



**Energy Regulatory Office**

**Annual Report 2004**  
**Principles of Economic Regulation in**  
**Kosovo**

**April 2005**

## Foreword by the Chairman

2004 has been a milestone year for setting the future developments in the Energy Sector of Kosovo. The adoption by the Assembly and subsequent promulgation by the SRSG, of the Laws on “Energy”, “Electricity” and “Energy Regulator” set the framework for the establishment of a competitive and sustainable energy sector which guarantees the security of supply for all its citizens and underpins the economic growth and development of Kosovo. Such objectives can best be achieved by means of optimum exploitation of the important reserves of quality lignite located in Kosovo. Regulation plays an important role in such developments facilitating the appropriate institutional and organizational structure that needs to be in place in order to attract the massive private investments required to exploit those natural resources.

Economic Regulation is one of the most important functions of the modern state. Over the past decade, both Member States and the European Commission have dedicated considerable efforts and resources to the development of appropriate regulatory structures in the Energy Sector in particular. This process may be seen as part of three movements:

- the modernization of public administration (“reinventing government”);
- the ending of monopolies (“liberalization”); and
- the “Europeanisation” of economies (“single market”) and harmonization of policies (e.g., environment, competition, energy, renewables, etc.).

Clearly regulation has significant impact upon the price, quality and accessibility of services and products, provided in the Energy sector as well as investment and management decisions, therefore it strongly affects welfare and competitiveness.

As of 2002, EC has initiated attempts to extend the “Acquis Communautaire” on Energy to South Eastern Europe. Pursuant to its international obligations under the two signed Memoranda of Understanding of the “Athens Process” and the on-going negotiations of the legally binding Treaty establishing the “Energy Community of South East Europe”, UNMIK promulgated the Law adopted by Assembly of Kosovo on the Energy Regulator, and established on the 30<sup>th</sup> of June 2004, the Energy Regulatory Office (ERO) as an independent Authority.

In its first year of operation, ERO focused on acquiring the technical, economic and legal skills that are needed to design and manage successful regulatory systems for the energy industry. ERO is fully aware of the considerable challenges facing the energy sector in Kosovo, in particular the weakened financial position of the utilities, and as first priority it was set to assist and stabilize them. Apart from those efforts, ERO has undertaken in 2004 a comprehensive price review in the District Heating sector and managed to decrease prices by an average of 12%. The main bulk of work concentrated in preparing with the aid of consultants, the secondary legislation items. Kosovo benefits from various international Donor programs and a major task of ERO was to contribute to numerous studies in the energy sector, with regulatory input and comments. In doing all the above assignments ERO’s newly recruited staff has undertaken throughout 2004 extraordinary efforts and excelled by embarking in a steep learning curve. For their successful efforts already commented positively by other stakeholders, I wish to thank my colleagues and look with confidence upon the major challenges that ERO faces in 2005.

Nick F Frydas



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## List of Abbreviations

AD	Administrative Directive (UNMIK)
AI	Administrative Instruction (UNMIK)
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (Germany)
CBT	Cross Border Trade
CEER	Council of European Energy Regulators
CIDA	Canadian International Development Agency
CRU	Central Regulatory Unit (UNMIK/EU Pillar)
DANIDA	Danish Development Agency
DC	Direct Customer
DFID	Department for International Development (United Kingdom)
DH	District Heating
DS	Distribution System
DSRSG	Deputy Special Representative of Secretary General (of UN)
EAR	European Agency for Reconstruction
EC	European Commission
ECSEE	Energy Community in South East Europe
EnO	Energy Office (CRU)
ERO	Energy Regulatory Office
ESTAP	Energy Sector Technical Assistance Project (WB)
EU	European Union
GCSE	General Conditions for Supply of Energy
GTZ	Gesellschaft für Technische Zusammenarbeit (Germany)
HPP	Hydro Power Plant
ICMM	Independent Commission on Mines and Minerals
ITSMO	Independent Transmission System and Market Operator
KCB	Kosovo Consolidated Budget
KEK	Korporata Enegetike e Kosovës (Power Corporation of Kosovo)
KfW	Kreditanstalt für Wiederaufbau (Germany)
KTA	Kosovo Trust Agency
MFE	Ministry of Finance and Economy (PISG)
MEM	Ministry of Energy and Mining (PISG)
MTI	Ministry of Trade and Industry (PISG)
MOU	Memorandum of Understanding
NORAD	Norwegian Agency for Development
OPM	Office of Prime Minister
OPM/EnO	EnO operating under OPM
PISG	Provisional Institutions of Self-Government
POE	Publicly-Owned Enterprise
PPA	Power Purchase Agreement
PUD	Public Utilities Department
PURCK	Public Utilities Regulatory Commission of Kosovo
REM	Regional Electricity Market
SDC	Swiss Development Co-operation
SECI	Southeast European Cooperative Initiative (USA)
SEE	South East Europe
SEETEC	Southeast Europe Electrical System Technical Support Committee (Canada)
SETSO	Southeast Europe Transmission System Operators

SOE	Socially-Owned Enterprise
SRSG	Special Representative of Secretary General (UN)
TA	Technical Assistance
TDTI	Transitional Department of Trade and Industry (UNMIK)
TOR	Terms of Reference
TPA	Third Party Access
TPP	Thermal Power Plant
TPUD	Transitional Public Utilities Department (UNMIK)
TS	Transmission System
TSO	Transmission System Operator
UN	United Nations
UNDP	United Nations Development Program
UNOPS	United Nations Office of Project Services
UNSC	United Nations Security Council
UNMIK	United Nations Interim Administration Mission in Kosovo
WB	World Bank

*“A nation’s well being, as well as its ability to compete, is conditioned by a single pervasive social characteristic: the level of trust inherent in society.”*

Francis Fukuyama





**ERO Staff**

## 1. Introduction

This Annual Report of ERO is issued according to the obligations of Article 10 of Law 2004/9 on “Energy Regulator”. ERO is an Independent Regulatory Authority under section 11.2 of the constitutional framework, established on the 30<sup>th</sup> of June 2004 according to Law 2004/9 and Regulation 2004/20. More than a typical annual report, in its first publication ERO takes the opportunity to present the “status quo” of the energy sector in Kosovo and to set the principles on which it will be regulated. If not otherwise stated, the Annual Report represents the situation and information available at the **end of March 2005**.

### 1.1 General Framework Background

The establishment of ERO falls within the wider framework of energy policy harmonization in South Eastern Europe. The participating countries and jurisdictions are committed to adopt the “Acquis Communautaire” in energy, competition, renewables and the environment, a policy that has as objective the establishment of an integrated Energy Market for all services and products within the energy sector. The aspiration is that through competition, local economies will increase their efficiency and competitiveness, will maximise their growth rate, will achieve lower prices for the customers and above all, will attract the necessary private capital investments.

On behalf of Kosovo, UNMIK signed Athens Memoranda of Understanding (MoU) on “Regional Energy Market” (subsequently called Energy Community of South East Europe - ECSEE), in April 2002 and its revision in December 2003. By doing that, Kosovo became an equal partner and player in establishing ECSEE, which is of prime importance for its economic development, because of favourable lignite reserves and the ideal position of Kosovo for power exchanges in the SEE region. Kosovo is committed to become a power exporter after 2010 and to further reinforce its central role in facilitating power wheeling in the SEE region.

UNMIK plans to sign the legally binding Treaty establishing the Energy Community on behalf of the Provisional Institutions of Self Government (PISG) of Kosovo. One of the consequent obligations of the Contracting Parties of the Treaty (amongst others) is to implement the “*Acquis Communautaire*” on energy, which specifically entails implementation of the EC Directives no: 2003/54 and 2003/55, and the EC Regulations no: 1228/2003 within six months of entry into force of the Treaty.

Pursuant to these obligations the Special Representative of the Secretary General of the United Nations (SRSG), promulgated on the 30<sup>th</sup> of June 2004, Regulation no: 2004/20, which establishes an independent Regulatory Authority – ERO according to and compliant with the requirements of the Articles 23 and 25 of EC Directives no: 2003/54 and 2003/55 respectively.

ERO was established as an independent Authority, completely autonomous from any Governmental Department, to exercise economic regulation in the energy sector (Electricity, District Heating and Natural Gas), through the means of issuing and monitoring licenses for energy activities, granting permits for the construction of new energy facilities, approving pricing methodologies and tariffs for the “non-market” activities, issuing secondary legislation that regulates the sector, monitoring the effective unbundling and development of competition in the energy sector, and resolving disputes. ERO’s mandate is not advisory but executive with strong authority and complete independence on all above issues.

### 1.2 Regulation of the Energy Sector – The importance of Competition

Energy is of paramount importance for each national economy, as Energy is the basic cost factor of production for many enterprises and a public service necessary for the well being of all

customers. Energy is connected to sectors that inflict external costs to the economy as for example the environment but also the geopolitical security of each country. For those reasons both the European and Kosovo energy legislation set as primary objectives:

- The Security of Supply;
- The Protection of Environment;
- The balanced and sustainable economic development;
- The productivity and competitiveness of the economy and the gradual establishment of a competitive market with objective the reduction of the cost of energy for the customers.

Energy is a sector of high capital intensity and long lead times for the planning and construction of the required infrastructure and facilities. From the adequate investments in the sector are depending the quality of service, the environmental protection but also in the long term the formation of energy prices. A part of the infrastructure, primarily the energy networks, consist to provide common, “public services” to all customers on non-discriminatory basis (the principle of “Third Party Access” – TPA). Other sectors like wholesale generation and wholesale or retail supply should be open to free competition. The co-existence of activities deemed as “natural monopolies” and activities open to competition, in combination with the high technical demands required for the operation of the sector to guarantee continuous security of supply, justify the high complexity of the structure and institutions that regulate the energy sector.

As mentioned above, on the one hand the externalities, costs and strategic issues connected to energy and on the other hand the co-existence of activities deemed as “natural monopolies” (networks) and activities open to competition (production and supply), call for the “administrative regulation” of the sector. The above reasons also explain why this regulation has traditionally been always preventive “ex ante” regulation and not “ex post” control and audit as in other economic activities. Several administrative schemes have been developed to deal with the above problems, however the separation of the roles between the Government (energy strategy and policy) and the regulation of the sector by an independent Authority, consists what is today the norm in more than 70 countries worldwide.

The concept of abolishing the exclusive rights of the publicly owned, vertically-integrated monopolistic utilities, and introducing competition in the energy sector has started to occupy the minds of European and US policy makers since the 1980s. This was preceded by a long session of maturity in both technical achievements and capitalization in the electricity sector, during which the industry witnessed the onset of the law of “diminishing returns”. For many years the energy sector in most industrialized nations has been characterized by expanding electrification with increased demand, which justified a monopoly structure where regulated average prices were retained above marginal costs, and based on economies of scale and scope, achieved continuous falling of prices. Such a happy state of affairs persisted until the 1970s and 1980s when the direct and indirect effects of the oil crisis destabilized the entire structure. To those events one must add the increasing social concerns about environmental impact of the large central power plants, which forced many utilities to internalize the external costs of environmental impact mitigation. The accumulation of invested capital and size of activities led many monopolistic utilities to face a situation where the rate of increase of marginal cost of electricity far exceeded the rate of increase of the average prices allowed by regulators or governments to charge, making the classical monopoly business strategy of expansion and growth untenable.

Gradually a new strategy for the electric utility emerged, based on the assumption that scale economies for central power stations were no longer significant. The new paradigm was based upon small scale and independently owned generation and supply alternatives and end-use

conservation. This model shifts the risk of the investment decisions from the customers (under a regulated monopoly), to the independent producers. By the 1980s it has become apparent that in order to achieve higher efficiencies and the improvement of the quality of services, it was necessary to introduce competition in the sector a concept, which during the 1990s was accelerated due to the fact that competition was the base for the creation of a single European Market. Competition encourages firms to price whatever services they produce more efficiently. In particular, if common or fixed costs have to be recovered, it is desirable that they will be recovered disproportionately on services for which demand is relatively unresponsive to price. Firms operating in markets subject to competitive entry are drawn to set prices in this fashion, because this tends to maximize their own profits. The successful introduction of competition will eventually lead to a more efficient industry. Generators will make better use of their plant in order to retain or extend the number of clients they can cover. Effective regulation of unbundled network services will also encourage cost reduction. Suppliers will interact more efficiently with clients and should offer a greater range of services and contractual arrangements. Over the long term, therefore, a sufficient degree of competition should mean that prices are, on average, lower than they would be under a regulated market. A regulated monopoly would set prices higher, and this would reduce customer's welfare.

The unique characteristics of the energy sector, mainly the necessity of the continuity of the security of supply, the protection of environment, the common "carrier" concept of the energy networks and the public services obligation, have required the setting into place of a specific regulatory framework in which competition and private enterprises can operate. This framework was finalized by the EC Directives for Electricity and Gas (2003/54 – 2003/55) and the European Regulation for the access to and usage of the interconnecting networks and cross border trading (1228/03), which are now in force.

In many European countries the transitional stage from a monopolistic structure of the sector to conditions of open and free competition has proven a slow and painful process. This problem was more acute in the cases where there was a vertically integrated publicly owned energy enterprise. In order to facilitate new entries in the market, some countries introduced measures of active and asymmetrical support of competition. In any case the transition is a dynamic process that requires continuous stage-wise adaptive measures and depends mainly from the legislative initiative. There have been undoubtedly many problems during the transition to a competitive environment, which usually can be related with conditions of inadequate implementation of the liberalized structure or mistakes in the adoption of the transitory mechanisms. In many cases the problems were connected or as a direct result of inadequate monitoring of competition in the market, a fact that allowed the existence of market power (and its abuse) by the incumbent enterprise(s).

After more than 10 years of experience with opening the energy sector to competition, many countries have now introduced a more or less similar regulatory framework for a liberalized energy market which, consists of:

- An independent Regulatory Authority with the mandate as a minimum of monitoring and promoting the development and operation of the market, approving prices for the non-market activities, issuing orders, rules and measures for the non-discriminatory TPA to the energy networks and issuing and monitoring licenses for the energy activities;
- An independent Transmission System Operator (TSO) for electrical networks or gas pipelines, which also undertakes the real-time operation of the Balancing Market, as well as a Market Operator both of which (they can be the same entity) have monopolistic character and are subject to regulatory control. Due to the very high "sunk costs" required, network services (transmission and distribution of electricity, heat and/or natural gas) are deemed as "natural monopolies" (due to economies of scale and scope



and diseconomies of duplication) and therefore in the absence of competition are subject to regulated pricing control;

- Competitive Markets in the wholesale Generation and in Supply;
- Organized Financial Markets in Energy, which act in parallel to the physical bilateral contracts markets and which contribute in the management of the financial risks due to the high volatility of the energy prices.

On the other hand the introduction of competition does not imply total deregulation of energy supply or an exclusively “non-interventionist” attitude to market outcomes in terms of price and customer service. In fact the European Directives require close monitoring of the market and the possibility of introducing a number of key obligations on energy companies (“public service obligations”), relating to public service. Those obligations may include “universal service” (right to be connected and supplied of all customers), protection of vulnerable customers, protection of final customer (transparency of contractual terms and guaranteed access to dispute settlements), etc. Such safeguards are particularly important during the period of transition from a fully regulated monopoly, to a situation where the market decides important features such as prices and investment decisions. The role of the independent Regulatory Authority is very prominent into translating the public service obligations set by the Government into market policy, and approving the appropriate level of compensation for its implementation.

Is the development of liberalization and introduction of competition beneficial for Kosovo? This question can best be answered through the viewpoint of the strategic objectives of the Government as expressed in the White Paper of 2003:

- Energy is identified as the most important industrial employer and most promising bearer of the immediate economic development;
- Due to the historical circumstances and conflict, energy facilities and infrastructure are in a very poor state, which not only demand a substantial amount of capital for rehabilitation but also has made urgent from the point of view of security of supply, the building of new generation and distribution capacity. Public financing as well as utility (KEK) credit rating, are not in a position to raise such capital requirements, therefore there is a clear need to attract private capital investments;
- Kosovo should be self-sufficient in electricity and heat production and Kosovo should become an important energy exporter in the Regional Market by exploiting as of priority its rich lignite resources as a low cost fuel;
- The increase of the competitiveness and efficiency of the economy and the establishment of healthy competition as prerequisite for the lowering of energy prices for all customers.

The paramount pre-requisite for the attraction of the private capital is the existence of a transparent regulatory framework that permits to an efficient operator to realize satisfactory returns on his investment. Thus, a true and non-discriminatory competition has to exist custodian of which emerges the independent Regulatory Authority, as the Government cannot by virtue of its position as owner of the public utility act as the Regulator of the industry. Even in case of non-public ownership of the utility, the independent regulatory authorities hold the advantage over ministerial departments in so far as they offer a greater degree of continuity of policy, they combine a wider range of functions successfully, they may adjudicate free from political taint, and can develop high levels of special expertise.

In a 2002 EBRD survey of private power sector investors, the investors said that four out of the top five factors that led to unsatisfactory investment experiences were related to lack of fairness and commitment in new regulatory systems.

Within the framework of today's globalization of economy and free movement of capital, the attraction of private capital investments is an area of intense international competition between countries. The liberalization of the Energy Market and the integration into wider regional markets (like SEE) are considered necessary pre-conditions, which will appeal to private investors and financial institutions alike. The continuation of policies that act protectively for monopolistic energy enterprises, entrenches the conviction that the market liberalization is not done on equal terms for the new entrants, which act as the vehicles of private investments, with consequent result for a particular to lose its competitive advantage. Such situation has been observed in several cases, where private investors were hesitant to enter the sector, due to the over protection of the monopolistic utility, with as a consequence further undermining the economic development and security of supply. Countries that enthusiastically embraced liberalization policies have succeeded in attracting private investments and also improve the efficiency of the incumbent utility, which is now exposed to competition. The positive results in most cases up to now, and despite some famous failures (California), support the anticipation for the achievement of higher economic efficiencies in the energy sector. It has been proved that the introduction of competition can lead to lower prices, widening of choice and improvement of the quality of service for the energy customers. The first results of the decision to open the market to competition in Europe were positive. By the end of 2003, electricity prices for industrial users remained 15% lower in real terms than in 1995. This figure includes the recent increases in the wholesale market linked to higher prices for coal and oil as well as the cost of support (subsidies) to renewable energy.

In conclusion, in both the areas of investments and competitiveness of Kosovo's economy, as well as integration into the wider regional market, the role of energy market liberalization is very crucial, without which private capital investments would be difficult to attract.

A strong independent Regulatory Authority which sets the correct "ex ante" framework and has freedom of action from political interference, acts as the "institutional Guarantor" that provides the required confidence to the financial markets to fund the necessary infrastructure investments.

### **1.3 The Athens Process – Role of Regional Markets**

As mentioned above, the existence of market power (and its abuse) by incumbent utilities or dominant positions of the traditional suppliers may constitute a major obstacle for the entry into the market of new players and the development of a competition. The surest way out of this problem is the development of a harmonized regulated framework at a regional level, a fact that will prohibit the fragmentation of the market, and the appearance of oligopolies that attempt to abuse their dominant position, will facilitate competition, will allow taking advantage of true economies of scale and will facilitate private investments.

The introduction of single electricity and gas markets across Europe is aimed at allowing market players to trade electricity and gas as easily across Europe as it is within a liberalized and competitive national system. Eventually, therefore, all system operators should use the same assumptions and mechanisms to manage their networks and network users would face a single interface. Greater co-operation between system operators to across political and transmission network borders, unencumbered with potential conflicting interests regarding other competitive market activities, forms a key element for the achievement of this objective. This goal will require solutions to a number of difficult technical and institutional questions. The reality of today's electricity network in Europe is that Member States are not particularly well

interconnected. In addition certain countries have already adopted common harmonized rules that, in some cases, go beyond those envisaged by the new package (EC Directives 2003/54 & 55 and Regulation 1228/2003). Therefore, the development of regional markets containing Member States between which interconnection is reasonably strong may be a necessary interim stage. Within these regional markets, that should not be defined according to mere geographical criteria, a more developed harmonization of the regulatory approach taken to most or all issues is expected including; the degree of market opening, determination of transmission tariffs, the rules for bilateral trading as well as congestion management methodologies involving standardized day ahead and intra-day markets. In some cases, the regulations governing balancing and ancillary services might also be harmonized to some degree. It is expected that regional market areas will develop “organically” through co-operation between institutions in neighboring markets. Thus, the objective of a single internal market will not be compromised. Market arrangements that impede trade or distort competition between regions will be prohibited.

EC has taken the initiative to harmonize national policies through the development of the so-called “Regional Markets” as for example in Scandinavia, Iberian Peninsula, the British islands and Ireland, and in the future the Baltic countries. Within this framework fall the efforts for the development of a regional market in the South Eastern Europe – SEE, the so-called “Athens Process”. Athens Process is described in Chapter 4.6 below.

#### **1.4 Historic Development and Institutional Set-up in the Energy Sector of Kosovo**

In mid-2000, Public Utilities Department (PUD) was established under the UNMIK/EU Pillar by promulgation of UNMIK/Reg. 2000/49. In the energy sector, PUD had four principle functions: (i) to propose and implement Overall Strategy / Policy, (ii) Oversight of Business Operations of publicly Owned Enterprises (POEs), (iii) Development and Co-ordination of Donors, and (iv) Act as Regulatory Authority (e.g. rates, charges and services, technical specifications and standards, consequences of non-compliance with regulatory framework etc.).

