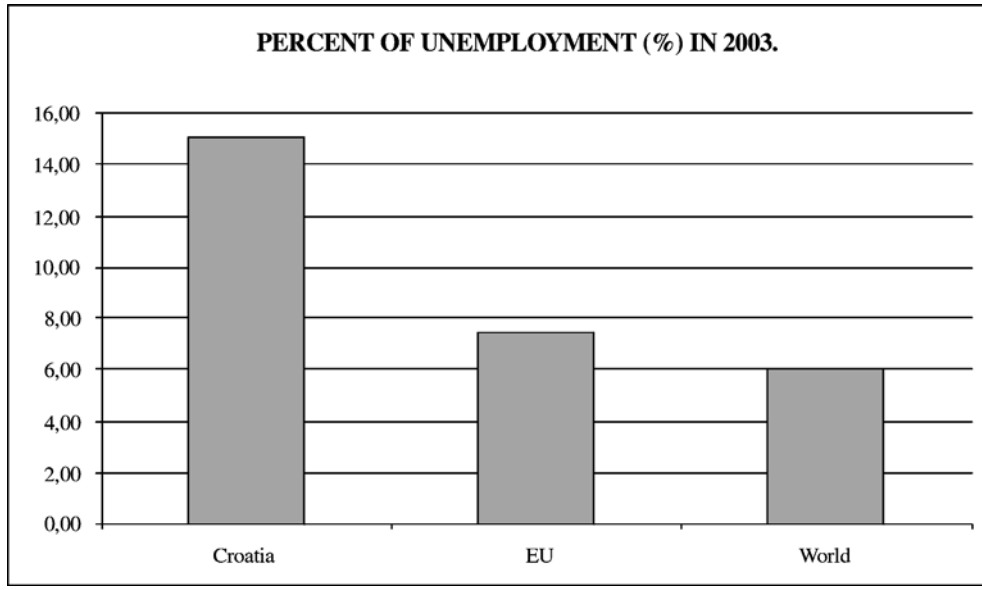
The percentage of unemployment in Croatia is 2.5 times above the world average and 2 times above the EU average. Contribution to native employment in the capital intensive power industry through intelligent selection of domestic industry and energy services is imperative to the energy development in Croatia.

In energy development strategy in Croatia there are three development scenarios:



1. with classic technologies and without active goverment measures
2. with new technologies and with active goverment measures
3. distinctly ecological scenario

All three scenarios remarkably give privilege to importing of fossil fuels (oil, gas, coal) in relationship to exploitation of renewable energy sources and increasing energy efficiency. Croatia is very poor with fossil fuels, but has many posibilities for exploitation of renewable energy sources.



Such energy development in Croatia would bring negative effects like:

- significant external energy expenses towards damaged environment, climate and health

- increase in dependacy on energy importing and incur unpredictable oscillations world oil and natural gas prices

- disconcern of domestic economic development and employment

- decadency of offshore commercial balance (today in Croatia, energy sector has neto import of about 1 billion Euro).

An established strategy must be upgraded using more renewable energy sources, besides the improvement of energy efficiency

7. Restructuration options of Croatian Power Company

In 2001 the Croatian Governement chose foreign counsel for the restructuring process. British consorcium of consultant companies, Norton Rose, were selected and they identified three options of functional disjunction in Croatian Power Company:

1. Croatian Power Company's proposal:

Functional disjunction where functions stay in framework of Croatian Power Company, with accountancy and legally separation of the main functions, and detachment of natural gas, heating supply and other supplementary functions. Competition development and synchronization with Directive 96/92 of EU, is in prediction with functioning of independent electricity producers and giving possibilities of contractor or supplier alternatives.

2. Model of independent System operator and Market operator:

In prediction that Croatian Power Company will continue to produce and supply, and will be the owner of Transmission and Distribution, but control under Transmission and Distribution will have independent System operator and Market operator, providing for competition producers and suppliers undiscriminated access to power system and market arrangements, and in that way carry off any kind of conflict of interest.