After establishment of Kosovo Trust Agency (KTA) in June 2002, the business oversight function was transferred to KTA. The regulatory function remained under the EU Pillar on the basis of UNMIK/Reg. 2000/49. the responsibilities for energy strategy and policy and donor coordination, were practically carried out by KTA until January 2003 when the Central Regulatory Unit (CRU) under EU Pillar was established.

In particular, Energy Office (EnO) under the CRU was established as a multi-purpose unit representing an embryo of prospective three separate organizations envisaged at that time:

- (i) Independent Energy Regulator (covering electricity, district heating and natural gas – when applicable);
- (ii) Strategy & Policy Unit (in response of signing MOU/REM on 15 November 2002 in Athens<sup>1</sup>, and a predecessor of the future “Ministry of Energy” or similar when the “reserved powers” in the energy sector are transferred from UNMIK to PISG);
- (iii) Energy Efficiency Agency.

CRU played a role of a multi-sectoral regulatory body (water, waste, energy, mines, transport (railways and the airport) and post/telecom). In mid September 2003 EnO and Energy Regulatory Office (ERO) were formally created by separate Administrative Instructions (AI) signed by the DSRSG of EU Pillar. ERO was established under CRU with limited scope of responsibilities.

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<sup>1</sup> Note that Amendment n. 1 to MoU/REM was signed on 09 December 2003 by UNMIK in Athens.

By promulgation of the three laws (On Energy, On Electricity, On the Energy Regulator) on 30 June 2004, ERO was given its final institutional role and became charged with respective responsibilities in its full scope.

Negotiations between EU Pillar and Office of Prime Minister (OPM) in January 2004 resulted in a decision that Kosovo would have initially an Energy Office under the OPM. Thus, a new EnO established under OPM for energy strategy & policy was transferred to PISG on 11 October 2004 by signing of a Protocol on Transfer of Responsibilities and Functions in Energy Sector from UNMIK to PISG in line with AD UNMIK/DIR/2004/21.

After the elections in October 2004, a new Ministry of Energy and Mining (MEM) was established and started to operate in December 2004. All the responsibilities of the former EnO/OPM were transferred to MEM.

In summary, the institutional set-up in the energy sector of Kosovo as per status of end February 2005 is as follows (Figure 1.1):

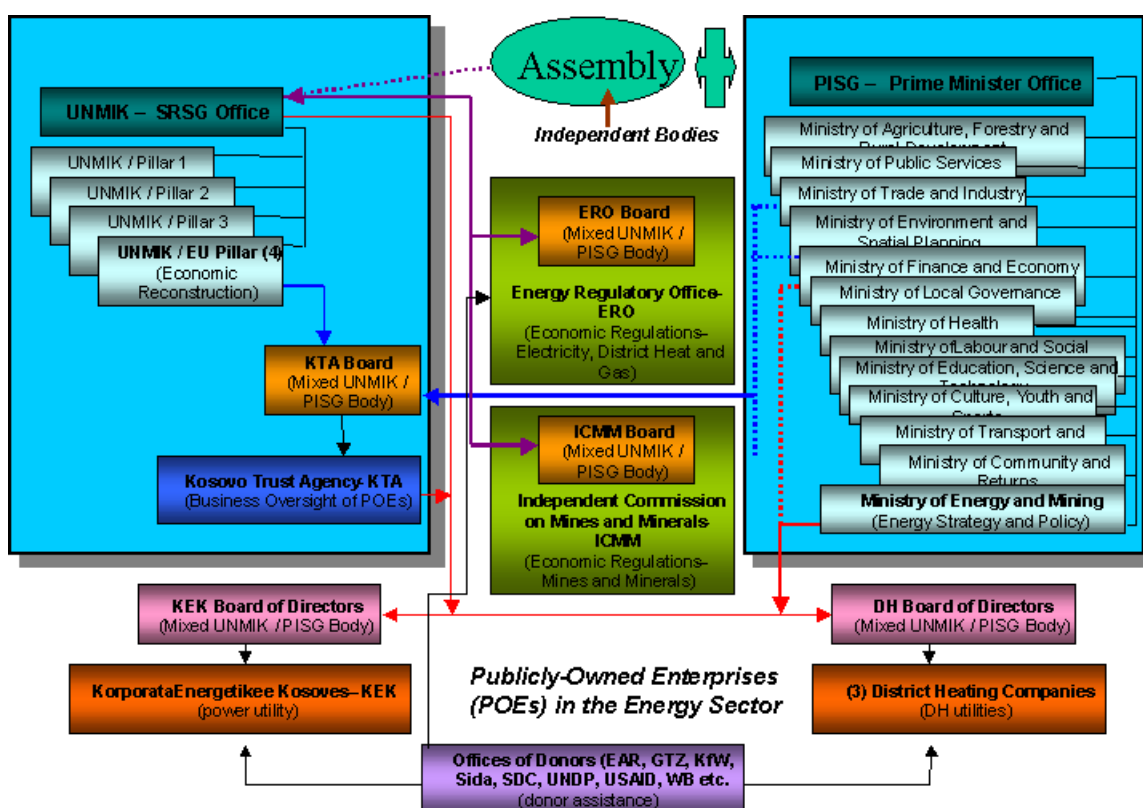
- **Ministry of Energy and Mining (MEM)** among others responsible for energy sector strategy and policy (preparation and implementation), development of secondary legislation (including technical standards and norms), energy inspectorate, renewable energy sources and rational use of energy, coordination of donors and attraction of investments (“one-stop-shop”) – representing “State Energy Authority” according to MoU on REM;
- **Energy Regulatory Office (ERO)**, operating independently according to Law, UNMIK has appointed the majority of the Board members (UNMIK: 3 members - one international and two local staff members, and PISG: 2 members, approved by the Assembly and appointed by SRSG ) – representing “Independent Regulatory Agency” (MoU on REM);
- **UNMIK / EU Pillar**, one of the four pillars of UNMIK in charge of Economic Reconstruction of Kosovo;
- **Kosovo Trust Agency (KTA)**, under the auspices of the UNMIK/EU Pillar, which among others continues to perform the business oversight over POEs (KEK, Iber Lepenc/Hydro Power Plant-Ujmani and 3 district heating companies). According to UNMIK regulations, KTA can restructure KEK, lease the assets, provide for a management contract, however, KTA cannot privatise the assets of KEK. The same is valid for other POEs;
- **Independent Commission for Mines and Minerals (ICMM)**, established in January 2005 by UNMIK regulations 2005/2 – representing “Independent Regulatory Agency” in the Mining sector;
- **Korporata Energjetike e Kosovës (KEK)**, the vertically integrated power utility of Kosovo including coal mining, power generation, transmission & dispatch, distribution and supply, KEK is currently the subject of incorporation and legal and accounting unbundling processes, which will be completed by the end of 2005;
- **(3) District Heating (DH) Companies** of Prishtina/Priština, Gjakova/Djakovica and Mitrovica (vertically integrated), the assets of which are also in custodianship of KTA; The DHC of Prishtina/Priština and Gjakova/Djakovica are in the process of incorporation;
- **Donor Community**, the representative offices of the European Agency for Reconstruction (EAR), United Nations Development Program (UNDP), the World Bank (WB) United States Agency for International Development (USAID), and the bilateral donors: Gesellschaft für technische Zusammenarbeit (GTZ) and Kreditanstalt für Wiederaufbau (KfW) both of



Germany, SDC of Switzerland, Sida of Sweden, further maintained in Prishtina/Priština<sup>2</sup>.

In Figure 1.1, the EU Pillar and the MEM are the leading institutions. ERO and ICMM are the two independent bodies in charge of economic regulations of the energy and mining sectors respectively. Both report directly to Kosovo Assembly. The Management Boards of ERO and the ICMM are appointed by SRSG, based on nominations from UNMIK and PISG, respectively. The Board of Directors (BoD) of POEs is chaired by KTA as trustee of respective assets of POEs, however, with members from UNMIK and PISG. The BoD of KEK does not exist in its final form yet, while the KTA Board has not been constituted after the change of the Government.

**Figure 1.1: Institutional Set-Up Impacting the Energy Sector of Kosovo**



## 1.5 Brief Overview of Main Activities of ERO in 2004

In 2004, ERO underwent swift changes along the development of its status and mandate. The main activities of ERO, which are addressed in more detail later in this report, included:

- Participation in the Athens Process and associated bodies and organisations;
- Assistance in preparation of primary energy legislation;

<sup>2</sup> Note that some other donor offices have ceased their operations in Kosovo (e.g. DANIDA of Denmark, NORAD of Norway, UNOPS / UNDP, DFID of the UK etc.).

- Active participation of ERO as stakeholder in all relevant energy sector activities;
- Preparation and completion of the organisational structure of ERO;
- Preparation of job descriptions and recruitment of ERO staff;
- Training of existing and new ERO staff (study tours to Albania, Czech Republic, Slovenia, Lithuania and Sweden);
- Drafting of Secondary Legislation such as Rule on Licensing, Rule on Pricing and Tariffs, Rule on Disconnection, Rule on Dispute Settlement Procedure, General Conditions of Energy Supply, Schedule of Fees;
- Coordination of ongoing donor projects;
- Preparation of cooperation concepts and projects for donor-support in 2005, and mobilisation of donors;
- Preparation of internal documents of ERO: Statute, Code of Conduct and Ethics, Decisions, Orders, Instructions;
- Price Review of the DH Sector;
- Approval of Annual Power Balance of KEK;
- Issuance of temporary decisions regarding disconnection and legalisation of KEK customers;
- Participation in sector restructuring (ERO is charged with management and accounts unbundling of the vertically integrated utilities- Law).

## 2. Establishment and Mandate of ERO

### 2.1 Legal and Regulatory Framework

On 30 June 2004 the Energy Law, Electricity Law and Law on Energy Regulator were promulgated. These laws are promoting the integration of Kosovo into the European Economic area with a view to its future accession to the EU; participation of Kosovo in all relevant international agreements that Kosovo is a party to or may become associated with and gradual harmonization of the energy legislation of Kosovo to the EU's energy legislation.

The **Law on Energy** defines the basic principles for an energy strategy and energy programs in Kosovo with the purpose to guarantee a safe, secure, reliable, and quality supply of energy and to promote:

- The efficient and economical use of energy resources;
- Investment in the energy sector and respect for the protection of environment in energy activities;
- Provide the conditions for developing a modern energy market and to ensure competition in that energy market under the general principles of non-discrimination, transparency, equality and respect for customer protection;
- The economic and social cohesion of Kosovo.

The **Law on Electricity** establishes the conditions for performing the generation, transmission, distribution, supply, trade, import/export and transit of electricity, the organization of access to the networks, and the organization of the electricity market with the purpose to:

- Achieve a competitive and sustainable market in electricity;
- Guarantee the conditions for a safe, reliable, efficient and permanent supply of electricity;
- Ensure that, when technically and economically feasible, all final customers enjoy a universal service, that is the right to be supplied electricity of a specified quantity within Kosovo and at a reasonable price.

By adoption of the **Law on Energy Regulator**, ERO was given its institutional role as an independent regulatory authority in the energy sector (Electricity, District Heating and Natural Gas), and the required basis for its full-scale operations.

The purpose of the Law on Energy Regulator is to establish a regulatory framework for the energy sector that will ensure:

- The transparent and non-discriminatory functioning of an energy market based on free market principles and performance of energy activities, which are subject to public service obligations;
- The transparent and open criteria for issuing and monitoring licenses for energy activities and granting permits for the construction of new installations;
- That prices for energy activities, which are regulated (networks, public service supply and public service obligations) are transparent, reasonable and based on published tariff methodologies issued by ERO;
- That no energy enterprise abuses its dominant market position and that anti-competitive practices are prohibited;
- That, where technically and economically feasible, all customers shall have the right to connect their facilities to the networks and to receive a universal supply of energy;
- That customers and licensees are protected with adequate dispute settlement procedures;
- That the interests between customers and energy enterprises are adequately balanced;
- The implementation of appropriate measures in the energy sector to strengthen the social and economic cohesion throughout Kosovo;
- That the standards of environmental protection are gradually improved;
- That the Security of Supply of electricity, heat, and natural gas is guaranteed, through the maintenance and construction (through authorization but if deemed necessary through tendering procedures) of required generation and transmission capacity and network infrastructure including interconnection capacity.

## 2.2 Mandate of ERO

Law 2004/9 “on Energy Regulator” established a strong, fully-independent ERO and defined its executive powers, duties and functions, primarily amongst which are the conditions and criteria for issuing licenses to carry out energy activities, the procedures for granting permits for the construction of new generating and transmission capacity, the criteria for regulating network and public supply prices and approving tariffs, and the conditions of energy supply.

In general principles ERO is responsible for the establishment and enforcement of a regulatory framework for the energy sector in Kosovo, in order to achieve compliance with the obligations under the Treaty establishing Energy Community and harmonization to the “Acquis Communautaire” on energy, to ensure non-discriminatory access of all users to the energy networks at prices reflecting true economic costs, to ensure the effective unbundling of the vertically integrated utilities and the non cross-subsidization of prices, to promote competition and the efficient functioning of the energy market, and to promote economic efficiency by providing the appropriate long and short term pricing signals.

To achieve these goals ERO is entitled to:

- Grant, modify, suspend, transfer, withdraw, supervise and control compliance with Licenses;
- Set “Ex-ante” the pricing principles and methodologies, then subsequently approve tariffs for regulated energy services (access and use of networks, public supply, public service obligations, etc);
- Grant permits for the construction and operation of new generation capacities, gas pipeline systems including direct pipelines and direct electricity lines;
- Launch tender for the building of new generation capacity in case that the authorization process doesn’t provide enough capacity and the security of supply is threatened;
- Monitor the unbundling of the legal form, organization, decision-making, and accounts of energy enterprises. This role ERO will perform through issuance of licenses for the unbundled activities of energy enterprises, approval of the tariffs and similar activities within the scope of ERO. Function of monitoring covers also monitoring the tariffs, dispute resolution, quality of services, performance standards, etc.;
- Revise, approve, and control compliance with all codes and technical rules including the grid, distribution, metering, connection and use of system and trade rules; Set the rules for the access to and congestion management of international tie-lines and gas pipelines;
- Issue general acts, individual acts, and secondary legislation and enforce the provisions of the Laws and other related legislation and impose fines for violations.

In performing its activities ERO:

- Grants its consent for the separation, merger, or reduction in initial capital of energy enterprises that hold licenses and consent for the disposal of property used for conducting licensed activities. This activity could lead to disturbances in the reliability of supply due to the indebtedness of the energy enterprise; enforce the monopoly or predatory behavior, as well as have direct impact to the competition in energy sector;
- Monitors the market behavior of energy enterprises and particularly the abuse of dominant positions or predatory pricing methods, in order to preserve and promote competition in energy sector;
- Makes decisions regarding the classification of electricity lines, heat pipes, natural gas pipelines, and their ancillary facilities, within the transmission or distribution network, and to provide access to them on the terms of proposals from the respective transmission or distribution enterprises;

- Reviews the requests from the energy enterprises for compensation for non-recoverable stranded costs and makes decisions regarding the amount and method for compensating them;
- Imposes the public service obligations as required by the government (socialization of the cost of some services like “Universal Service”, “Last Resort Supplier”, renewable energy, “lifeline” tariff, etc.);
- Issues certificates of origin of electricity, generated from renewable energy resources, from waste and from co-generation of electricity and heat;
- Has input on System Operation rules on the allocation between “deep” and “shallow” connection assets, secondary legislation on promoting efficient use of energy and use of renewable energy, energy strategy (prepared by MEM) and annual and long-term power balances prepared by TSO;
- Maintains a Public Register of issued, modified, terminated withdrawn license, issued certificates of origin, approved codes and dispute resolution;

The Law on Energy Regulator established the Board of ERO (5 members) as the executive decision making body to direct ERO and defined its powers and responsibilities. The Board is responsible for the approval of operational policies and statutes, to adopt (by majority voting) under public consultation procedures all secondary legislation, rules, ordinances and/or decrees issued by ERO, to organize and supervise the management activities, supervise the budget and financial management, and approve the reports and financial statements of ERO.

Before the beginning of each calendar year ERO drafts the Project Document which includes the general description of the projects to be undertaken for the next year and submits it for review to Assembly together with financial report. ERO prepares the annual budget. The accounts of ERO are subject to the external auditing by the audit appointed by the Ministry of Finance and Economy.

On an annual basis ERO reports to the Assembly of Kosovo and the SRSG. The report shall be made public. While performing its activities ERO cooperates with energy enterprises, Ministries (especially MEM), different associations and institutions in Kosovo.

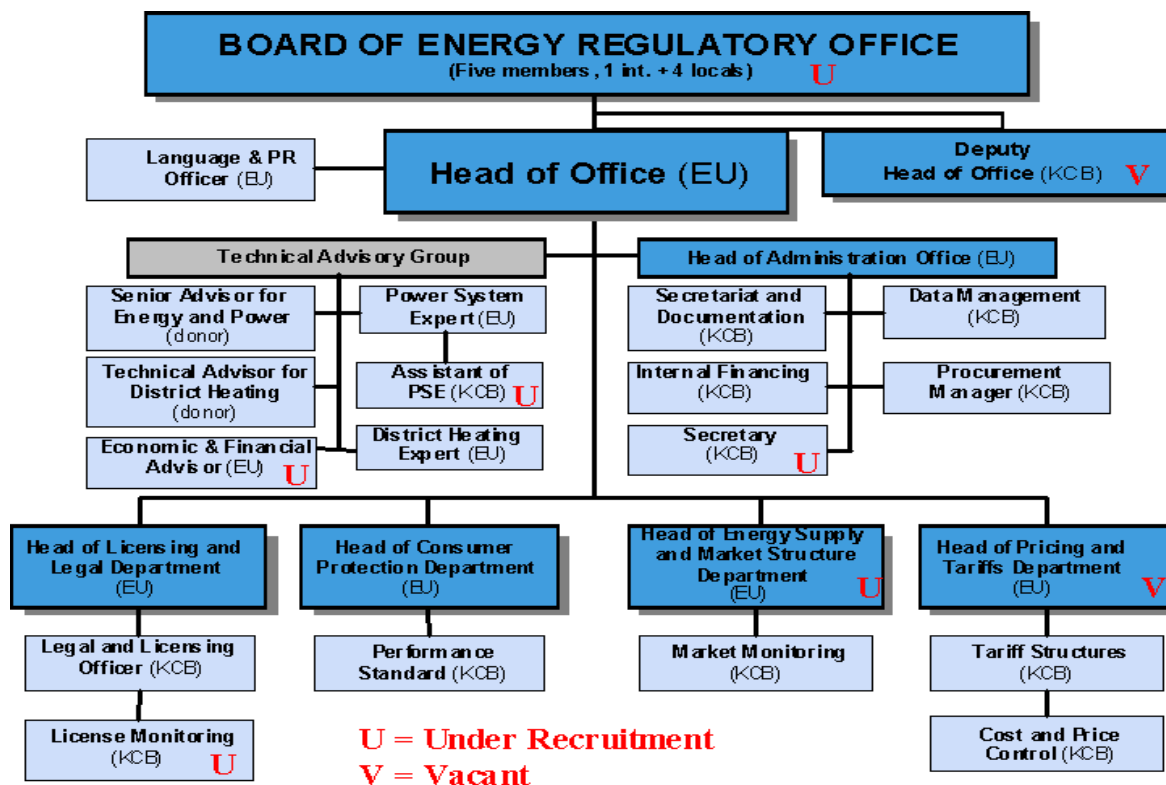
### **2.3 Organizational Structure and Staffing of ERO**

As of end February 2005, ERO provided employment to 18 staff members, of whom 9 were on the Kosovo Consolidated Budget (KCB), 7 on the EU Pillar budget and 2 supported by the donors (KfW and SIDA). When fully staffed (e.g. by mid 2005), ERO shall employ 25 staff members, of whom 15 on the KCB budget, 8 on the EU Pillar budget and 2 by the donors. The support of EU Pillar and KCB will be required as long as ERO is not in a position to finance itself exclusively from annual license fees and levies.

With respect to educational background, ERO employs 13 staff members with university degrees and 5 under-graduates of whom 4 are still studying. The graduates include 5 electrical engineers, 2 mechanical engineers, 4 economists and 2 lawyers. Currently under recruitment are 7 more staff members of which 6 will be graduates from universities.

The organizational structure of ERO is shown in Figure 2.1.

**Figure 2.1: Organizational Chart of ERO (Status of 31 March 2005)**



ERO has 4 functional units (“departments”), with principal responsibilities as follows:

1. **Licensing and Legal Department:** its main objectives are twofold:
  - i. The preparation of all type of Licenses and authorizations for establishment and operation of energy enterprises and their supervision, monitoring of compliance with License conditions and relevant decisions of ERO, and
  - ii. Give legal support to the Head of ERO and to the staff and representing ERO in the administrative proceedings. The Department ensures the legal correctness of the decisions and resolutions of ERO.
2. **Customer Protection Department:** its main objective is to represent the interest of customers, investigate customer complaints and co-operate with the organizations legitimately representing customers. The unit shall create a Dispute Settlement Forum for the typical complaints. They advise the other units of ERO responsible for the preparation of Performance Standards of Licensees and on measurements interested by customers. The unit is responsible for investigating and measuring customer opinions, interest and satisfaction.
3. **Energy Supply and Market Structure Department:** It is responsible for the implementation of new elements of competition and handles the model (system) issues, and theoretical regulatory questions regarding market operation. The unit’s aims include the collection and analysis of adequate information regarding capacity, and energy

balance in all segments of the Energy Industry. If necessary, it proposes measures and new regulations ensuring the safe, reliable energy supply balance and effective competition. The unit analyses the market structure and restructuring questions.

4. **Pricing and Tariffs Department:** the main objective is to prepare ERO's position on tariff methodologies and structure of the various regulated activities and to analyze and propose to ERO Board for approval, tariffs submitted by Utilities. The Department is responsible for the Price Review process, to formulate regulatory accounting and data submission guidelines and to collect appropriate data from utilities, which will allow the proper evaluation of submitted tariffs and establishment of allowed revenue.

The Technical Advisory Group consists of senior experts in the areas of electricity, DH and economics/finance, whose task is to provide "horizontal" support to all departments and advice to the Head and Board of ERO.

In addition, ERO is supported by the Administration Office providing secretarial, operational, logistical, and IT support for the Head of ERO and the staff, and managing, the documentation, the procurement and budget, and the filing management system.

## 2.4 ERO Costs and Budget

### *ERO Revenues and Expenditures*

In its first year of operation ERO had no revenue from Licenses or other levies and therefore relied on 3 sources of funding:

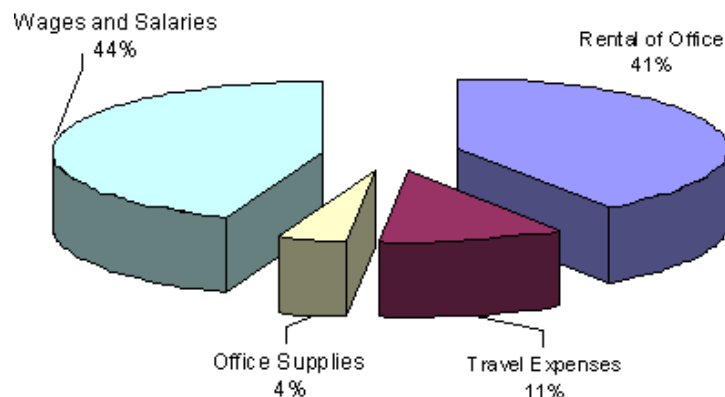
- Assistance by the EU Pillar;
- KCB; and
- Donors.

During the whole of 2004, ERO operated under CRU of the EU Pillar. It is estimated that the EU Pillar directly provided € 147,800.00 to ERO's budget. However, this was only partial contribution to the operating expenses of ERO. The EU Pillar covered salary costs of international and local staff contracted by the EU Pillar, the associated travel costs of these staff, and covered some other specific running costs (Figure 2.2). For example, the Pillar covered the rent of ERO's office-space as well as the respective maintenance and utility costs. According to the EU Pillar practices, ERO did not have its own budget allocation in the overall EU Pillar budget. In circumstances of limited resources, ERO had to compete with other organizations getting support from the Pillar like KTA, other units of CRU (e.g. DMM, WWRE etc.) as well as with the Pillar itself.

Other costs of ERO, were covered by the Kosovo Consolidated Budget (KCB'04) and the donors. In 2004, ERO has its own KCB'04 allocation, however still within the framework of the overall CRU budget allocation. As early as August 2003, the KCB'04 budget proposal was submitted to Ministry of Finance and Economy (MFE) by the CRU management. The KCB'04 initially approved budget of ERO was published in the UNMIK Reg. 2003/41 and amounted at € 253,714 in total (but see below on reductions).



**Figure 2.2: Breakdown of the EU Pillar Contribution to ERO (2004 - €147,800.00)**

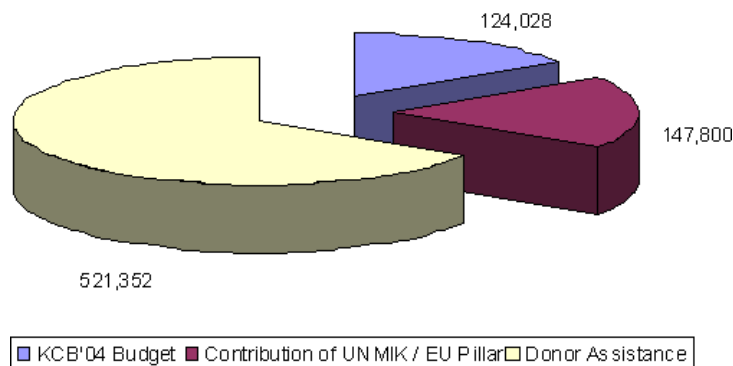


The total expenditures of ERO in 2004 amounted to an estimated € 793,180.00. This amount included regular expenditures and operations of ERO (salaries, overheads, traveling, rental, procurement, etc.) plus the costs of some specific “projects” of Technical Assistance (Consultants’ fees) that were covered by the donors. In the overall budget of ERO, the KCB’04 contributed approximately 15.6%, while the EU Pillar covered 18.6%, and the remaining 65.7% by the donors (Figure 2.3).

The donors’ support in 2004 cannot be defined precisely because there were some projects that are spread over several years (2003-2005). It is estimated at approx. € 520,000, in the form of technical assistance (TA) to ERO. The contributors were SIDA of Sweden, GTZ & KfW of Germany and USAID of USA (Figure 2.4). The TA included personnel costs (salaries) for 2 senior staff members covered by SIDA and KfW, respectively, and broader support to the DH sector by SIDA and to the development of secondary legislation by USAID (for further detail on the donors’ assistance, see Section 2.6).

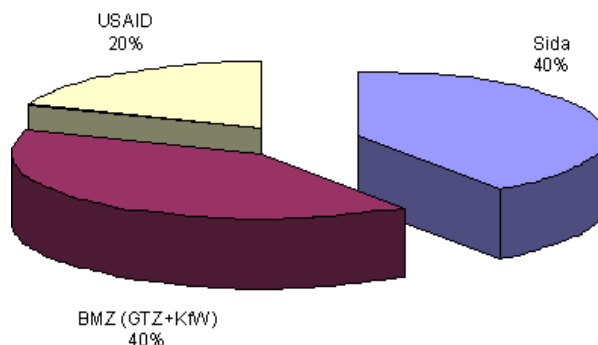
In 2004, the EU Pillar is not regarded as donor to ERO because ERO operated as integral part of the EU Pillar CRU.

**Figure 2.3: Total Expenditures of ERO in 2004 (€793,180.00)**





**Figure 2.4: Breakdown of Contributions by the Donors in 2004**



### ***Management of Public Finance***

Under the direct supervision of the Head of ERO and in cooperation with other staff of ERO, the utilization of KCB budget funds are planned and monitored.

For the purpose of budget utilization planning, ERO prepares a financial plan as “living” document, which is regularly updated based on actual costs and most up-to-date estimates of future expenditures. When doing so, ERO gives priority to tasks of major strategic importance, and nonetheless, also takes care to maintain adequate level of petty-cash necessary for smooth daily operations.

ERO compiles reports and makes analyses of expenditures on a quarterly basis. Another reason for doing so is the present practice of MFE, which confirms the budget availability on a quarterly basis. ERO maintains all financial documentation in a professional manner, including the regular updates and follow up of changes and providing reports and information to MFE whenever required. Also, ERO takes care about accuracy and filling out of the financial documentation and ERO is fully cooperating with MFE regarding the payments, cash flow, petty cash, allocation of funds etc. Regarding the management of public finances, ERO strictly follows and works in full accordance with enforced Laws and Administrative Orders approved by the Ministry of Public Services and MFE, in particular:

- Law on Public Financial Management and accountability (Law No. 2003/2);
- Law on Public Procurement in Kosovo (Law No. 2003/17);
- UNMIK Regulation on Kosovo Civil Service (Reg. 2001/36).

### ***Prospects for Financing ERO in the Future***

The support from KCB and the EU Pillar will be required as long as ERO is not in a position to finance itself exclusively from annual license fees and levies. The donors (SIDA, KfW, EAR, WB, USAID) will support by providing technical assistance to priority projects however, this cannot include support to operational expenses of ERO. The issue of self-financing of ERO is clearly related with the current financial standing of the regulated energy enterprises – licensees, and their ability to pay the annual fees to ERO. Obviously, the major contributor will be KEK, while the (3) DH companies to a minor extent only. According to the Recovery Plan prepared by KEK/ESBI, approved by the Interim Supervisory Board led by KTA in February 2005, KEK should become financially viable company in 2006, however in the most optimistic scenario this may be possible only by end of 2006. Therefore, and as a consequence, it is most probable that ERO will have to request both KCB as well as EU Pillar for continued budget support in 2006.

The first consolidated Business Plan of ERO will be prepared by mid 2005. It will cover the period of the next 5 years of ERO's operations (2006-2010). The budget issue will be addressed as one of the important prerequisites for sustainability of ERO's operations in the future.

## **2.5 IT Systems, Other Assets and Tools of ERO**

As of end 2004, there are twenty (20) high-performance desktop and four laptop computers in the possession of ERO. All desktop PCs are connected to the EUMIK Network, thus providing round the clock access to shared files and internet access. One of the PCs is used also as File Server for the other interconnected PCs of ERO. Regarding additional IT equipment, there are also 2 color printers and 9 black/white laser printers, 1 scanner, 1 photocopy machine, 14 flash memories, 1 digital camera and 1 overhead projector, all part of ERO's and CRU's assets.

Standard operational system and "Office" software are installed on all PCs, as well as some other "specialized" software suites for financial and power system analysis. For internet communication, Microsoft Exchange and Outlook are used and for file/data management, the professional Adobe 6.1 software, for which ERO obtained 10 licenses in 2004. All software is licensed and the System is secured with anti-virus software, which is updated regularly and with a firewall.

In order not to interfere with and/or corrupt the system none of the users is allowed and able to install any additional software on the System. Any software updates or interventions in the System are possible by the System Administrator only, and by following the prescribed procedures.

It is within the responsibility of a dedicated staff member of ERO, the Data Management Officer, to regularly maintain the common ERO Share Drive and further develop the folders and subfolders, ensure adequate protection and manage the Share Drive ERO-folders security.

ERO has developed its dedicated website "**www.ERO-ks.org**" where according to the Law all decisions are published alongside other news, activities and public announcements. The updating and developing of the website is also the task of the IT section of ERO.

In 2004, ERO procured movable assets (IT equipment and office furniture) in the amount of approx. € 78,000, which was provided from KCB'04.

Generally, the assets used by ERO include those that have been purchased from the KCB budget (2003-2004) as well as those from the EU Pillar (1999-2004). Regarding the EU Pillar assets, they include office furniture, gas heaters, ventilators, IT equipment, communication facilities etc. After CRU was dissolved (January 2005), ERO made a request to transfer part of the EU Pillar/CRU assets to ERO.

Finally, currently ERO is in the possession of 4 vehicles that are presently used by ERO staff and were procured by the former structures (PUD, Central Fiscal Authority and/or donated). Most of these cars have already been fully depreciated and are in rather poor technical condition.

## **2.6 List of Projects, Activities, Donor Aid to ERO (2004-2005)**

### ***In 2004***

The major projects of ERO, supported by the donors, where ERO was the direct Beneficiary included:

- SIDA (Sweden): TA, "Advisory to the Head of the Energy Regulatory Office on District Heating in Kosovo" (August 2003 – January 2005, with currently negotiated terms for the

extension of 12 further months – to end of 2005); consultant: ÅF International (Sweden), final Project Review meeting (1st phase): 9 February 2005, included:

- Task 1: Daily support of the Head of ERO and the DH expert;
  - Task 2: Support in developing a coherent secondary legislation;
  - Task 3: Implementing the voted legislation Implementation of a subsidy program for indigents.
- GTZ & KfW (Germany): TA, long-term secondment of an expert to ERO, for the position of Acting Head of ERO (January - September 2004) and Senior Technical Adviser to Head of ERO (October 2004 – December 2004), currently extended till July 2005, consultant founded;
  - USAID (USAID): TA, “Support to Development of Secondary Legislation”, duration of the consultant: since October 2004 with possible extension until 2006, with the work program to complete and assist ERO in drafting of internal documents and selected items of secondary legislation, in particular:
    - Statutes of ERO
    - Code of Ethics and Conduct
    - Rule on Disconnections
    - Rule on Licenses
    - Manual of Operations

In addition, there were two projects with indirect impact on ERO’s work:

- CIDA (Canada), SEETEC Project: TA “Strategy and Blueprint for the Restructuring of the Transmission Functions” (October 2004 – February 2005);
- WB (ESTAP II): TA “Review of the Policy, Legal, Regulatory and Institutional Framework for Private Sector Participation in the Energy Sector in Kosovo” (February 2004 - February 2005).

### ***Projects in 2005***

In 2005, apart from the above-mentioned activities supported by SIDA, KfW, USAID and the EU Pillar that will continue in 2005, the major projects of ERO (as direct Beneficiary) include:

- UNMIK/EU Pillar: TA, “Support to Development of Secondary Legislation”, start date: January 2005, duration: 3 calendar months, with the work program to assist ERO in drafting of selected items of secondary legislation, in particular:
  - General Conditions for Supply of Energy
  - Schedule of Fees
  - Rule on Dispute Settlement
  - Key Elements of Tariff Methodologies
- EAR: TA, “Institutional Building Support to the Energy Regulatory Office”;
- WB (ESTAP III): TA, “Development of Electricity Transmission and Retail Tariffs and Subsidy Delivery Mechanism”, allocated budget: 0.6m US\$, target starting date: June 2005, completion date: within 8 calendar months.

Additional projects under execution in 2005 that will impact ERO’s work will be:

- WB (ESTAP III): TA “Establishment of Transmission System Operator (TSO) in Kosovo”, allocated budget: 0.8m US\$, target starting date: June 2005, completion date: within 12 calendar months;
- EAR: TA aiming at incorporating, KEK, the DH company of Prishtina (Termokos), and the DH company of Gjakova;
- EAR: TA aiming at supporting the implementation phase of the TSO establishment, following the above-mentioned WB study under ESTAP III “Establishment of TSO”.

The EAR Project “Institutional Building Support to the Energy Regulatory Office”; kick-off meeting: 15 February 2005; contract value: approx. 1m EUR; duration: 12 calendar months; is an important project with the main objective to strengthen the institutional capacity of ERO by developing a sound and stable regulatory framework necessary to facilitate the market operations, based on principles of objectivity, transparency and non-discrimination within the ECSEE process.

The main (7) tasks include:

#### **Task 1: Activities for operational establishment of ERO**

- Preparation of procedures for maintaining the Public Register;
- Assist ERO in defining the compulsory administrative measures and administrative fines, which ERO should impose to the licensee who breaches the terms and conditions of the license;
- Set up the internal accounting system, which is essential at the initial stage of operations;
- Assist ERO on preparing the projects document and annual financial report.

#### **Task 2: Development of Market Model and Market Rules**

The consultant will develop a complete framework for the implementation of Wholesale Market Model (simple market), which will be compliant with the laws of Kosovo, EU Directives and the Treaty establishing Energy Community.

#### **Task 3: Tariffs, Pricing and Price Regulation**

- Preparation of rule on pricing and tariffs;
- Development of tariff methodologies;
- Implementation planning;
- Assisting ERO in Price Reviews.

#### **Task 4: Licenses**

- Development of data requests from licensees;
- Assist ERO in issuing Licenses to new businesses/energy enterprises.

#### **Task 5: Assistance to ERO in issuing Authorizations and Permits and in establishing a system for compliance monitoring**

- Assistance in issuing authorizations and permits;
- Compliance Monitoring;
- Establishing and monitoring quality regulation.

#### **Task 6: Technical/Operational Codes**

- Options for Codes;
- Outline of Technical Codes;

- Regulatory review and approval of Technical Codes.

### Task 7: Training

- Perform training needs assessment;
- Develop a comprehensive training program;
- Conduct the training.

## 2.7 ERO's Challenges and Key Projects in 2005

The year of 2005 is the first full year of business operations of ERO after the Law establishing ERO has been promulgated.

Generally and typical for any new regulator, ERO will focus on the development and adoption of internal documents and secondary legislation in the energy sector, internal procedures, staffing and extensive training. Some specific goals, the associated risks and the target dates are given in Table 2.1.

**Table 2.1: Goals, Performance Indicators and Target Dates of Main ERO's Activities in 2005**

Specific Goal	Performance Indicators	Target Date <sup>3</sup>
Completion of ERO-staff recruitment	All (25) staff members recruited	May 2005
Adoption of internal documents of ERO	Statutes of ERO, Code of Ethics and Conduct	July 2005
Adoption of Secondary Regulations as stipulated in Law on the Energy Regulator	All respective items (Rule on Licensing, Rule on Pricing and Tariffs, Rule on Dispute Settlement Procedure, Rule on Disconnection and Reconnection of Energy, Schedule of Fees and General Conditions for Supply of Energy) are approved by ERO Board	July 2005
Tariff methodologies for Electricity and District Heating prepared and issued by ERO	Tariff methodologies are issued by ERO (R: subject to progress of EAR consultants)	September 2005
Internal procedures of ERO are developed and implemented	Manual of ERO operations (living document) drafted, and adopted	1st draft by June 2005
Authorization procedure for construction of a new power plant is determined in detail	Procedure determined by ERO in cooperation with other stakeholders (MEM, ICMM etc.)	Sept. 2005
All energy enterprises of Kosovo in accordance with approved legislation and regulations are licensed	Number of licenses issued to the energy enterprises (R: subject to prompt response by utilities and progress of incorporation/unbundling of KEK)	Start: December 2005
Private investors' climate in the energy sector of Kosovo improved	Recommendations of the WB/ESTAP II study implemented, i.e. integrated in primary and secondary legislation	As soon as possible

<sup>3</sup> Reflects the best estimate of ERO, based on assumptions that the Board of ERO is established by April 2005.

Other technical Codes and Orders stipulated in the Law are approved by ERO	Number / type of codes approved: e.g. Grid Code, Distribution Code, Electricity Standards Code, Customer Protection Code, Connection and Use of System Code, Trade Code, and Metering Code (subject to progress at utilities which have to prepare and submit such codes to ERO for comments and approval)	Start: Autumn 2005
Standard electricity market design is approved	In line with guidelines for "regional" market design provided by CEER, the local market design is prepared and adopted	Autumn 2005
Kosovo is an active partner in the development of Energy Community in South East Europe (ECSEE)	Regular participation of ERO in CEER Working Group (SEER), Regional Board of Regulators and other regional initiatives (ERRA, SECI, SEETEC, WB etc.), various benchmarking reports and action plans as stipulated in draft Treaty establishing the Energy Community are prepared	Already implemented
Cross-Border Trade (CBT) mechanism is implemented in Kosovo	ERO monitors its implementation (Law) (R: pending acceptance of KEK in SETSO)	As soon as possible
Contribution of ERO towards early implementation of the New Power Plant project, including: opening of a new mine, construction of a lignite-fired PP, new 400 kV line to Albania, new dispatch centre of TSO.	ERO is an active member of the preparatory committee for the New Power Plant project (R: cooperation with local stakeholders, MEM, EU Pillar (KTA), ICMM, OLA, etc.	Start: as soon as possible
Congestion management / allocation of interconnection capacity is in place	ERO monitors its implementation (Law) (pending final approval of the method by CEER and acceptance of KEK in SETSO)	As soon as possible in 2005
TSO established in 2005	Separation of assets, legal establishment of TSO, split of functions, split of tariffs etc. ERO monitors management and accounts unbundling (Law). (Subject to progress of EAR and WB/ESTAP III consultants)	Start: mid 2005
Dispute settlement procedures at ERO in place	Dispute Settlement Forum of ERO operational (subject to timely approval of respective Rule by Board of ERO)	Start: mid 2005
Tariffs of KEK are unbundled, prepared on new approved methodologies and approved by Board	New Tariffs are unbundled and established to (1) Wholesale Generation, (2) Ancillary Services, (3) Network – TSO and DSO and (4) retail tariffs for captive customers plus a "lifeline" tariff (subject to progress of WB/ESTAP III consultants)	Start: mid 2005 and for 8 months
KEK is unbundled in line with ECSEE targets	The vertically integrated KEK is restructured legally, several new companies are created, presumably: ITSMO, Mines, Generation (1-2), Distribution (DSO + Supply) (subject to progress of the EAR and WB/ESTAP III consultants)	End 2005
First Eligible customers in the non-household sector are appointed	ERO appoints the eligible customers based on criteria defined by MEM (progress at MEM and subject to progress of TSO establishment, tariff unbundling and approval of Grid Code)	Start: end 2005

### 3. The Regulation of Kosovo Energy Sector

ERO is charged with regulation of the power sector, district heat and natural gas. As yet there is no natural gas network in Kosovo, therefore the power sector and the DH sector remain in practice the only two energy sectors to be regulated by ERO in the short to medium term future.

However, efforts for establishment of an integrated natural gas market in the ECSEE region include the regional natural gas infrastructure development. Because of the strategic importance for the region a number of new international projects are under construction or planned. As a consequence several feasibility studies for such projects enjoy the financial support of the EC.

Among the projects of most importance for Kosovo is the natural gas pipeline project Turkey-Greece-Bulgaria-Macedonia-Kosovo-Serbia-Austria (via Hungary and/or Bosnia & Herzegovina, Croatia).