3. Model of specialized network company:

Croatian Power Company will be specialized network company, maintaining ownership and control under Transmission and Distribution, besides renouncement from commercial interests in electricity producing and supply of consumers. Electricity produce and supply will be banned to network company and in separate ownership. Total ownership disjunction is important because it avoids conflicts of interest that might limit economy efficiency, competition and investments.

- British consorcium of consultant companies, Norton Rose concluded that the third model is the best, because in full view regards economy efficiency.

8. Restructuration of commerce in Croatian Power Company

Croatian Power Company (HEP) had obligation to redesign into connected stand-alone corporations of primary electro power functions associated in HEP Group, until the end of June of 2002.

Since 1st of July 2002. HEP operated like a HEP Group, compound of the main company HEP d.d. (limited company) and another five depending corporations: HEP Production, HEP Transmission, HEP Distribution, HEP Heating, and HEP Gas.

In this way HEP synchronized company organization with legislation of electro power sector, referenced with the Energy law and Electricity market law, from July 2001., thus began the most complex grip of some economy subject restructure in Croatia.

The main corporation of HEP Group holds legality of limited (joint-stock) company, in it's competence is strategic management, property of assets, financial management, business problems scaled to power plant outside Croatia, and institutional rights for dependent corporations inside the Group. Depending corporations inside HEP Group are established with restricted responsibility and in ownership of the main company, they accomplish primary electro power functions.

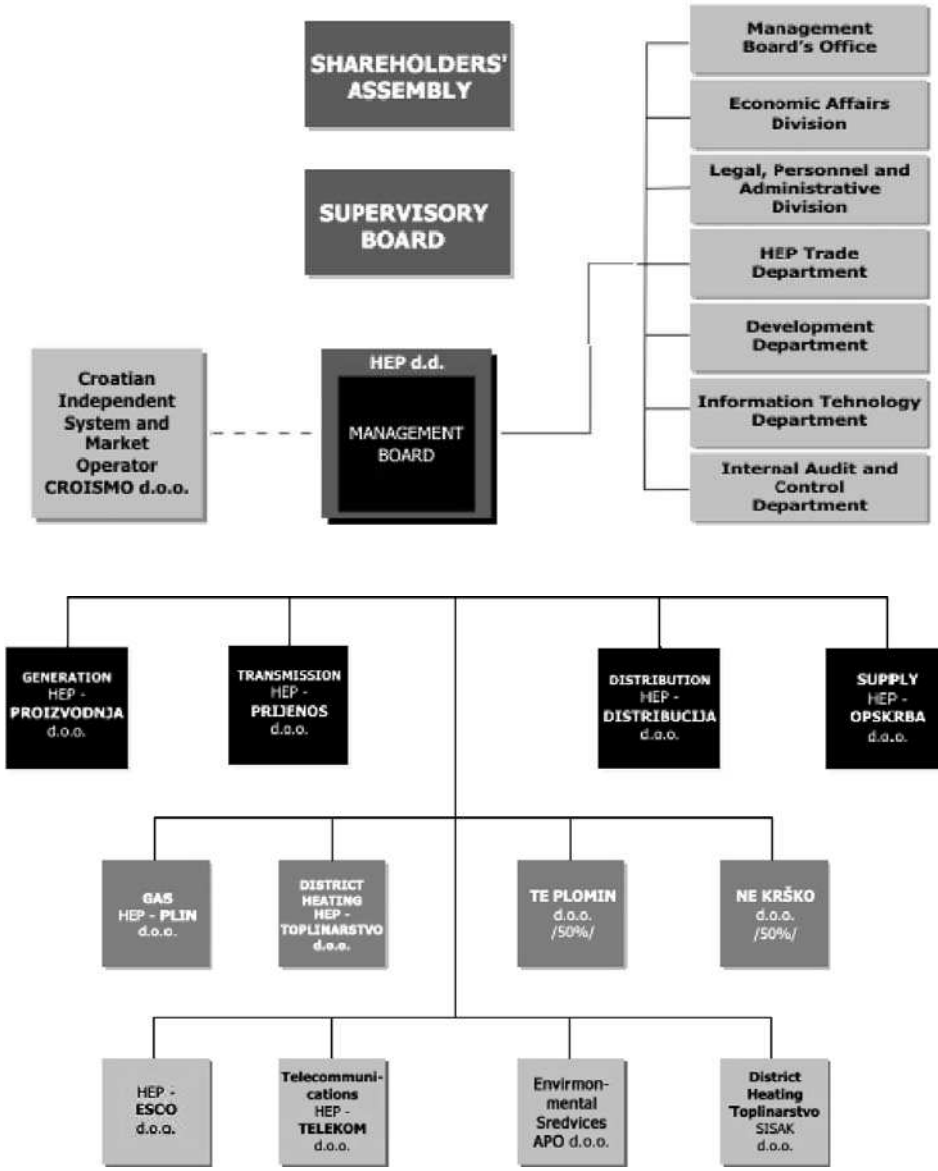
The main business feature in HEP Group are contractual relationships, which clearly separates business authority and liability of each corporation, also as income and costs accounting in scope to terminate business successfulness.