The mines and minerals sector, pursuant to recently promulgated UNMIK regulations in January 2005, is subject to regulation by the Independent Commission for Mines and Minerals (ICMM). The liquid fuels sector is controlled by the Ministry of Trade and Industry (MTI), after the competences of the Fuel Supervisory Board active until 2003, were transferred to CRU and later further to MTI.

### 3.1 Brief Description of the Power System

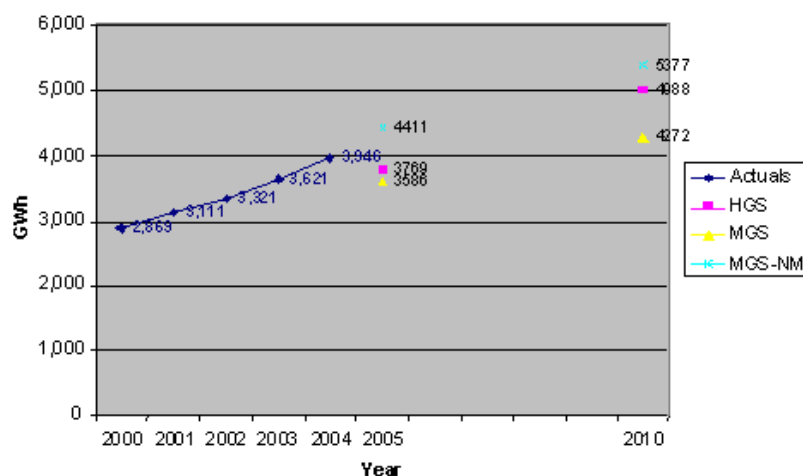
#### *Primary Resources*

Power generation in Kosovo is based on high calorific lignite deposits estimated at over 10 billion tons. The lignite deposits have low sulphur content and an attractive overburden to lignite ratio (1.7 m<sup>3</sup> of overburden per 1 ton of lignite), making mining very economic.

There are two open cast mines of Bardh and Mirash that have been in operation since 1963/64. Their annual production is mainly to supply two lignite-fired thermal power plants (TPP – Kosovo “A” & “B”) with about 6.5 million tons/year of lignite. According to the forecasts, the existing mines will be completely depleted by 2007/2009, depending on production output and actual lignite reserves in the area of the mentioned mines. Various studies have concluded that a new lignite field (**Sibovc**) that is planned to be opened directly to the north of the existing mines, has the necessary lignite reserves (1 billion tons), to ensure the medium and long-term fuel supply security both to the existing TPPs as well as to new power plants planned for commissioning after 2010 (up to 2,000 additional MW).

#### *Electricity Demand*

**Figure 3.1: Electricity Demand Growth Scenarios (2000-2010)**





The WB-supported ESTAP I completed in October 2002, prepared several scenarios of electricity demand until 2015. Those anticipating consolidation of the power sector (KEK) in the next 2 years were MGS (Medium Growth Scenario) and HGS (High Growth Scenario), resulted in an average annual growth rate of 4.0% per annum to 5.6% per annum, respectively, for the period 2000-2015 (all without natural gas in Kosovo). However, another scenario (MGS-NM) was developed for the case of “continued status-quo” of high losses and low collection rate. The actual electricity demand was growing by 8.5% per annum, during 2000-2004, which well coincides with this pessimistic forecast, reflecting the grave situation in Kosovo.

Electricity losses (technical and commercial) are horrendous. From the minimum amount of 41.1% (in 2002) after the conflict, they increased to a maximum value of 46.0% in 2004, of which 26.4% are estimated to be non-technical losses.

In 2004, the value of non-billed electricity is estimated at approx. € 62.4 million and the loss due to poor collection at another € 30.2 million or the overall loss of as much as € 92.6 million in total. The poor technical and financial performance of KEK after the conflict (2000-2004) has therefore led to lost revenues of approx. € 413 million (Source: MEM). Those figures unfortunately confirm that the energy demand in Kosovo has truly followed the most negative forecast of the WB (see Figure 3.1).

### ***Power Generation***

After the conflict, the power system of Kosovo became a truncated part of the former Yugoslav system. The power sector of Kosovo is operated by the publicly owned and vertically integrated utility – KEK. As integral parts of KEK there are currently five core businesses: lignite mines, power generation, transmission and dispatching, distribution network and supply. The nominal installed gross generation capacity is 1,513 MW (five units of Kosovo “A TPP” – 65, 125, 2x200 and 210 MW, two units of Kosovo “B TPP” – 2x339 MW, and 2x17.5 MW in HPP Gazivode/Ujmani). However, as of end February 2005, only 1 unit in Kosovo A (A5 – actual net output of 120 MW), 2x270/290 MW in Kosovo B and the 35 MW in the HPP or approx. 715 MW in total were available for meeting the peak demand of approx. 900 MW. Apart from exporting night-time surpluses of its inflexible base-load power, KEK basically relies on imports of peak power (at a considerable cost) from the neighbouring power systems. KEK’s net import in 2004 was 11.3% (445 GWh at a cost of approx. € 15 million) of total served energy. Finally, as a result of inadequate operational generation capacity, a load shedding regime is required, 5 hours on and 1 hour off, which was practised most of the winter 2004/2005.

### ***Power Transmission and Distribution***

Transmission and Distribution networks in Kosovo suffering from many years of lack of investment and proper maintenance of infrastructure cannot presently meet several requirements of technical standards in particular the distribution network lacks the capacity to serve properly all demand. Kosovo networks suffer from the lack of adequate capacities to ensure secure and reliable electricity supply. In many parts of the transmission network the “n-1” reliability criterion, cannot be applied, which in practice results in interrupted supply to the customers. The missing transmission capacity is also the reason for lower than standard voltage values, especially in the region of Peja/Peč. The ESTAP I study (WB, October 2002) envisaged as very high priority to build up the 400/110kV substation in this region. The TS also suffers from a lack of modern data acquisition and energy management systems (e.g. SCADA, EMS) and telecommunication systems.

The state of the distribution network is even worse. The distribution network suffers from insufficient line and “step-down” transformer capacities in the whole territory of Kosovo. It is



operated in very difficult conditions sometimes endangering health of operators and customers. Apart from DS refurbishment and extension, the prospects for the DS is seen in procurement of modern metering devices allowing demand side management, and installation of specialised software for acquisition and processing of big amount of data generating from the network operations. At present, the critical deficiency of the DS remains high losses (technical and commercial) and very low revenue collection.

### ***KEK's Restructuring***

In its present vertically integrated form, KEK does not comply with the requirements of ongoing energy sector reforms, especially in the light of the forthcoming Treaty establishing the Energy Community. The ongoing EAR-supported "Incorporation of POEs project" (see Section 4.2) will outline the new institutional and legal structure of KEK, within the scope of the present possibilities. In this respect, the crucial issue is the legally not clarified ownership status of KEK's assets, pending the resolution of the final status of Kosovo. Currently the assets of KEK remain under the trustee of KTA. This has negative impacts on the mobilization of public funds for KEK's development projects. KEK has no credit rating.

### ***Tariffs***

The electricity tariffs of KEK are still unbundled. The tariff system (see Table 3.1) distinguishes between:

1. 8 Tariff (customer) groups differentiated by the supply-voltage level (110 kV, 35 kV, 10 kV and 0.4 kV);
2. The type of customer group (e.g. industry and households, commercial, public lighting – all getting power on 0.4 kV);
3. The level of consumption for domestic customers (e.g. below and over 800 kWh/month);
4. Time-of-day (High and Low tariff time-periods during the day);
5. Seasons (High and Low Season).

In addition, the present system provides a special status for a few so-called "direct" (bigger) customers. The rates include standing (demand) charges (per kW) and charges for Active (per kWh) and Reactive energy (per kVARh), depending on the customer group.

The presently implemented tariff system of KEK was introduced in July 2000, after UNMIK-PUD requested KEK to re-start with billing and collections for electrical energy. In principle, the tariff structure and relations between individual customer groups as used in the former Yugoslavia for Kosovo in the '90s were re-introduced. However, no asset valuation and review of costs in conditions of fundamentally changed customer group structure after the conflict was carried out at that time. Since then, the tariff system of KEK remained practically unchanged. ERO will launch a full review of the Retail Tariff and the establishment of an unbundled Transmission Tariff in mid-2005, which is expected to be complete by the beginning of 2006.

**Table 3.1: Tariff System of KEK (status of 31 March 2005)**

No. of tariff group 1)	Voltage level of supply 2)	Tariff elements used in KEK-Supply Division's calculations 2)	Unit	Time-Of-Day 3)	High Season 4)	Low Season 4)	HS/LS Ratio
					(EUROc/Unit)	(EUROc/Unit)	
1	110 kV	Standing (demand) charge	kW		1,150	895	1.28
		Active energy (P), of which:	kWh	- High Tariff	2.68	2.11	1.27
			kWh	- Low Tariff	1.34	1.09	1.23
		Reactive energy (Q)	kVArh		1.41	1.15	1.23
2	35 kV	Standing (demand) charge 5)	kW		1,278	959	1.33
		Active energy (P), of which:	kWh	- High Tariff	3.20	2.56	1.25
			kWh	- Low Tariff	1.60	1.28	1.25
		Reactive energy (Q)	kVArh		1.28	0.96	1.33
3	10 kV	Standing (demand) charge 5)	kW		1,278	959	1.33
		Active energy (P), of which:	kWh	- High Tariff	3.52	2.81	1.25
			kWh	- Low Tariff	1.76	1.41	1.25
		Reactive energy (Q)	kVArh		1.28	0.96	1.33
4	0.4 kV (domestic below 800 kWh/m and hospitals)	Standing (demand) charge 6)	kW		144	115	1.25
		i) Active energy (P)	kWh	Single Tariff	3.99	3.20	1.25
		ii) Active energy (P), of which:	kWh	- High Tariff	4.80	3.83	1.25
			kWh	- Low Tariff	2.40	1.92	1.25
5	0.4 kV (domestic over 800 kWh/m)	Standing (demand) charge 6)	kW		192	144	1.33
		i) Active energy (P)	kWh	Single Tariff	6.39	4.80	1.33
		ii) Active energy (P), of which:	kWh	- High Tariff	7.67	5.75	1.33
			kWh	- Low Tariff	3.83	2.88	1.33
6	0.4 kV Category I 7)	Standing (demand) charge	kW		852	631	1.35
		Active energy (P), of which:	kWh	- High Tariff	5.11	3.83	1.33
			kWh	- Low Tariff	2.56	1.92	1.33
		Reactive energy (Q)	kVArh		1.28	0.96	1.33
7	0.4 kV Category II	Standing (demand) charge I *)	kW		253	189	1.34
		Standing (demand) charge II **)	kW		95	70	1.36
		i) Active energy (P)	kWh	Single Tariff	7.57	5.68	1.33
		ii) Active energy (P), of which:	kWh	- High Tariff	9.47	6.94	1.36
8	Public lighting (0.4 kV)		kWh	- Low Tariff	5.05	3.79	1.33
		Active energy (P)	kWh	Single Tariff	8.21	6.31	1.30

NOTE: \*) single tariff meters, \*\*) double tariff meters.

There are 8 tariff groups differentiated by the voltage level (110 kV, 35 kV, 10 kV, 0.4 kV), the customer group (e.g. households, commercial - both on 0.4 kV), and the level of consumption (e.g. below and over 800 kWh).

Customers are supplied at 4 voltage levels: 110 kV (through the 7 KEK-Distribution network, KEK-internal customers (Mirash, Bardh, special plants of KEK (coal drying and industrial heating plant) and "direct" large customers: Sharr cement plant, the Trepca system, Feronikeli of Drenas/Glogovac etc.), 35 kV and 10 kV (mainly industry and other facilities with their own 35/0.4 kV and 10/0.4 kV S/Ss), and 0.4 kV (commercial, households).

High Tariff (HT): 8am - 10pm, Low Tariff (LT): 0am - 8am and 10pm - 12pm, Single Tariff (ST): 0am - 12pm.

High Season (HS): 1 October - 31 March, Low Season (LS): 1 April - 30 September.

In case a "maxigraph" is installed (which registers 15 min. measurements and memorizes the highest value within the month), the standing (or sometimes also called "demand") charge is paid in accordance with that value. (At the end of the month, e.g. when the meters are read again, the maxigraph is returned to "zero".)

When no maxigraph is installed, the demand charge is calculated from the amount of energy consumed in the High Tariff divided by 100.

Denotes commercial customers who consume a considerable amount of reactive power. They are requested to maintain the minimal cos phi of 0.95.

Customers without proper electricity meters are charged at a fixed (“flat”) rate depending on assessed energy consumption per month: (i) less than 400 kWh/m - € 20/m, (ii) between 400 and 800 kWh/m - € 36/m, over 800 kWh/m - € 61/m. KEK-Distribution's employees visit the customer and estimate consumption on the basis of the type and number of household appliances and the standard (technical) factors of coincidence for utilization of these appliances.

### 3.2 Brief Description of the District Heating System

The DH sector in Kosovo is relatively new and limited only to 3 geographical locations (Prishtina/Priština, Gjakova/Djakovica and Mitrovica), supplying only 5% of heat demand in Kosovo. DH in Kosovo is used exclusively for space heating and does not include supply of hot tap water, which is the reason that heat enterprises are not all-year operational. Also during the heating season (15 October - 15 April) heat enterprises operate with night-stops.

The DH sector is small and faces serious difficulties with losses (both technical and “commercial”) and low level of payment collection, however it should have the important role in Kosovo energy strategy primarily as to substitute the uncontrolled consumption of the electricity for space heating purposes.

The DH sector in Kosovo consists of three DH systems covering municipalities of Prishtina/Priština, Gjakova/Djakovica and Mitrovica. The common characteristic of these systems is that they are comprised of the heating plants and distribution networks, and are “owned” and operated by vertically integrated municipal companies, under the status of Publicly Owned Enterprise (POE). Two of them (Prishtina/Priština and Gjakova/Djakovica) are under the process of being incorporated.

Heat production is carried out at the central heating plants equipped with fuel oil fired boilers – using mostly heavy oil (mazut) and light oil (diesel D2).

Distribution networks consist of primary network from heating plant up to the delivery point in the substation and the secondary network(s) from the delivery point - inside building installations. DH networks are being transformed from constant flow systems to the variable flow systems.

Main technical and customer data for each DH system are given in Tables 3.2-3.3.

**Table 3.2: Main Technical Characteristics of the (3) DH Systems**

Company (Town)	Installed Capacity (MW)	Distribution Network		Heat Generation (MWh / year)			Heat delivery to Customer Substations (MWh/y)		
		Trench Length (km)	No. of Subst ations	2001 / 02	2002 / 03	2003 / 04	2001 / 02	2002 / 03	2003 / 04
TERMOKOS (Pristina)	2 x 58 = 116 1 x 29 = 29 2 x 7 = 14	28	243	83,174	71,585	96,790	62,380	53,689	72,593
Subtotal	159	28	243	83,174	71,585	96,790	62,380	53,689	72,593
DHC (Gjakova)	1 x 20.0 = 20.0 1 x 18.6 = 18.6	12	62	16,530	17,901	18,274	13,224	14,321	14,619
Subtotal	38.6	12	62	16,530	17,901	18,274	13,224	14,321	14,619
TERMOMIT (Mitrovica)	1 x 9.3 = 9.3 2 x 3.3 = 6.6 1 x 1.0 = 1.0	4	20	nn	nn	nn	nn	nn	nn
Subtotal	16.9	4	20	nn	nn	nn	nn	nn	nn
<b>Total</b>	<b>214.5</b>	<b>44</b>	<b>325</b>						

**Table 3.3: Customer Data and DH Tariffs**

Company - Town	Customer Group	2001 /02		2002/03		2003/04		2004/05	
		Heating Space (m <sup>2</sup> )	Tariff (€m <sup>2</sup> )	Heating Space (m <sup>2</sup> )	Tariff (€m <sup>2</sup> )	Heating Space (m <sup>2</sup> )	Tariff (€m <sup>2</sup> )	Heating Space (m <sup>2</sup> )	Tariff (€m <sup>2</sup> )
TERMOKOS (Pristina)	Household	442,908	0.80	442,908	0.90	581,927	0.90	606,132	0.85
	Com. & Public	348,698	1.20	348,698	1.30	397,626	1.30	409,029	1.10
	Total	791,606		791,606		979,553		1,015,161	
DHC (Gjakova)	Household	42,260	0.80	36,400	0.80	42,778	0.80	56,548	0.82
	Com. & Public	39,208	1.20	48,542	1.20	52,590	1.20	56,409	1.25
	Total	81,468		84,942		95,368		112,955	
TERMOMIT (Mitrovica)	Household	-	-	-	-	-	-	-	-
	Com. & Public	13,000	1.20	13,000	1.20	13,000	1.20	13,000	1.20
	Total								

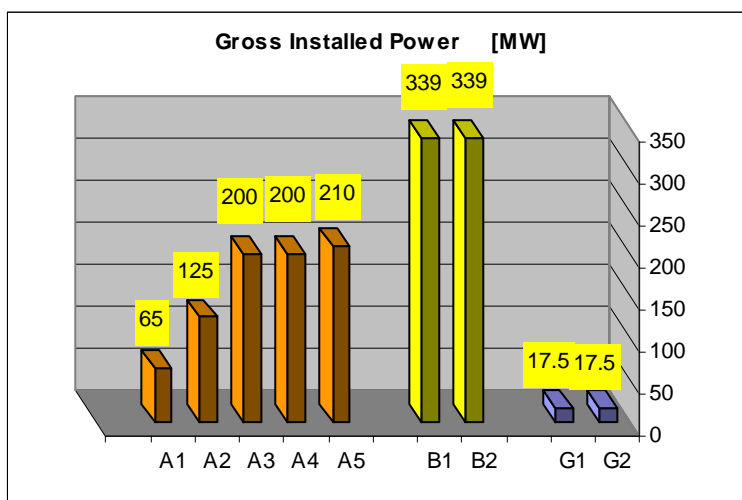
### 3.3 Key Energy Sector Statistics

#### *Fuels for Power Generation*

Main fuel used for generation of electricity in Kosovo is coal - lignite. There are two mines supplying the power plants with lignite: Mirash and Bardh. In 2004, the total production of coal for the power plants was **5,758,369 tons**.

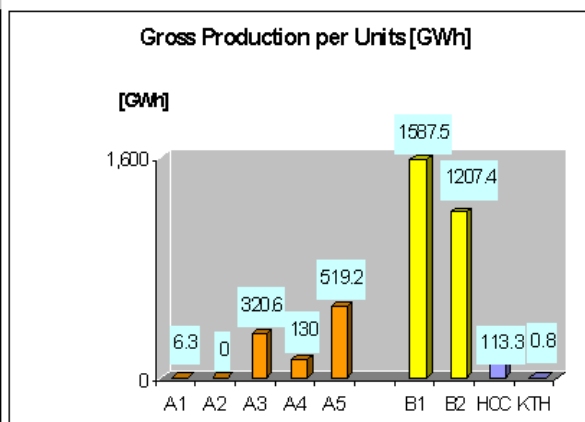
**Table 3.4 (and Figure 3.2): Main Installed Power Generation Capacities in Kosovo**

Power Plant	Unit	Gross Installed Power [MW]	%
Kosovo A			
	A1	65	4.3
	A2	125	8.3
	A3	200	13.2
	A4	200	13.2
	A5	210	13.9
Kosovo B			
	B1	339	22.4
	B2	339	22.4
HPP Ujmani			
	G1	17.5	1.2
	G2	17.5	1.2
<b>Total</b>		<b>1,513</b>	

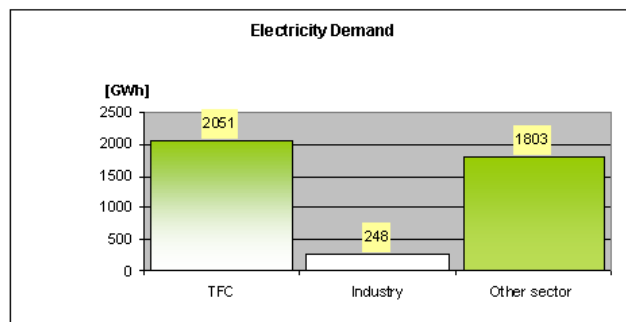
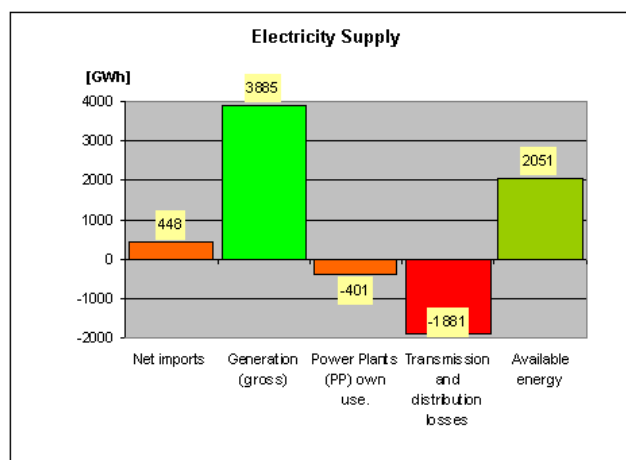


**Table 3.5 (and Figure 3.3): Production of Electricity in 2004**

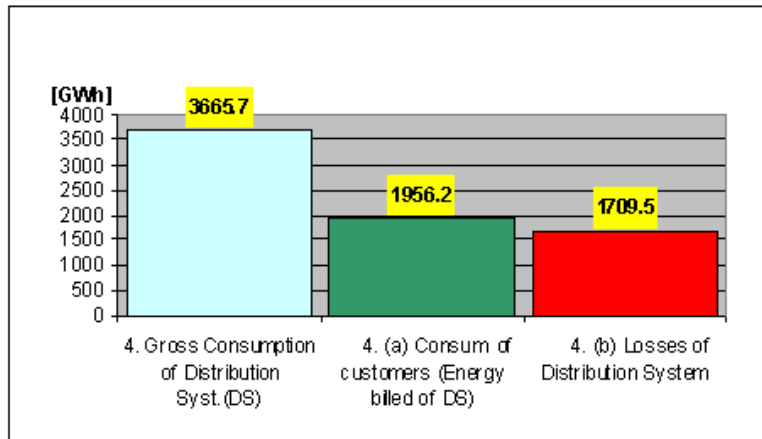
Production of Electricity, 2004				
Power Plant	Unit	Gross Production [GWh]	Production %	Time Availability %
<b>Kosovo A</b>				
	A1	6.3	0.2	2.8
	A2	0	0.0	0
	A3	320.6	8.3	32.7
	A4	130	3.3	14.1
	A5	519.2	13.4	54.1
<b>Kosovo B</b>				
	B1	1587.5	40.9	67.4
	B2	1207.4	31.1	53
HCC - HRP Ujma	HCC	113.3	2.9	
Sha KTH	KTH	0.8	0.0	
<b>Tot. Prod. of units</b>		<b>3,885.1</b>		


**Table 3.6 (and Figures 3.4 and 3.5): Balance of Electrical Energy (2004)**

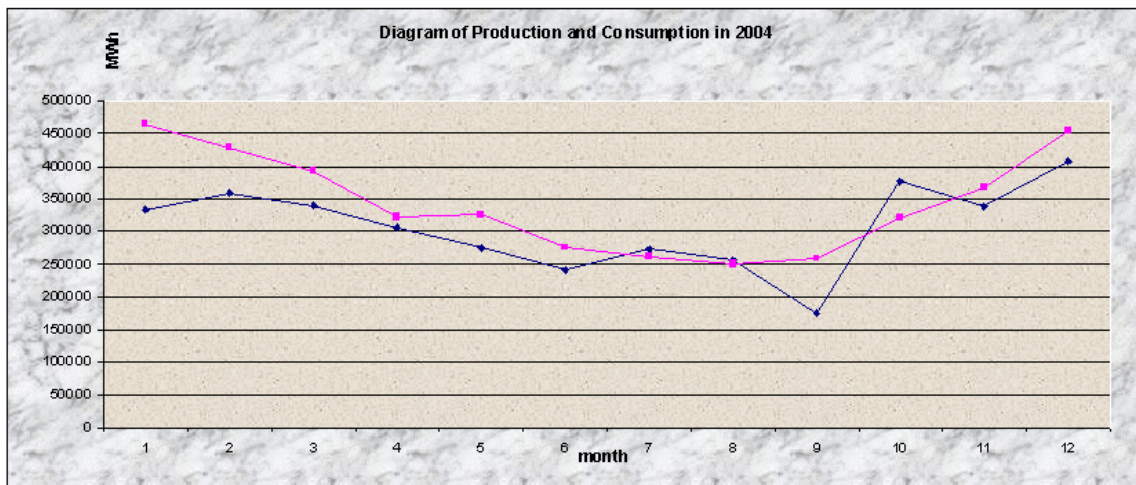
Electricity data for the energy balance, year 2004			
ELECTRICITY			[GWh]
<b>Supply</b>			
Imports			3288
Exports			-2820
<b>Net imports</b>			<b>448</b>
<b>Generation (gross)</b>			<b>3885</b>
Power Plants (PP) own use			-401
Transmission and distribution losses			-1881
Transmission losses			-171
Distribution losses			-1710
<b>Available energy</b>			<b>2051</b>
<b>TFC (Total Final Consumption)</b>			<b>2051</b>
<b>Demand</b>			
<b>Industry</b>			<b>248</b>
Direct customers			72
Internal cust. (own consumption) KEK			23
Industry connected at 35 kV and 10 kV			153
<b>Other sector</b>			<b>1803</b>
Commerce and public			313
Households			1490



**Figure 3.6: Breakdown of Energy Delivered to the Distribution System (DS), 2004**



**Figure 3.7: Indigenous Power Generation and Consumption by Month in 2004 [MWh]**



**Table 3.7: Key Technical Data on Transmission System (TS) and Distribution System (DS)**

Transmission Capacities of TS and DS	Transformation Level [kV]	Transmission Capacity [MVA]	Length of TS and DS Networks	Voltage Level (kV)	Lines (km)	Cables (km)
Transmission System	400/220	1200	Transmission Network	400	183	0
	220/110	1000		220	354	0
	220/35	400		110	625	0
Distribution System	110/35	788	Distribution System	35	639.5	10.5
	110/10	378		10	3971	172
	35/10	813.7				
	35/6	98				

Note: Transformation capacity of the industrial substation 220/35 kV of Feronikeli is included.

**Table 3.8: Number of Customers by Category Type and Voltage Level of Connection**

Type of Customers	Connected at the Voltage Line (kV)	Number of Customers
1. Non-household (Industry)	110	3
2. Non-household (industry)	35	13
3. Non-household	10	221
4. Non-household I category	0.4	744
5. Non-household II category (one tariff meters)	0.4	20,624
6. Non-household II category (two tariffs meters)	0.4	20,266
7. Public lighting	0.4	349
8. Household (two tariffs meters)	0.4	206,824
9. Household (one tariff meters)	0.4	59,614
10. Household (flat rate tariffs)	0.4	10,015
<b>TOTAL</b>		<b>318,670</b>

Note: Excluding customers in Serbian enclaves.

**Table 3.9: Factors Impacting Financial Viability of KEK - Billing and Collection Rates, Overall Losses (2004)**

Indicator	(GWh)	%	EUR (million)
1. Gross Consumption of DS	3665.7	100	
a. Cons. of customers (Energy billed of DS)	1956.2	53.4% of 1	121.47
Collection Rate	1232.4	63% of a	76.52
b. Losses of Distribution System	1709.5	46.6% of 1	51.2

**Table 3.10: Heated Area, Billing & Collection of the (3) DH Systems (2003/2004)**

Heating season 2003/2004		Gross Installed Capacity [MW]	%	Gross Production [MWh]	Length of DH Network [km]	Number of Substa- tions
<b>District Heating (DH)</b>	<b>Boiler</b>					
<b>Termokos Prishtina</b>		159	74.1	96790	28	243
	1	58	27.0			
	2	58	27.0			
	3	29	13.5			
Hospital DH, Prishtina	1	7	3.3			
	2	7	3.3			
<b>DH Gjakova</b>		38.6	18.0	18274	12	62
	1	20	9.3			
	2	18.6	8.7			
<b>Termomit</b>		16.9	7.9	nn	4	20
Main Boiler	1	9.3	4.4			
Hospital	2	3.3	1.5			
Heat Plant	3,4	4.3	2.0			
<b>Total</b>		<b>214.5</b>	<b>100</b>	<b>115064</b>	<b>44</b>	<b>325</b>

**Table 3.11: Technical Characteristics of the (3) DH Systems**

Heating season 2003/2004	Heating Space [m <sup>2</sup> ]	Billing [EURO]	Collection [EURO]	%
<b>CUSTOMERS</b>				
<b>Termokos Prishtina</b>				
Household	581 927	2,427,265	466,480	19.2
Com. & Public	397 626	2,095,427	1,345,649	64.2
<b>Total</b>	<b>979 553</b>	<b>4,522,692</b>	<b>1,812,129</b>	<b>40.1</b>
<b>DHC - Gjakova</b>				
Household	42 778	196,776	64,276	32.7
Com.&Public	52 590	413,676	229,055	55.4
<b>Total</b>	<b>95 368</b>	<b>610,452</b>	<b>293,331</b>	<b>48.1</b>
<b>Termomit - Mitrovica</b>				
Household	0			
Com.&Public	13 000			
<b>Total</b>	<b>13 000</b>			



### 3.4 Power Balance and Long-Term Planning

Law on Energy (2004/8) as stipulated in Article 6, determines the obligation of adoption of the Annual and Long-Term Planning of KEK (Power Balance) by MEM, which is the institution vested with the duty to issue the appropriate regulation for compilation of the Power Balance. Power balance forecasting according to the above-mentioned provision of the Law, either Long Term or annually should be prepared by TSO and after prior consultation with ERO has to be submitted to MEM for final approval and adoption.

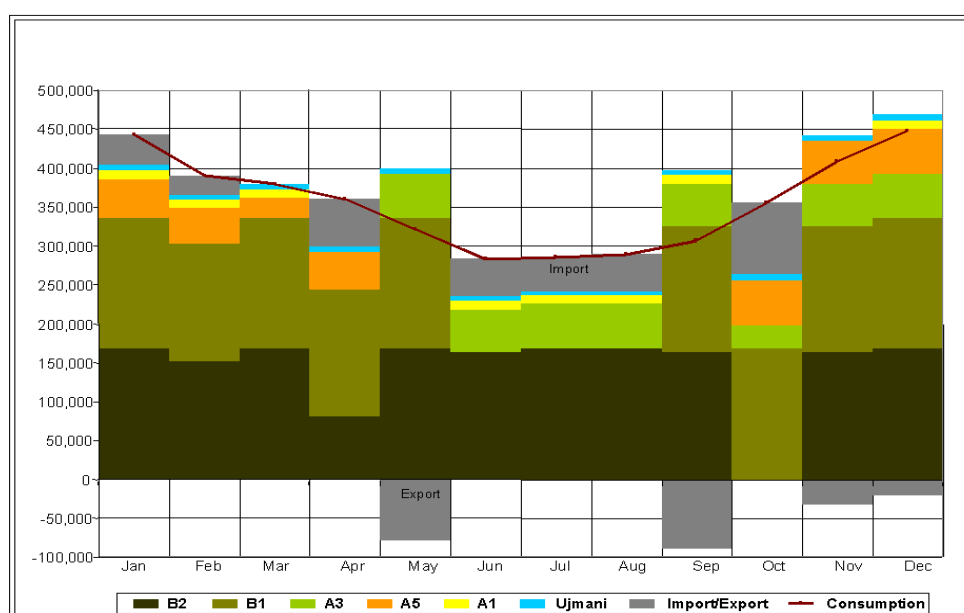
Currently, forecast for Long Term Power Balance has already been done by TA of the WB (ESTAP I) completed in October 2002, for the time horizon up to 2015.

Long Term planning is also part of the “White Paper” document entitled “Kosovo Energy Strategy”, the basics of which have already been prepared back in early 2003. With minor updating in the coming months, the document should be adopted by Government in mid 2005. The important task is that any adopted Long Term Power Balance could be reviewed in shorter periods of time (e.g. after two or three years).

ERO (even if not all conditions as stipulated in the Legal framework are established) and in cooperation with KEK, has determined a set of interim criteria for preparing and submitting the Annual Power Balance for 2005. ERO gave its consent on the final version of the Power Balance, in February 2005. At the same time, ERO expressed its concern about several elements that could potentially have adverse impacts on the implementation of the proposed power balance. Nevertheless, the subject power balance is regarded as the most comprehensive one, prepared by KEK in the post-conflict period in Kosovo.

It is thought that the new Regulation for Power Balance Forecast, which should be issued by MEM in the near future, may create convenient conditions for Long Term and annual planning of Power Supply in the future. ERO will continue to make its best efforts to further support the energy system planning in cooperation with other stakeholders.

**Fig 3.8: Power Balance 2005 Production, Consumption and Net Import/Export [MWh]**



### 3.5 Main Secondary Legislation (Rules, Decrees, Codes) to be issued by ERO

To implement the Law on Energy Regulator, ERO shall issue, adopt and implement Rules, Ordinances and Decrees, (secondary legislation). Such Rules are defined in the Law on Energy Regulator, as following:

- **Statute** (rule that governs the operation of ERO, including the activities of the office, the structure of the office, the procedures for employing administrative and managerial staff, and issues related to the organization of the work);
- **Code of Ethics and Conduct** (principles applicable for the members of the Board and other employees to ensure that they perform their duties honestly and capably, avoiding actual or apparent conflicts of interest);
- **Rule on Licensing** (criteria for issuing, obligations and rights of energy enterprises and procedures for monitoring that enable ERO to ensure non-discrimination, effective competition, and the efficient functioning of the energy market);
- **General Condition for Supply of Energy** (dispositions issued to prescribe the conditions for energy supply to all customers, the right of “uniformal service” and the standards of service);
- **Rule on Disconnection and Reconnection of Energy** (dispositions to ensure the transparent and non-discriminatory performance of disconnection and reconnection by energy enterprises and protect customers through promoting open access to information regarding the disconnection and reconnection to the networks);
- **Rule on Dispute Settlement Procedures** (dispositions related to resolution of disputes among customers and energy enterprises, system operators and energy enterprises, and between two energy enterprises);
- **Schedule of Fees** (defines the method of payment of the annual fees and other charges for issuing the licenses, permits, certificates and resolution of disputes);
- **Rule on Pricing and Tariffs** (dispositions that ensures that the terms, conditions, and method of calculation of prices and tariffs for electricity or heat are objective, transparent, and non-discriminatory).

As of end February 2005, all the above-mentioned rules are under preparation. First drafts have already been issued by ERO with assistance provided by consultants hired by USAID, EAR, Sida and the EU Pillar and will be adopted by the Board of ERO under public consultation procedures followed by public hearing session.

All the Rules will be the subject of public consultation procedures, published on ERO’s web-site, then comments could be discussed with all interested stakeholders in public meetings and adopted in an open and transparent manner, independent of outside political, industrial or other influence as set forth in Chapter 6 of the Law on Energy Regulator.

ERO has also the mandate to approve Technical Codes issued by the network operators (namely Grid Code, Distribution Code, Metering Code, Connection and Use of System Code, DH Code). The codes have legal substance and encompass rules that establish the minimum technical design, connection to the use of networks, operational requirements, and standards for energy. In accordance to the Law on Electricity the codes (an electricity standard code, a customer protection code, a trade code and rules on access), shall be prepared by network and other operators, and reviewed and approved by ERO. This process has not yet begun (albeit it is

considered that upon the issuance of Licenses, the preparation of Codes will be accelerated) and it constitutes a source of concern for ERO. In order to assist the procedures, ERO is currently undertaking the preparation of an “Outline” paper for each of the above-mentioned Codes.

### 3.6 Customer Rights Protection - Administrative Directives

EU Directives 2003/54/EC and 2003/55/EC lay down the rights of customer protection:

- "Member States shall ensure high levels of customer protection, particularly with respect to transparency regarding contractual terms and conditions, general information and dispute settlement mechanisms." (Article 3(5))
- Member States shall ...in particular ensure that there are adequate safeguards to protect **vulnerable customers**, including measures to help them avoid disconnection. ... Member States may take measures to protect final customers in remote areas. (*Art. 3(5)*)
- Member States shall ensure that all household customers... enjoy universal service that is the right to be supplied with electricity of a specified quality within their territory at reasonable, easily and clearly comparable and transparent prices.
- ... Member States shall impose on distribution companies an obligation to connect customers to their grid under terms, conditions and tariffs set in accordance with the procedure laid down in *Article 23(2) and (Article 3(3))*.
- "Member States shall ensure that the eligible customer is in fact able to switch to a new supplier".
- Nothing in this Directive shall prevent Member States from strengthening the market position of the domestic, small and medium-sized customers by promoting the possibilities of voluntary aggregation of representation for this class of customers.

The measures on customer protection are described in Annex A of Directive 2003/54/EC.

The Kosovo Laws (on Energy, on Electricity, on Energy Regulator and on Customer Protection) are in compliance with EU directives, and lay down the rights of customer protection in Kosovo.

#### ***Basic Customer Rights***

*Article 3 of Law on Customer Protection regulates fundamental right of customers:*

- a) The right to protect economic interests of customers;
- b) The right to health, asset, and life protection;
- c) The right to legal protection of customers
- d) The right to information and education of customers
- e) The right to be organized in customer association in order to protect the customers' interests and the right to representation of customers in the work of bodies dealing with issues to the interest of customers.

*Article 52 of Law on Energy Regulator lays down the rights of customers to energy services:*

52.1 All final customer shall have the right, where it is technically and economically feasible, to enjoy a universal service of the energy supply....

52.3 All final customers shall have a right to transparent contractual relations with energy suppliers pursuant to the General Conditions of Energy Supply.

### ***Protection of Customers***

*Article 29 of Law on Customer Protection:* The Government of Kosovo, through the Ministry of Trade and Industry, shall realize protection of customers by imposing implementation of this Law on production, trade or service entities.

*Article 2 of Law on Energy Regulator:* ...the regulatory framework for the energy sector will ensure: ... e) that customers and licensees are protected with adequate dispute settlement procedures;

AD 2002/19 on Disconnection of Electricity Services, and AD 2002/20 on Payment of Debts for Electricity Services are not in violation with EU directives and Kosovo Laws regarding customer protection.

Customer Protection Department (CPD) of ERO is responsible to ensure the application of above-mentioned legislation on customer protection in energy sector of Kosovo. CPD was established in mid December 2004, and has been actively involved on tasks related to customer protection:

- Active participation in drafting the secondary legislation: Rule on Disconnection of Customers, Rule on Dispute Settlement Procedures, and GCES;
- Analysing the data's received from KEK, focused on customers' complaints;
- Active participation in reviewing KEK procedures on: Disconnection, Debt Settlement, Dispute Settlement, Charges, Fines etc, to ensure that the procedures are not discriminatory and all customers are treated equally;
- Coordination of activities with Customer Protection Office of Ministry of Trade and Industry on incentives for establishment of Customer Association.

### **3.7 Methods of Regulation**

Before reviewing the strategies and specific methods of Regulation, as they will be applied in the energy sector of Kosovo, it is worth revisiting some fundamental principles that establish the purpose and role of Regulation.

One of the more widely accepted interpretations of "what is Regulation?" is Selznick's<sup>4</sup> notion of regulation as: "a sustained and focused control exercised by a public agency over activities that are valued by a community"

Regulation is a topic that has stimulated interest in a host of disciplines – notably law, engineering, economics, political science, sociology, history, psychology and social administration. This is a subject more than anything else that calls for a multidisciplinary approach. To give an example: if economists were to devise technically superb schemes of regulation these would come to little if no heed was paid to the warnings of those political scientists and sociologists who point out reasons why, in the real world, those schemes will not produce the ends the economists anticipated. Similarly, in looking at how such schemes can be implemented, lawyers' messages concerning the limitations of different kind of rules and enforcement processes should be taken on board.

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<sup>4</sup> "P. Selznick" Focusing Organizational Research on Regulation, in R. Noll (ed) (Berkeley, Calif. 1985)

## ***Role of Regulators***

Regulation is a means to an end and in no more a sector than in energy. European Directives 2003/54&55 relating to the gas and electricity markets state that Member States have a general duty to “*ensure on the basis of their institutional organization that electricity [natural gas] undertakings are operated in accordance with the principles of this Directive with a view to achieving a competitive and sustainable market in electricity [natural gas]*”. In consequence Member States give responsibility for a number of decisions to designated “regulatory” or “competent” authorities. This implies an obligation for the regulatory authority to be given adequate human and financial resources to carry out its duties and for it to have access to all the information it needs from the regulated company, whether financial or technical.

As it has earlier been indicated the effects of monopolies, as compared to perfect competition, are reduced output, higher prices and transfer of income from consumers to producers. One response to potential monopolies is to use competition (create a “market”) albeit where a “natural monopoly” exists the regulation tries to mimic an environment of “pseudo-competition”. Energy networks (transmission, distribution, gas and heat pipelines) are pre-eminently industries where economies of scale and scope available in the production process are so large that the relevant market can be served at the least cost by a single firm, and therefore in the absence of competition, are subject to regulatory control. The regulator will try to set price near incremental cost in order to encourage the natural monopolist to expand its output to the level that competitive conditions would have induced (“pseudo-competition”). On the other hands the Generation and Supply of energy activities have relatively to the network industries low “sunk costs” and therefore can be opened to competition, where many players can co-exist and compete for a market share under equitable and transparent conditions. Unfortunately the physical laws that govern energy mean that energy markets and perfect competition do not happen just by declaring them “open”, but they have to be carefully designed and monitored, often by asymmetrical interventions by the Regulator. Even in the aftermath of the establishment of a working competitive energy market, regulatory intervention continues due to the many “market failures” that energy markets present namely:

- **Externalities:** Price of a product does not reflect the true cost to society of producing that good (for example cost of environmental impact mitigation – or cost of promoting “green” energy).
- **Windfall Profits:** A firm will for example earn an “economic rent” where it finds a source of supply significantly cheaper than that available in the market place; or by possessing an asset that suddenly escalates in value. Regulation may be called on when it is desired, either to transfer profits to taxpayers, or to allow consumers or the public to benefit from the windfall.
- **Continuity and Availability of Service:** The right of “Universal Service” for a public good as the supply of energy is a socially desirable result, however in certain cases the market may not wish to provide it at excess cost. Regulation may intervene to sustain services through the cross-subsidization of prices or setting minimum prices at levels, allowing the covering of fixed costs (for example availability of generation capacity to ensure security of supply).
- **Anti-Competitive behaviour and Predatory Pricing:** This occurs when a firm (usually with a dominant position in a market) prices below costs, in the hope of driving

competitors from the market. The aim for regulators is to sustain competition and protect consumers from the ill effects of market domination, by outlawing predatory or other forms of anti-competitive behaviour.