The main difficulties in organizational redesign of the business system in HEP are indefinitely separated business authorities of all business levels, specially between HEP Transmission and HEP Distribution and between primary and supporting functions. Additionally, major part of realties is not cadastre defined that restricts transfer of realty to singular company of HEP Group. For now, the only availibility is long-range rent of realty.

Energy laws prescribed establishing market business conditions, and in expectation is to get stronger market feature and attenuate feature of public service. So, figurativelly open electricity market, over a few years will become quite open. Domination duty of public service in electricity supply will give place only to functioning of power transmission infrastructure.

HEP redesigned into HEP Group leaves obligation of public service in the background and gradually incorporates into competition fields of electricity production, supply and trade, thereby services of transmission and distribution continuously stay regulated functions.

Organization's structure of HEP after redesigning in June of 2002.:



The main purpose of redesign process into HEP Group is to accomplish legaly and competently participation of HEP Group on the competitive open electricity market.

9. Summary considerations

Globalization and information revolution produced cheaper products with better quality from progressive countries, which moved their facilities and working resources into countries where workers are depreciated. Money becomes the limiting factor of development for all countires, so for Croatia too.

Electro power sector passes through phases of restructuring and privatization, in the way that primary functions are separated. Directives of EU order elimination of verticaly integrated monopoly electro power systems, generating electricity market and trading with electricity, like as with any other merchandise for which WTO rules whorts. Every country discover the best way of application through specific and successful model of implementation, where privatization is not obligatory, thereby restructuration is obligatory in the sense of company's adjustment to open market.

The redesign process provides HEP a minimum of law clauses to operate on a legitimate way. In case that one of the electricity consumers wants to change his electricity supplier, he will realize that very difficult.

Effictive restructuring and precisly assigned concept of privatization is necessary for electro power system development. The Electro power sector is one sector of priority in which country development depends, and one of the prerequisites of economy development and key element that implicate on environmental safety.

Restructuring and privatization are different processes but also complementary. Open electricity market is not an ideal model, but leads to reduced costs thereby, because of strategic importance for Croatia, electro power system have to stay under state control.

Globalization opens new challenges, where the main question for transition countries is how to incorporate into world processes, but not become commonly hunting-ground; one of the solutions is the central role of knowledge, because a country that wants fertility and prosperitiy must concentrate on "knowledgework", lest to become only source of cheap workers, with small share of proficiency.

Croatia must be well prepared for globalization processes, because foreign capital never comes to give something, but always to take everything, under principle "profit at any cost".

Croatia is a country of poor energy sources, whose only capital are people and natural location.

If Croatia accepts the whole marketing and globalization ideas for transition countries, it could fall into problems, particulary in fields of energy, ecology and economy; and it is evident that globalization brings open market that has no alternative, because other ways lead to isolation.

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