- **Information Inadequacies:** Competitive markets can only function properly if consumers are sufficiently well informed to evaluate competing products. The energy markets however may fail to produce adequate information for a number of reasons like; costs of producing the information, “ex-ante” prediction of real-time energy information is technically difficult, etc. Regulation, by making information more extensively accessible, accurate and affordable, may protect consumers against information inadequacies and the consequences thereof, and may encourage the operation of healthy, competitive markets.

Other “market failures” factors may include issues of “Scarcity and Rationing”, “Distributional Justice and Social Policy”, “Unequal Bargaining Power”, “Rationalization and Co-ordination” and “Planning”. All of them require in one-way or another, Regulatory intervention to address the issue.

In encapsulating, Energy Regulatory authorities are in place to ensure non-discrimination, effective competition and the efficient functioning of the market by exercising control over the “natural monopoly” sector (networks), assist in the development of a “market environment” through the introduction of various mechanisms to help create a “market”, which they then monitor and intervene to correct the “market failures”.

### ***Key elements of a Credible Regulatory System***

Strong Authority – Independence: A “Fully independent” regulatory institution has 3 dimensions:

- Decision making independence; where no government entity other than a court or pre-designated arbitrator can overrule the regulator’s decision;
- Financial independence; where the regulator has an earmarked, secure and adequate source of funding.
- Management independence; where the regulator has autonomy over internal administration as well as protection from dismissal without due cause.

Kosovo is benefiting from a Primary Legislative framework that provides for a strong and independent Regulator with a properly defined mandate and clarity of role in the energy sector.

Accountability: Clearly independence must be accompanied by accountability and the regulatory entity must be accountable for its decisions. ERO’s decisions are not (and should not be) accountable to political needs and considerations. This would be inconsistent with the primary reason for creating a regulatory system in the first place, namely, to provide stability, consistency and fairness so that investors can commit to investments while consumers can have confidence that they are being protected from monopoly power. However reviewing regulatory decisions would be by a court of law in Kosovo and of course by law both the SRSG and the Assembly through the annual report, monitor the progress of market liberalization.



Management Independence and Autonomy: Decision Making Independence means that no other Body except the Courts can overrule the decision of the Regulator. ERO's Management is entrusted to the five-members Board, which adopts secondary legislation after public consultation procedures.

Financial Independence: is a pre-requisite of autonomy and the Regulatory Authority should be given the financial means to achieve its objectives. In the case of ERO (a non-profit organization), the law has provisioned that assistance will be provided for 1 year after the establishment of the Board by KCB. In addition, major contributions to the annual budget have been provided by Donors and EU Pillar IV, as was shown in detail in chapter 2.4. After the transitional period it is anticipated that the annual budget of ERO will mainly be met by the annual License fees of the energy enterprises, nevertheless their weak financial situation is a source of major concern.

Transparency and Predictability: Setting well defined rules "ex ante", not changing the rules of the game or yielding to political pressures. ERO will issue decisions that are clearly explained and arrived at in a transparent manner.

### ***ERO's core duties***

In setting up an energy market, a pre-requisite is that all market players have open access to energy networks on a non-discriminatory basis. The Regulator translates the responsibility for supervision of network access by adopting a framework of a "regulated third party access" (TPA) through the approval of network access tariffs and conditions (including "balancing services"), for transmission, distribution and heat and gas facilities, as one of its key tasks. The Regulator must approve methodologies for tariff setting in advance for both network use and balancing services. It will also have the right to require changes to individual tariffs on an ex-post basis. The present and following chapters present specific methodologies on which ERO is minded to use for the setting of tariffs.

In addition ERO has been given responsibility from the primary legislation (see Chapters 2.1, 2.2) over the following items:

- Setting the criteria and issuing Licenses; (this is the main tool in the disposal of the Regulator as through the License which determines the rights and obligations of the energy enterprise, it can be monitored and regulated);
- Setting the criteria and issue permits and authorizations; (for new Generation Capacity but also direct lines and gas-pipelines);
- Monitoring of security of supply; (ERO can launch tenders for the procurement of new capacity, if authorization procedures fail to produce tangible results; also ERO will set market mechanisms like capacity payments or capacity "tickets" which will address the current acute problem in Kosovo of capacity inadequacy); in such a case ERO is responsible for the organization, monitoring and control of the tendering procedure for new generation;
- Monitoring the proper managerial, accounting and legal unbundling of the network operators, namely the Transmission System Operator (which will have to comply with 6 months after the entry into force of the Treaty establishing Energy Community) and the Distribution System Operator by 2007;

- Management and allocation of interconnection capacity; (this will be done either under the SEE regional market coordinated scheme or in the short term if Kosovo is not to be included in the scheme, as explicit auctions for yearly, monthly and weekly physical rights);
- ERO approves operational and planning standards for network operators, including Codes and schemes for the calculation of the total transfer capacity;
- Mechanisms to deal with congested capacity within the system; (re-dispatching will be part of the Ancillary Services priced at cost and recovered through socialization in the transmission tariff);
- Monitoring the time taken by transmission and distribution undertakings to make connections and repairs;
- Publication of appropriate information;
- Monitoring the effective unbundling of accounts to avoid cross subsidies and the unbundling compliance program;
- Monitoring the level of transparency and competition, ensuring consumer protection, monitoring levels of service or adopting measures to protect vulnerable customers; (one such measure will be the establishment of a “lifeline” tariff);
- ERO resolves disputes and settles complaints against the transmission or distribution system operator on any of the above issues.

### ***ERO’s Regulatory Strategies and Methods***

ERO’s strategy is based on “ex ante regulation”, i.e. transparent rules, guidelines and methodologies arrived at after public consultation procedures with “ex post” intervention when compliance to Kosovo and European regulation demands it or through the “trigger” mechanisms that will have been put in the rules and secondary legislation.

ERO needs to ensure that its decisions are implemented by energy enterprises and the conditions for the entry & exit (Licensing) rights & obligations, including the means of enforcement should reflect this, so that ERO can be able to impose some sanctions on companies that do not comply with its instructions on a range of issues; for example on unbundling or transparency. Secondary Legislation relating to the regulation will clearly set out the obligations on network operators to co-operate with the regulatory authorities and implement its decisions, and the penalties for not doing so will be clearly spelt out in the legislation. Any appeals procedures will also be clearly established. Penalties that ERO may impose are covered in Article 57 of the Law on Energy Regulator and in secondary legislation issued in accordance to the Law. ERO may impose penalties on energy enterprise that:

- Employs persons without qualifications required by the law and Rule on Licensing;
- Fails to perform his duties, provide information or assistance to ERO under the law or relevant rules;
- Improperly discloses confidential information;
- Fails to comply with the measure imposed by ERO in order to prevent the abuse of a dominant position;
- Engages in energy activities subject to licensing without obtaining a license or fails to comply with the terms of licence;
- Constructs energy facilities regulated without obtaining a permit;
- Charges prices or tariffs subject to regulation, which have not been approved by ERO;
- Maintains its accounts in a manner that is inconsistent with the requirements of applicable legislation;

- Refuses to allow ERO access to its accounts;
- Refuses to enter in a contract for supply of energy or to provide access to the networks without a justified reason;
- Removes, damages, or hinders the effectiveness of a metering device;
- Connects to a network without obeying the relevant conditions;
- Carries out operations in violation of this Law, the Law on Electricity, the Law on Energy, the relevant rules issued by ERO, or relevant technical rules, standards, or codes.

Some penalties that could be envisaged are the following:

- Public letter to the chief executive of the Energy company concerned;
- Publication of comparative reports demonstrating insufficient performance by the energy company concerned;
- Financial penalty or in the case of network operators a reduction in the network access tariffs allowed by ERO;
- In an extreme case ERO might, if relevant, consider the temporary revoking or removal of the operating license which, in effect, would require the former holder of the license to cede operation of the network to another company. However the conditions under which this may take place must be clearly set out in advance (License) in order that network operators are not exposed to unnecessary regulatory risks.

Looking upon the specific methodologies that will be applied in the various energy sectors, ERO's principles are the following:

#### Electricity Networks (Transmission and Distribution)

Tariffs for connection to and access, applied objectively and without discrimination to all system users, as well as the methodologies underlying their calculation, will be approved and published prior to their entry into force. Network tariffs will be cost reflective however they will contain an incentive element. Rules adopted by TSO for balancing the electricity system shall be objective, transparent and non discriminatory, including rules for the charging of system users of their networks for energy imbalance. It is likely that initially balancing charges will be regulated and cost reflective. ERO shall have the authority to require transmission and distribution system operators, if necessary, to modify the terms and conditions, tariffs, rules, mechanisms and methodologies referred to as above, to ensure that they are proportionate and applied in a non-discriminatory manner.

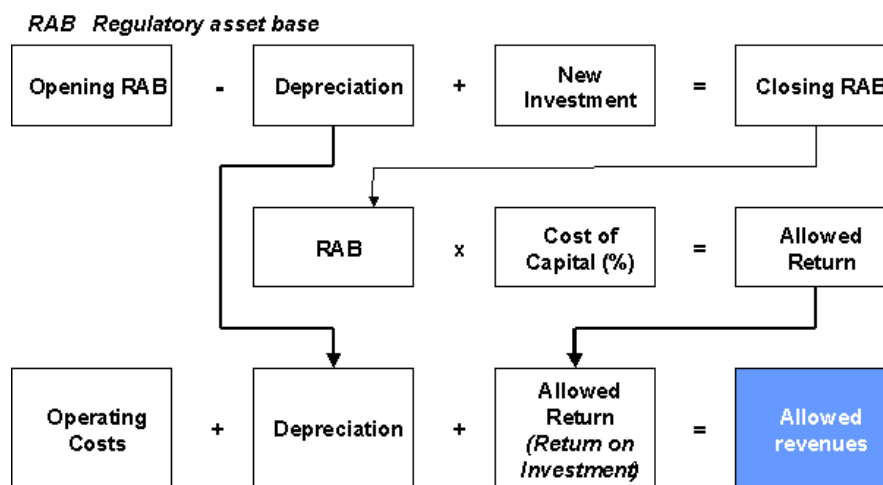
In setting the network tariffs ERO will take into account:

- The value of the capital stock of the regulated company on which a return should be earned and any additions to the capital base in the form of net investments over the period being considered; the compilation of the full asset registry list should be done by a specialist engineering auditor so that a fair degree of confidence can be based on what is the condition and how much is worth it each asset, ERO will probably chose to follow other than "historical cost" accounting methodologies, probably a combination of: "Market Valuation", and "Modern Equivalent Asset Values";

- An appropriate rate of return (%) on that capital, taking into account the low risk nature of a network regulated business, but also the local financial conditions;
- An appropriate depreciation rate on these assets to be collected through annual revenues and the economic asset lives;
- The operating costs of the regulated business; again ERO may chose to perform an “indirect” evaluation of costs either by international benchmarking or of how the “ideal” network would be designed and would function, given the local characteristics such as population density and topology.

A schematic diagram of how regulation establishes the total allowable revenue is given in Figure 3.9 below

**Fig. 3.9 The “Building Block” Approach**



In setting the methodologies and approving the tariffs, ERO will follow the following principles:

- Promote efficiency (both allocative and technical efficiency)
- Allow cost recovery (recovery of reasonable and justified costs + fair return on investment)
- Support competition (non-discriminatory, stable and predictable, simple to calculate)
- Be socially acceptable (protect the poorest, fairness between customers)

Efficiency requires pricing at marginal cost, as this provides the proper economic signal and ERO is minded to use Long Term Marginal Cost (LRMC) pricing. One characteristic of the network industry is that due to its inherent redundancy in design (networks are designed not only to transport the consumed energy but should be able to cope with the peak demand at a time of “contingency” - “n-1” reliability criterion), it is unlikely that any marginal pricing methodology

will recover fully the required revenue. Usually a “mark-up” is allowed for reconciliation of the amount recovered through LRMC and total allowed revenue.

The simplest means for a pricing regime is on a *cost-plus* basis (also known as *Rate of Return* (ROR) or *Cost of Service* regulation). Under such a regime, the regulator sets prices (usually on a yearly basis - although this can be done over several years in a forward looking fashion) for the regulated company to cover its operating costs plus the capital wear and tear costs (meaning the economic costs of capital usage and not simply depreciation which is an accounting convention) of the service and includes a rate of return on capital that is sufficient to induce replacement and/or expansion of the company’s assets. Under the ROR regulation allows companies to pass through selected costs (O&M), which are deemed necessary by the supervising regulatory body to ensure an adequate level of service to users. In addition to these costs, the regulator also allows the companies to realize a profit margin commensurate with the asset base or capital invested by the company in the utility. This results into the following general Rate-of-Return formula:

#### Typical Rate of Return Formula:

$$Revenues_t = O\&M_t + Depreciation + [ROR_t \times (RAB - Depreciation)]$$

Where:

*Revenues<sub>t</sub>*: The total revenues allowed by the regulator

*O&M*: The Operational and Maintenance Costs of the regulated utility

*ROR*: The rate of return (or rate of profit) allowed by the regulator

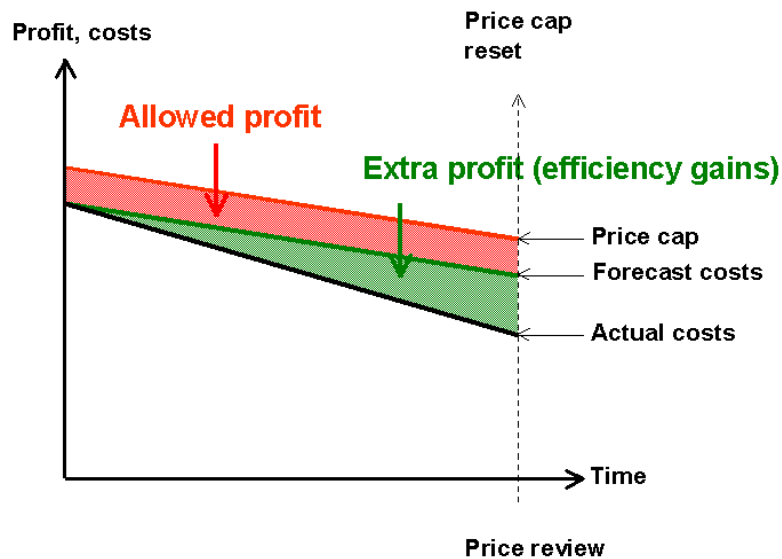
*RAB*: The Regulatory Asset Base

Under conventional Rate of Return regulation, tariffs of network services are reviewed on a regular basis and have to be adjusted (process called “regulatory review”) to lower levels, if cost savings have been achieved in the interim (since the last review). Regulated network companies, thus only benefit from cost savings to the extent that regulatory reaction to cost savings is lagged. If the regulatory lag is short – 1 or 2 years – incentives for cost savings (and higher efficiency) are suppressed almost completely. Additionally the ROR creates overcapitalization (over-investment in fixed assets) incentives and potentials for increase of capital costs.

Although network tariffs need to be cost reflective in a general sense, this does not necessarily mean there should be a rigid and automatic correspondence between the costs of the regulated business and the revenues collected from network tariffs. ERO wishes to provide incentives to improve efficiency and to encourage ongoing investment or extension of the networks particularly in distribution. A detailed discussion of the investment needs have to be conducted, at the time when the overall price setting methodology will be approved.

Under the so-called Incentive Based Regulation, the primary objective is to inject competitive market incentives into monopoly markets and weaken the link between costs and tariffs. Performance targets are selected for the network operator (increased efficiency) and if achieved they will come along with cost savings. Those savings will not have to be immediately passed through to the customers (as in ROR approach), but utilities will be allowed to maintain “intermediate profits” for 3 to 5 years (the length of the “regulatory review”) until the authority will set new performance targets. This effect is illustrated better in figure 3.10 below, which shows that if an energy enterprises can “do better” than the target set by the Regulator, in effect they realize a much higher rate of return

**Fig. 3.10 Price-Cap Regulation**



Under Incentive Based Regulation there are several pricing regimes namely:

- Under a pure price cap, the price control formula determines a firm's allowed average price, and a firm's allowed revenues are the product of this allowed price and output;

**Typical Price Cap Formula:**

$$Price_t = Price_{t-1} \times (1 + RPI_{t-1} - X_{t-1} + Q_t)$$

Where:

$RPI_{t-1}$ : Previous year's inflation rate

$X_{t-1}$ : Adjustment for previous year's efficiency factor; in many developing countries this factor has been set to zero in the first regulatory period.

$Q_t$ : Adjustment this year's service quality related factor

- Under a pure revenue cap, a firm's allowed revenues are determined directly by a control formula that is independent of output;

**Typical Revenue Cap Formula:**

$$Revenue_t = Revenue_{t-1} \times (1 + RPI_{t-1} - X_{t-1} + Q_t)$$

Where:

$RPI_{t-1}$ : Previous year's inflation rate

$X_{t-1}$  : Adjustment for previous year's efficiency factor

$Q_t$  : Adjustment this year's service quality related factor

- A hybrid revenue cap is a mix of a pure revenue cap and a pure price cap; for example the UK uses hybrid price and revenue cap for distribution companies:
  - 50% of allowed revenues are fixed
  - 50% increase at average of growth in units and customers
  - Ratio is related to expected split between fixed and variable costs

### Typical Hybrid Cap Formula

$$R_t = R_{t-1} * (1 + CPI_t - X) * \{0.5 * [(D_t/D_{t-1}) + (C_t/C_{t-1})]\}$$

R = Revenue

CPI = Consumer Price Index

D = Units distributed (kWh)

C = Customers

ERO has not yet taken a final decision on network tariffs. The Rate of Return Regime (ROR) is a simple approach and its main drawback as previously mentioned, is the lack of incentives and the risk of “gold plating”. The ROR is clearly a low-powered incentive mechanism. One simple way to somehow incorporate efficiency considerations into a ROR regime, is for the regulator to challenge all the cost figures declared by the regulatory utility, and make “efficiency” adjustments to the submitted cost figures. For example the regulator may question reported workforce to perform a particular process or task and request the regulated utility to adjust downwards the reported figures. In this way the regulator does try to mimic competition and apply pressure on company costs. The issue however, that remains still open is the basis for challenging the cost figures reported by the regulated utility. At this stage in Kosovo, simple industry ratios and benchmarks, results from simulation studies and information by engineering/economic consultants, may be deployed to provide the basis for challenging the figures.

A second issue is that the ROR is not forward looking. It reviews the previous year's costs to derive the revenue requirement. A problem with this approach, especially for the case of Kosovo where large new CAPEX are anticipated to be realized in the short and medium term in order to refurbish and expand the networks, is that the revenue requirement may end up fluctuating from one year to another, thus forcing rapid tariff changes. ERO would want to smoothen those changes (in fact tariff increases) by incorporating somehow the anticipated CAPEX into the revenue requirement. From this point of view the ROR has to take into account some forward-looking information regarding the new CAPEX. A simple way to achieve this is to make even a rough allowance into each year's revenue requirement for a fraction of the anticipated CAPEX.

Incentive based Regulation has the main advantage that it is clearly a high-powered mechanism, since it explicitly incorporates efficiency incentives through the X factor, but also other considerations such as quality allowances through the Q factor, into the pricing formula. From this point of view it is clearly a superior economic mechanism. Furthermore, under the hybrid formula further incentives to increase turnover and expand the network may also be explicit into the price capping. An additional advantage of price capping is that it is a forward looking approach, since the price capping derivation is based upon future OPEX and CAPEX projections, which is suited



to a rapidly changing and expanding industry. However, the above mentioned advantages come at the extra cost of employing more sophisticated and more difficult to understand formulae, utilization of more and better quality data in order to measure for example the X and Q factors, advanced statistical and econometric techniques, well informed forward looking data on business plans, OPEX and CAPEX. In Kosovo in particular, there are no meaningful “Business Plans” from utilities as yet or data “looking forward”.

For those reasons ERO is minded **to start with a Rate of Return regime for a short transitory period of up to three years** with the prospect of moving to a sophisticated hybrid cap regime afterwards. This will enable both ERO and the companies to *start the ball rolling* with a simple pricing mechanism, establish the regulatory process, get used to hearings and consultations, establish the regulatory accounts, their submission patterns, the definition of variables, the techniques for analysing measuring key economic variables, etc. so that they will be in a position to introduce and incorporate all those into their future price cap formulae. In addition this regime may facilitate a potential privatisation process, by allowing comparison of bidders according to their requested rate of return and encourages private investor interest in the privatisation process, by offering indications of return rates they can expect.

On the issue of allocation of costs, ERO is minded on the basis of the small size of the system and simplicity of methodology, to implement “postage stamp” network tariff, whereby customers in a particular region will face similar charges not dependent on their geographic location. Of course transmission and distribution cost are “cascaded” onto network voltage levels in proportion to the total connected load, reflecting economic causality.

ERO is minded that Transmission Network Tariffs will be allocated on Demand Charges on the basis of the method of “System Coincidental Peak”. As far as payment liabilities are concerned although an instinctive approach would be to solely allocate the payment liability to Load entities for matters of simplicity (“G” component of the Transmission Tariff = 0), the fact that a large proportion of the Generation Capacity will be export-orientated (if as the hope remains a large IPP is developed in Kosovo), it would seem unfair to customers to bear all the costs of the largely unused (by them) Transmission system. Therefore the issue of the split between G/L components of the network tariff remains still unanswered pending further consideration.

On the issue of Connection charges, ERO is minded to implement a “swallow connection” charging methodology whereby customers are responsible to pay cost-reflective charges only for their immediate connection to the system, while the costs of other potential system reinforcements required as a result of this customer’s entry into the system, will be socialized in the tariff. This methodology is simple and avoids the effect of “free riding” by future customers, while it does not discourage new entrants.

On the issue of the balancing regime, there is a distinction to be drawn here between the procurement by the TSO of balancing energy for real time system operation and the charges placed on system users, which are themselves, out of balance. The market for balancing energy is anticipated to be illiquid and concentrated, therefore ERO will set cost-reflective regulated (administered) prices “ex-ante”.

#### Generation Adequacy

For a developing particular country, no energy regulatory system no matter how good it looks on paper can be viewed as a success, unless it helps the country to make concrete economic progress.

If the regulatory system does not help to produce needed investments at reasonable cost, then it has not accomplished its primary purpose.

In previous chapters the dire capacity inadequacy in Kosovo, resulting in load curtailment and expensive imports, has been described. Of paramount importance for the economic development of Kosovo is the need to attract private investments in building new generation capacity and making use of the rich and good quality lignite deposits that are available. Below, are examined some of the options and mechanisms, ERO is minded to deploy in order to facilitate those much needed investments.

In a competitive, liquid and mature wholesale market, prices will tend to rise to the cost of new entry once “tight supply conditions” are perceived, thus the expectation is that risk capital will build new generation if a profitable outlet for the power is in prospect. However there maybe barriers to a new entrant making the investment, either unduly costly or unduly risky, the barriers broadly falling in the categories of regulatory risk and price risk:

#### Regulatory Risks in Kosovo:

- Uncertainty of future KEK allowed wholesale pricing and lack of a wholesale market;
- Unclear regime of Import/Export rights;
- Ownership uncertainty due to the unresolved political status;
- Future changes in Laws or Rules;

#### Price Risks in Kosovo:

- Competition from low cost power in the overall region;
- Failure of regional demand to grow pressuring wholesale prices;
- Inability to export sufficient power due to lack of transmission infrastructure or regulatory constraints (unfavorable Congestion Management Rules);
- Subsidized imports;

There are few tools at the disposal of ERO to mitigate those risks for the prospective investors. According to the Law any PPA signed by the Public Supplier should not be longer than 5 years, after which the terms should be reviewed by ERO. Such a short period comes to little comfort for base-load lignite-fired plant investments, apart from the fact that the Public Supplier presents a very high “counter-party risk” in any case.

ERO is considering several options to deploy as part of the market mechanisms. One such option are “**Volume Tickets**” in the form of obligations to the Supplier(s) to redeem a certain proportion of their overall sales from an eligible project (the new IPP). This of course remains a subsidy paid by the consumer with a central decision being made as to what level this subsidy should be and who should be earning it. Another new build model might be via a **Revenue Guarantee**. This would oblige KEK (or the Government) to pay a “bottom-stop” price for output from the new IPP, in the event that it did not get alternative (better priced) contracts. Another option remains to set administratively the required level of **Security of Supply** (Reserve Margin) and place the obligation to the TSO to provide it as an Ancillary Service. The TSO would procure the necessary additional capacity in bilateral contracts, and would make it available to the market in extreme

conditions. This capacity could be offered into the balancing mechanism, or else it could be charged as an “uplift” to the market.

ERO will publish the market rules and initiate authorization procedures for new generation capacity. According to the Law and in view of the critical situation on security of supply, if the authorization procedures do not produce any result, ERO can organize, monitor and control a tender for new capacity.

### **3.8 Interconnection Tie-Lines and Congestion Management**

Third Party Access (TPA) is a fundamental precondition to create the appropriate environment for possible entrance of other market players, in the power generation or supply businesses. In Chapter 3.7 above it was presented how ERO will ensure free access to the common network “carrier” to different generators/traders/suppliers by appropriate secondary regulation and adequate codes. These regulations with defined procedures on the basis of which operation licences to incumbent and other energy companies could be issued, and the codes should ensure that the networks (transmission and distribution systems) are utilised in a non-discriminatory way and under equal conditions by all licensees.

In the past interconnection tie-lines were mostly built to add to the security of supply and co-ordinating opportunities between neighbouring systems. Under market conditions it is understandable that strong interconnection tie-lines play a crucial role, ensuring sufficient net transfer capacity is available for cross-border power flows that trading may require.

The intensification of trading and unforeseen flows due to transactions between third parties, requires different approaches in transmission capacity planning and the utilisation of the TS, because of possible occurrence of a phenomenon known as “transmission system congestion”. By means of Congestion Management (CM), all “constraints” in the power system must be resolved in order to maintain the acceptable power flows and the reliability of the networks as well as to satisfy the requirements of market participants to the extent possible. Transparency in TPA requires finding an efficient methodology for resolving the network constraints. Increased Cross Border Trade (CBT) has resulted in the last 3-4 years to other participants, using the transmission networks of Kosovo for transits to other control areas.

The adopted Energy Laws in Kosovo explicitly, anticipate several specific regulations and codes, prior to the full start of TPA, CM and CBT operations that the future TSO and ERO must compile and adopt, respectively. Similarly, appropriate methodologies must be found and agreed upon regarding CBT and CM implementation at the regional level.

The high-voltage interconnection tie-lines with neighbouring countries presently consist of three (3) single-circuit lines operated at the 400 kV voltage level (with Serbia, Montenegro and FYR of Macedonia), and at the 220 kV level (with Albania and Serbia), while another two interconnection lines at 220 kV with FYROM are damaged and have been out of operation since the conflict (Figure 4.3). The best opportunity to expand the interconnection capacity is probably a new 400 kV interconnection with Albania in the mid-term, on the basis of potential hydro-thermal co-operation between Albania and Kosovo, and also in the case of extensive development of export-oriented power generation in the latter.

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Presently in Kosovo, the so-called Horizontal Network (part of the transmission network used for transit power flows caused by third party transactions) based on actual loads in 2004, is considerably very close to the limit values.

Under the process of the development of the Regional Electricity Market in SEE, ETSO (European Transmission System Operator) has established the joint Task Force of the SEE Transmission System Operators (SEETSO TF) in order to deal with Congestion Management (CM), and establish a mechanism of uniform inter-TSO compensation scheme for costs incurred by transit flows due to third-party transactions (CBT).

Participation of UNMIK/KEK SEETSO TF, was challenged by EPS (Serbia) representative, and as a result UNMIK/KEK was excluded by signing the CBT agreement between involved TSO. Such agreement was signed between: Albania, Bosnia and Herzegovina, Bulgaria, Romania, Serbia, and FYR Macedonia.

Developed CBT compensation mechanism was simulated from 1 January 2004 and real implementation started from 1 July 2004.

Principles of the SEE CBT mechanism rely on:

- Delimitation of the SEE CBT area.
- Definition of the Horizontal Network.
- Transit key calculation.
- Definition of the cost of the HN.
- Calculation of cost claim on total SEE CBT fund.
- Financing of the SEE CBT compensation fund.
- Clearing Process and Settlement of differences.

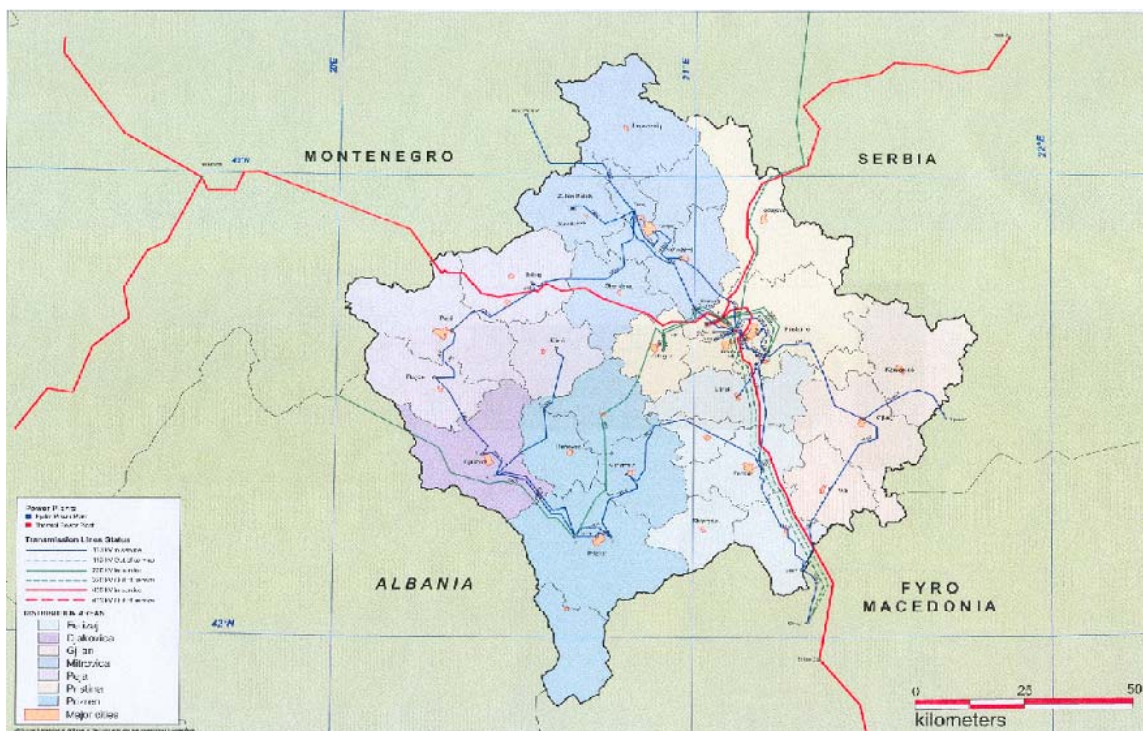
Claim for compensation depends on the value of the transit key, which in the case of Kosovo remains a considerable amount as result of the relatively large value of transited power in comparison to the value of indigenous amount demand. Calculated transit key has to be multiplied with yearly cost value of the HN to determine the claim to compensation fund. In the case of Kosovo transit key may vary roughly from 30% up to 50% and yearly cost of the horizontal network is estimated around € 8,000,000.

Since the implementation of SEE CBT mechanism from 1 July 2004, KEK didn't receive any income from transited power through its transmission network. Preliminary estimations of the lost revenue of Kosovo due to its exclusion from SEE CBT, vary between € 3-4 million/year.

### 3.9 Prospects and Issues of the Transmission and Distribution Systems

Both of these network systems in Kosovo suffer from lack of sufficient capacity, unfavourable topology (long radial systems with poor “n-1” contingency), which result in poor, below the European (UCTE) standards of quality of power supply. This consequently leads to overloads, poor voltage conditions, load curtailment, and eventual extraordinary high technical losses (approx. 18%, source: WB - ESTAP I). Even more, especially the distribution systems are often operated under the minimal technical standards, sometimes associated with unacceptable safety standards, entailing high occupational hazard at operators (KEK), as well as endangering the customers’ health.

**Figure 3.11 Kosovo Transmission System (June 2002)**



Based on detailed analysis of each of the (7) regional distribution units of KEK carried out under ESTAP I, the present technical state of the transmission and distribution systems of KEK can be best judged by a desperate need for investment as much as roughly € 542 million up to 2015 in order to reduce the overall technical losses down to the realistic level of 13-15%, as well as to bring the network in line with the present standards in Europe. Out of this amount, € 98 million is foreseen for the development of transmission and € 444 million for the distribution system, respectively.

The present poor financial performance of KEK does not allow the utility to embark on any visible investment in the network system that would improve the performance characteristics considerably. However, due to the investment incapability of KEK, unless further receiving substantial external support (KCB, donors), it will be impossible to bring the T&D systems in line



with the European/UCTE standards as anticipated by the Treaty Establishing the Energy Community. In addition, the technical recovery of the network systems has to be coupled with institutional restructuring of the power utility (KEK), in order to comply with the requirements of the forthcoming “liberalised” electricity market. As mentioned earlier and due to the very large “sunk costs” the transmission and distribution systems are known as “natural monopolies”, and subject therefore to regulated prices. ERO, conscious of the challenges that the network businesses face, will allow the rates (of the restructured and unbundled network businesses), to fully recover justifiable costs including the ambitious capital expenditure programme plus profits. The proper method of economic regulation and codes developed by ERO and the utility respectively in 2005 and adopted by ERO, shall help in meeting the customers’ expectations – for better technical quality and economics of supplied energy.

### **3.10 The 400 kV Line to Albania**

At present, there is a 220 kV line between Kosovo and Albania. Despite the rated transfer capacity of around 200 MW, the real network conditions allow for the transfer of power of not higher than 100 MW only. It is obvious that under such conditions it is very difficult to optimise both systems.

As aforementioned in this report, there is a unique opportunity for coordination between the thermal-based power system in Kosovo with the hydro-based system of Albania, through reinforcement of transmission interconnection capacity by constructing a 400 kV line between Kosovo and Albania.

Thus, the exploitation and planning of both systems can be optimised, and considerable power exchanges would be possible, all eventually leading to lower costs and better tariffs for the captive customers in both countries. The 400 kV Interconnection Project was regarded as the first investment priority in the WB ESTAP I Transmission Master plan for Kosovo completed in 2002, and as the second in the similar plan for Albania completed in 2003. In the meantime, the first priority of Albania (interconnection to Montenegro – 400 kV line Elbasan - Podgorica) has already been brought to the implementation stage.

Within the framework of the next WB package (ESTAP II), the feasibility study for the 400 kV line started in autumn 2004, with the likely completion date of July 2005. The objectives of the study is two-fold; (i) to select the optimal route and prepare a detailed feasibility report in a form of a bankable project for the selected variant, and (ii) to analyse operational characteristics of the two complementary power systems and prepare a draft agreement for commercial cooperation between them. Particular emphasis in the analysis is given to the studying of positive impacts of the new line to power exchanges in the region and the possibilities for evacuation of power from the foreseeable new power plants in Kosovo in the future (after 2010). When completed and approved, the report will be presented to international financing institutions for support of the investment.

Amongst 4 main alternatives studied, the variant Kashar (Tirana) – Vau Dejes – Kosovo B was selected by the mixed Kosovo-Albanian Steering Committee on the basis of a techno-economical analysis, proving it the preferential variant. This will be now subjected to the final detailed analysis. The line should be in operation by 2010 at the latest.

The selected variant would cost around € 50,904,000, of which the costs inside the territory of Kosovo are estimated at € 19,643,000 € and in Albania € 31,261,000, respectively.

### 3.11 New Lignite-Fired Power Plant

It is obvious that sufficient supply of coal is a prerequisite for consideration of a new power plant. Supported by EAR, a European consortium has delivered a draft final report on the Main Mining Plan Sibovc (new mine) in mid April 2005. According to the report, the Sibovc geological resources are estimated at as high as 990mt over an area of 19.7 km<sup>2</sup>. The good quality of lignite in the Sibovc mine is characterized by the following average values: ash content - 13.9%, lower heating value - 8,150 kJ/kg, moisture - 47.8%, sulphur - 0.9%, and very favorable overburden to coal ratio and seam thickness. Six main variants have been studied. Depending on the final variant chosen, level of annual production, and whether to use new or the existing equipment, the lowest cost are calculated in the range of € 5.9/t - € 6.8/t, while in some cases they could go up to € 7.7/t (discount rate of 12% applied).

The White Paper<sup>5</sup> provides directions for the medium to long-term development of the energy sector and sets specific directions securing the quality, reliability and security of the electricity supply. According to the White Paper the available indigenous lignite should provide opportunities for the development and operation of new TPPs. Furthermore, the Independent Power Producers (IPPs) are encouraged to invest in the power sector supplying the domestic electricity market, while allowing them for bulk electricity exports to the regional market.

#### ***Technical Background***

The EAR will finance the pre-feasibility study for the lignite-fired new power plant, the commencement of which is presently planned for mid May 2005, with the completion date of end 2005. The study will build on a recently completed feasibility study addressing mid and long term planning of lignite mines including opening of the new Sibovc mine(s). Works in the Sibovc mine should begin in 2006 in order to allow commercial lignite extraction by 2008/2009.

The specific objective of the pre-feasibility study is to provide the interested parties (IFI, investors, developers, etc.) with the main guidelines for the development of a new lignite-fired TPP in Kosovo, that will contribute both to the power security in Kosovo as well as in the overall SEE region.

The expected results encompass:

- Assessment of the current situation and drafting of a comprehensive methodology and organisational analysis for the evaluation of alternative development options for a new lignite-fired TPP;
- Recommendation of the most suitable site for the development of a prospective 1000 MW lignite-fired TPP;
- Baseline design of alternative lignite-fired TPP options in the capacity order of 1000 MW, envisaged to be gradually developed and comprising of 2–5 units;
- Economic and financial feasibility of alternative development options of a new TPP;
- An action plan for the development of the new Kosovo lignite-fired TPP.

#### ***Legal & Regulatory Background – Licenses and Permits for new Generation Capacity***

The Rule on Licensing will set forth the general criteria, related to the issuance of permits for the construction of new energy facilities and direct electricity lines and DH connections (“direct lines”). Separate guidelines (hereafter “Guidelines”) issued by ERO will set forth the detailed criteria by which ERO grants permits for the construction of new facilities and direct lines.



ERO has authority to grant or refuse an application for a license or permit, and to modify, terminate or issue sanctions on existing licensees and permit holders, pursuant to provisions set forth in this Rule, the Law on Energy, Law on Energy Regulator, Law on Electricity and DH legislation and other applicable regulations issued by ERO and set forth in applicable laws in Kosovo.

The Rule on Licensing provides the general framework for application to ERO for permits. As set forth in Chapter 1, Article 1, separate Guidelines, issued by ERO, set forth the detailed the criteria by which ERO grants permits. The Guidelines are instructed by objective, transparent and non-discriminatory principles, and are set forth in accordance with the Strategy Implementation Program, prepared and adopted by the Ministry of Energy and Mining.

The criteria for granting permits may relate to:

- a) Safety and security of the energy system, installations and associated equipment;
- b) Protection of public health and safety;
- c) Protection of the environment;
- d) Land use and siting;
- e) Use of public property;
- f) Energy efficiency;
- g) Type of primary energy source applied for in relation to existing policy goals and sector needs;
- h) Characteristics particular to the applicant, such as technical, economic and financial capabilities;
- i) Compliance with measures regarding public service obligations and customers' protection;
- j) Any projected schedule for commencement of the energy activity.

ERO shall issue a permit for new construction, where the applicant possesses the technical and financial resources to build the energy facility and meets all the requirements set forth in this Rule and the Guidelines.

An applicant for a permit for network construction shall attach to his application to ERO, a feasibility study that includes calculation of the influence of the project on network charges and its compliance with the approved network development plan.

Prior to a formal application of a permit, a legal entity seeking to construct a new energy facility may seek preliminary approval for a permit from ERO.

An applicant for a permit shall submit to ERO the following documents:

- a) An environmental permit from the relevant Ministry in accordance to the Environmental Law No. 2002/8 of 16 January 2003, as promulgated by UNMIK Regulation No. 2003/9 of 15 April 2003;
- b) A license or permit for use of coal or other fuel issued by the relevant authority;
- c) A schedule of the projected completion and start up date;
- d) In the case of a hydro power plant, a permit for the supply of water;
- e) All other documents as specified in the Guidelines.

All applications for a permit for generation facilities shall be subject to a public hearing process, in accordance with procedures set forth by ERO in its Guidelines, prior to any decision by ERO on issuance of a permit.

All permits issued by ERO shall set forth the period of time allowed for start up and completion of the construction. Such time period shall be mandated by ERO, in accordance with the schedule set forth by the permit holder.

In accordance with the Law on Energy Regulator and only in the event that the market based authorisation procedure has not resulted in the construction of sufficient energy facilities, ERO shall launch a tender for the construction of new energy facilities.

ERO shall publish in its bulletin and on its website the reason for the necessity of tendering and shall specify the type of energy investment requiring the tendering process for new construction.

ERO shall prepare a detailed description of all documents required for submission with a permit application and shall list them as part of the tender specification.

The successful tenderer must fulfil all tendering criteria. ERO must evaluate such criteria as set forth in Law on Energy Regulator and all applicable laws in Kosovo.

ERO shall promptly inform all tenderers in writing of the decision for award of the tender.

Upon award of the tender, the successful tender, within a reasonable time, shall submit to ERO all documents required as in Chapter 5 below and the Guidelines for application of a permit, with the exception of those documents previously submitted to ERO, pursuant to Article 8.3. Promptly upon submission to ERO of all documents required for the permit, ERO shall grant the successful tenderer a permit.

Upon completion of construction of the energy facility pursuant to a permit, the energy enterprise that was granted a permit shall submit to ERO all documents required for a license.

Where the permit holder has met all permit conditions set forth by ERO and, upon completion of construction, has fulfilled the document requirements set forth in this Rule, ERO shall issue to the applicant a license for the operation of the facility.

### **3.12 Embedded Generation – Hydro Power Plants**

“Embedded generation” normally represents small-scale power plants that are owned and operated either by power distribution utilities or private entities / developers. Their electricity production is fed/sold to the medium voltage grid (10 kV, 20/35 kV) of the distribution network. Regarding technologies, they can be industrial co-generation plants (selling the surpluses back to the grid) or HPPs. Their production regime is determined by the industrial process or agreed upon between the plant operator and the system operator. If the technical possibilities exist (e.g. water storage), the plant may follow the preferences of the system and contribute to the peak load, which increases the value of produced energy and available capacity. Should the installed capacity be more than 5 MW, such a generation facility should obtain a generation license for its operation according to law.

At present, there is only one HPP in Kosovo of this type, the operation of which is likely to start by end 2005 after the ongoing rehabilitation is finished – the HPP Kozhner in the Decani area. The HPP was first commissioned in 1957. Its operations stopped in 1998, afterwards it was destroyed and cannibalised during and after the conflict. Based on initiative of a private investor from Kosovan diaspora, a long-term lease agreement (20 years) and a 5-year PPA were signed with KEK/KTA in 2005. Following the law, ERO has to review and approve the PPA, which was done and ERO gave its consent. After the rehabilitation, the HPP will be able to provide 2x4 MVA and generate approx. 26,000 MWh/year. It is worth noting that this plant is the first initiative of a private investor in the energy sector of Kosovo after the conflict (Project Financing).

Apart from Kozhner, there are some other micro-HPPs that need rehabilitation (HPP Dikanc - 1.56 MVA, HPP Radavc – 280 kVA and HPP Burim – 560 kVA), before they could be restarted. Due to their low capacity, these power plants would not need any generation license by ERO.

## **4. Forthcoming Developments in the Power Sector of Kosovo**

### **4.1 Unbundling of KEK – Establishment of TSO**

Within the framework of a liberalised electricity market, appropriate economic efficiency and cost allocation, TPA under equitable conditions and avoidance of cross-subsidies require the restructuring of vertically integrated companies, in particular unbundling of the transmission and distributions functions of KEK. This also the obligation imposed by the Treaty establishing Energy Community.

The four conventional transmission functions are:

- Grid Ownership (long-term planning and expansion)
- Transmission Operation (Maintenance and short-term planning)
- System Operation (Real-time dispatch and control including balancing)
- Market Operation (Scheduling, Congestion Management, Settlements)

Because of clear conflict of interest, it is evident that the last two functions have to be separated and independent from any energy enterprise that controls generation or supply for matters of impartiality, fairness and transparency. This is why the unbundling of activities has been demanded in the legislation about restructuring. Since its inception, Electricity Industry restructuring and deregulation generated much debate over the “hot topic” of whether Transmission System Ownership should be separated from Transmission System Operation. Both models are allowed by the European Directive, as long as they have managerial decision-making independence and are legally unbundled. This report will not attempt to intervene in length to the debate, which is also currently under consideration in Kosovo, however ERO has a clear preference for the model of the “Integrated Transmission Company – TSO” which inherits the transmission assets of the incumbent utility, while assuming responsibility for the Operation of the system, in order to facilitate competition under market based conditions. ERO believes that a non-profit operator – but not owner of transmission lines (ISO) lacks the structure or incentives required to respond to market conditions and thus has inherent, built-in inefficiencies. In addition, the transfer of transmission asset control - but not ownership - to an agency with little incentive to maximize return on those assets, makes little sense from a business perspective. However the issue of final structure model chosen is not for ERO to decide but involves a political decision (MEM) and of course KEK itself. The required restructuring of transmission functions of KEK (Strategy and Blueprint) has been reviewed under the regional SEETEC project supported by CIDA of Canada (completed in January 2005). The recommendations of this action will help PISG bodies as well as the WB (ESTAP III) and the EAR consultants to continue with the final design of future TSO of Kosovo and during the implementation phase of TSO establishment.

The process until the TSO becomes fully operational, will follow the likely roadmap as follows:

- EAR: TA on incorporation of POEs (KEK – TSO can be incorporated as a separate legal entity or as an ISO with the assets remaining under the “holding company” KEK), start: January 2005 (see Section 4.2);

- WB: TA on TSO (Establishment of TSO Grid Code/Transmission Policy framework), start: mid 2005 (see also Section 2.6);
- EAR: TA on Institutional Building Support to ERO (related tasks: Market Model and Tariff Methodology);
- WB: TA on establishment of tariffs (transmission, retail, etc.), start: mid 2005 (see also Section 2.6); and
- EAR: implementation / establishment of TSO (TOR not available yet).

In 2004-2005, ERO has participated in the Steering Committee of ESTAP III as well as in the SC of the “Incorporation Project” of EAR. According to primary energy legislation, ERO is charged with monitoring of management and accounts unbundling in KEK. Also, in the present absence of the Market Operator in Kosovo, ERO has taken lead in preparing the initial Power Market Design for Kosovo, of which an important part is the decision on the structural model of TSO.

Based on conclusions of the meeting between the stakeholders in February 2005, an ECSG (Energy Community Steering Group) will be established aiming at ensuring that institutionally sensitive changes take place smoothly, in time, and in a well-coordinated manner. The issue of coordination has been found as deficient by several international donors recently. ERO will actively participate in the ECSG, too.

## 4.2 Incorporation of POEs (KEK and DH Companies)

In February 2005 EAR has started the project for incorporation of POEs, including KEK and the DH company of Prishtina/Priština (Termokos). This is a prerequisite for unbundling KEK and establishing the TS and Market Operators as foreseen by the law. As explained more in length above, a strong independent and asset owning TSO is the preferential option in Kosovo, primarily due to impartial treatment of the existing utility (KEK) and any new IPP in the future. Impartial planning and operation of the Transmission System, allocation of cross-border capacities, treatment of congestion management, and access to the transmission networks is a basis for confidence of the investors. In addition, due to the small scope of anticipated electricity market in Kosovo in the future, to maximize synergies and optimally use the limited resources and existing infrastructure, the Market Operator’s functions should also rest with TSO (but as an “unbundled” activity from system operation and transmission services). As a consequence, it is recommended that Independent TS and Market Operator (ITSMO) should be established in Kosovo as soon as possible. Such ITSMO would need two operational licenses from ERO, for TSO and MO, respectively.

In April/May 2005, an Inception report shall be prepared by consultants, where the detailed way of incorporation will be prepared. Subject to approval by the Steering Committee, where ERO is also represented, KEK should be incorporated by end 2005.

## 4.3 Appointment of Eligible Customers – Market Opening

‘**Eligible Customers**’ means customer who are free to purchase electricity from the suppliers of their choice as described in “definitions” of EU Directive; 2003/54/EC, and Law on Electricity 2004/10.

### *Eligibility Criteria:*

The eligibility requirements may be:

- *Technical:*
  - annually electricity consumption level
  - high and/or medium voltage connection
- *Legal:*
  - residency status or permanent residence
  - not to be immune to local prosecution
  - possibility to be prosecuted in own name
- *Economic and financial:*
  - up-to-date payment of electricity invoices;
  - credit rating, determined with **financial indicators** calculated based on data from the balance sheet and profit and loss account.
    - current liquidity
    - solvency
    - gross profit ratio

In compliance with Article 22.2 of Law on Electricity, MEM shall prescribe the conditions for the determining eligible customers in an implementing instruction to be adopted no later than January 31 of each year. The criteria shall include the extent of their electricity consumption and proportion of energy costs to the prices of their products and services.

#### ***Appointment of Eligible Customers***

A customer may obtain the status of eligible customer by responding to a public announcement that ERO will launch each year (Article 22.3 of Law on Electricity).

#### ***Rights of Eligible Customers***

- A right to conclude contracts with: Suppliers, traders, producers, transmission and distribution systems
- Have option to be supplied by the public supplier under procedures established by the Energy Regulatory Office.

#### ***Obligations to Transmission and Distribution Networks***

Eligible customer shall notify the transmission network operator in advance of the contracts that will be signed for the supply of electricity, in accordance with the terms and procedures set out in the Trade Code (Market Rules), issued by the market operator and approved by ERO (Article 22.5 of Law on Electricity).

The MEM shall establish an information campaign providing assistance to the eligible customers willing to change the supplier(s).

### **4.4 Prospects for Renewable Energy Sources**

Based on estimates published in the WB ESTAP I reports Kosovo has low hydropower potential (1982 TWh/a), as well as geothermal sources with low temperature, and low potential for wind and solar energy.

Biomass/wood is an important resource used for heating in individual houses. The total wooded area in Kosovo is more than 4,000 km<sup>2</sup>, with a wood stock of 30 million m<sup>3</sup>. The yearly growth of

the wood stock is around 1.0 million m<sup>3</sup>, compared with an estimated yearly consumption (year 2000) of around 1.0 million m<sup>3</sup> of firewood alone. More timber is cut for lumber in the booming construction sector. The data indicates that the fuel wood consumption in Kosovo reached a level equal to the forest re-grow, and in the years to come wood consumption should be kept under control in order to avoid forests depletion.

As indicated above, hydropower is only on a very small scale. There have been plans for the development of a new HPP “Zhur”, with about 292 MW of installed capacity and total annual generation of app. 400 GWh, representing almost 60% of hydro-energy production potential technically feasible in Kosovo. Apart from several streams where construction of small-scale / micro HPPs would be technically possible, another considerable hydro potential is the area of Rugova valley in the vicinity of Peja/Peč. If the main problem associated with the HPP Zhur is the relatively high cost of generated electricity, the Rugova valley is environmentally very sensitive and questionable.

Geothermal energy is available in the northern part of Kosovo in Malisheva, Klllokot etc. However, the resources have not yet been determined due to lacking exploratory works in the past.

Wind resources are assumed to be scarce due to the specific location of Kosovo sheltered by mountain chains in most directions. The potential has not been properly evaluated so far.

Solar heating is in some context regarded as a potential low-temperature heat source. Based on meteorological data for Kosovo and the efficiency of modern solar collectors, it is reasonable to assume a peak production capacity in the months of July and August of approximately 300 W/m<sup>2</sup> and a total yearly production of approximately 360 kWh/m<sup>2</sup>/year. However, because of its cost, solar heating at residential level may be only considered if appropriate incentives (lower tax or import duties for example) are in place. If that was the case, solar heating could potentially be used to displace some electricity demand that is currently used for heating purposes.

#### **4.5 Prospects for Liberalization of Kosovo Energy Sector**

Competition, regulation and private sector participation are key factors for good performance in the energy sector.

Some typical characteristics of a liberalized energy market:

- Number of Eligible customers (and percentage of total demand), which is a measure of the level of market opening;
- How many Eligible customers have switched suppliers, which is a measure of the level of competition;
- No monopolistic behavior, market abuse or predatory pricing – true competition at all levels, eventually leading to lower prices to end-customers;
- Free access to the networks under non-discriminatory rules and published tariffs;
- Equal treatment of constrained conditions – congestion management and disputes.

Due to the small size of the power system in Kosovo, an efficient, liquid, liberalized market with variety of generation mix could be established – in the medium-term – on a sub-regional level with close co-operation and harmonization of the regulatory framework with the neighboring systems. Market Rules, Access rules to the grid, and to the inter-connection capacity, are particularly important for such harmonization, which will benefit many neighboring systems, as they are complimentary in many aspects. ERO will be working in promoting the establishment of



a sub-regional market in the medium term as well as of course participating in the process of SEEREM.

In the future the private sector participation particularly in distribution and supply business is required aiming at providing competition to KEK and incentives for the reduction of the very high non-technical and network losses. In addition, there are other options with objective to improve the performance of the power sector, like lease/concession agreements (involving private capital injections), management contracts (knowledge transfer) and/or even potential privatization in the future – all will increase the efficiency and profitability of the future licensees of ERO.

#### 4.6 The Athens Process

As early as 2002 EC took the initiative to develop a harmonized regulatory framework in SEE, in order to facilitate investments, underpin the security of supply for the whole region and contribute to its rapid economic growth. This was called the “Athens Process”. On behalf of Kosovo administered by UN, UNMIK/EU Pillar signed Athens MoU on REM (subsequently called Energy Community of South East Europe - ECSEE) in April 2002 and its revision in December 2003. By doing that, Kosovo became an equal partner and player in establishing SEEREM.

UNMIK on behalf of Kosovo has already initialized in March 2004 the Treaty establishing the “Energy Community of South Eastern Europe” (Treaty establishing the Energy Community) and is planning to sign it in July 2005. The initialization means all parties are now in Agreement with Text, while its entry into force is planned for early 2006 at the earliest, provided the successful ratification process by the European Commission and 6 Contracting Parties. The participation in the Treaty establishing that Energy Community is therefore an important mechanism to implement the above-mentioned and challenging the energy sector policy.

The Treaty will be signed between the EC on one hand and the 10 Contracting Parties (further called *Adhering Parties*) on the other; the Republic of Albania, the Republic of Bulgaria, Bosnia and Herzegovina, the Republic of Croatia, the former Yugoslav Republic of Macedonia, the Republic of Montenegro, Romania, Serbia, the Republic of Turkey, and UNMIK on behalf of Kosovo pursuant to the United Nations Security Council Resolution.

The main purpose of the Treaty is to establish legally binding relations between the Parties in order to create harmonized legal and economic framework in relation to Energy Networks. Contracting parties have committed to adopt the European Union’s *Acquis Communautaire* in Energy, Environment, Renewables and Competition.

Furthermore, the specific objectives are:

- Create a stable regulatory and market framework capable of attracting investment in Energy Systems.
- Create a single regulatory space for trade in Energy Networks that is necessary to match the geographic extent of the concerned product markets,
- Enhance the security of supply of the single regulatory space by providing a stable investment climate in which connections to Caspian, North African and Middle East gas reserves can be developed, and indigenous reserves of natural gas and coal can be exploited,
- Improve the environmental situation in relation to Network Energy and related energy efficiency, foster the use of renewable energy, and set out the conditions for energy trade in the single regulatory space,



- Develop Energy Networks market competition on a broader geographic scale and exploit economies of scale.

To achieve complementarities with EU legislation the *Acquis Communautaire* of the Treaty shall apply to specific *acquis* on: Energy; Environment; Competition; and Renewables.

The majority of EU energy and environmental legislation is in the form of **Directives**. Directives are designed to impose obligations on Member States, but to be flexible enough to enable Member States to implement the requirements using their own legal and administrative system.

The current **EU legislation on energy** consist of following directives, regulations, and decisions:

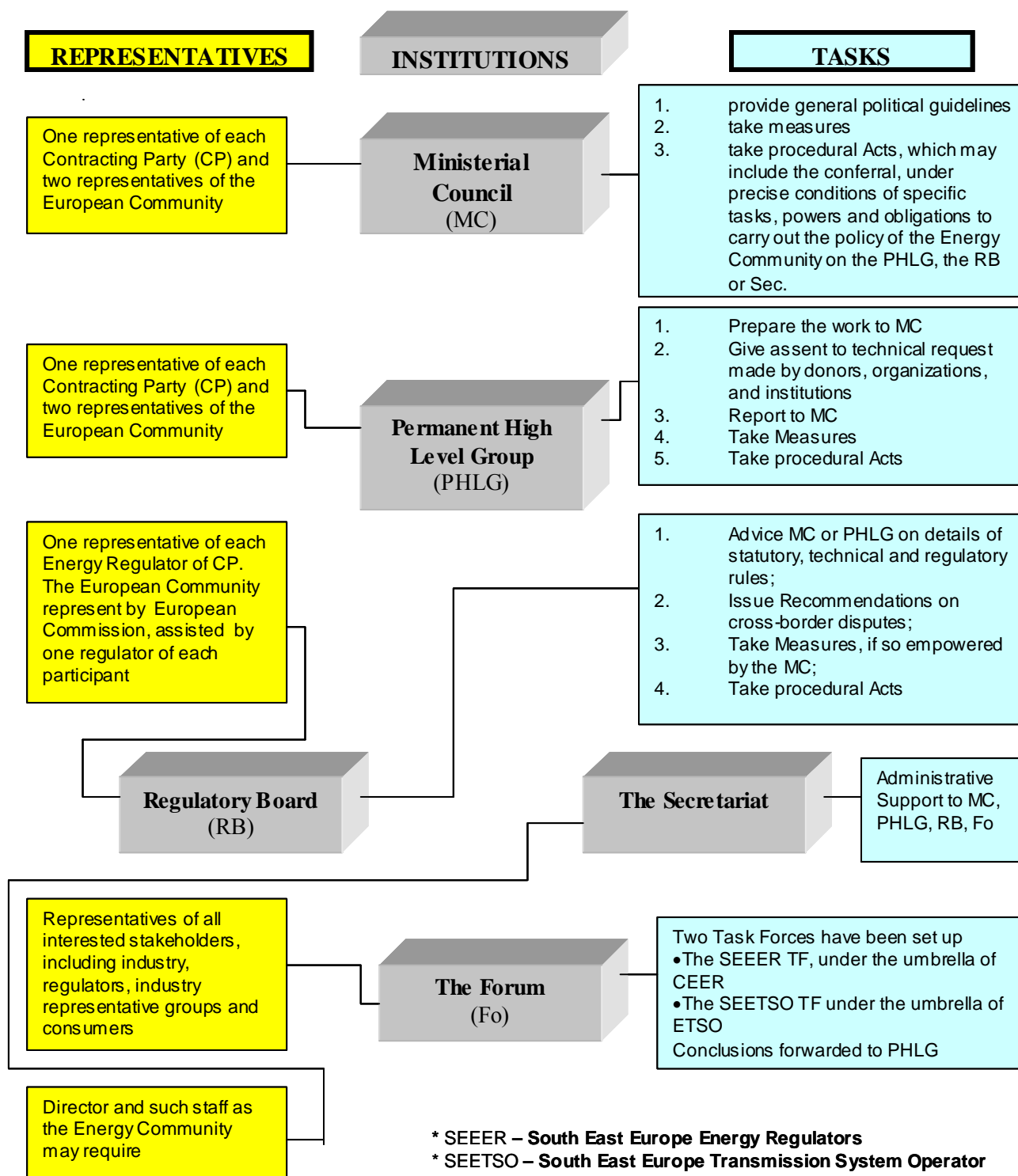
- **Directive 2003/54/EC** of 26 June 2003, concerning common rules for the internal market in electricity and repealing Directive 96/92/EC; **Directive 2003/55/EC** of 26 June 2003, concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC; **Directive 2001/77/EC** of 27 September 2001, on the promotion of electricity produced from the renewable energy sources in internal electricity market
- **Regulation (EC) No 1228/2003** of 26 June 2003, on conditions for access to the network for cross-border exchange in electricity
- **Decision 2003/796/EC** of 11 November 2003, on establishing European Regulators Group for Electricity and Gas, **Decision 1229/2003/EC** of 26 June 2003, laying down a series of guidelines for trans-European energy networks and repealing Decision No 1254/96/EC, **Decision 1230/2003/EC** of 26 June 2003, adopting multinational program for the action in the field of energy: 'Intelligent Energy – Europe' (2003 – 2006)

The majority of **EU environmental legislation** concerning energy is in the following EU Directives:

- **Directive 2001/80/EC**, on the limitation of emissions of certain pollutants into the air from large combustion plants; **Directive 1999/32/EC**, relating to a reduction in the sulphur content of certain liquid fuels and amending Directive 93/12/EEC; **Directive 96/62/EC**, on ambient air quality assessment and management; **Directive 1985/337/EEC** on the assessment of the effects of certain public and private projects on the environment; **Directive 79/409/EEC** on the conservation of wild birds.

The institutions of the Energy Community, as shown schematically in Figure 4.1, manage the Athens Regulatory process.

**Figure 4.1: Institutions of the Energy Community**



#### 4.7 Obligations of Treaty Establishing the Energy Community Contracting Parties including Kosovo

The specific obligations of the Contracting Parties of the Treaty establishing Energy Community are as follows:

- Implement *Acquis Communautaire* on Energy:
  - Implement the EC Directives n<sup>o</sup> 2003/54 and 2003/55, and the EC Regulations n<sup>o</sup> 1228/2003 within six months of entry into force of the Treaty;
  - The contracting parties must ensure that the eligible customers are:
    - (i) From 1st January 2008, all non-household customers; and
    - (ii) From 1<sup>st</sup> January 2015, all customers.
- Provide Timetable (six months) for implementation of *Acquis Communautaire* on Environment;
- Accede to Kyoto Protocol (one year);
- Provide to the European Commission a plan to implement the Directives 2001/77/EC and 2003/30/EC of the European Community on the renewable sources;
- Adopt development plans to bring their Network Energy sectors into line with Generally Applicable Standards of EC within one year after a List of such standards are prepared by the Secretariat and adopted by the Ministerial Council (for details on ECSEE bodies, see Figure 4.1);
- Adopt security of supply statements describing diversity of supply, technological security, geographic origin of imported fuels and other elements (within one year). The statements shall be communicated to the Secretariat of ECSEE (located in Vienna), and shall be available for any Party<sup>5</sup> to the Treaty. They shall be updated every two years. The Secretariat shall give guidance and assistance in this respect.

In addition to the above obligations directly arising from the Treaty establishing the Energy Community, among others, Kosovo has to:

- Create a stable regulatory and market framework permitting the efficient operation of Network Energy Market and capable of attracting investments in the energy sector;
- Take measures and support energy enterprises to improve their technical and financial performances;
- Establish an independent TSO or a legally unbundled TSO under the vertically organized energy enterprise of KEK; (6 months after the entry into force of the Treaty)
- Take measures to improve the capacities of TS and interconnections;
- MEM to set the criteria for eligible customers;
- Ensure that there are no customs duties and quantitative restrictions on the import and export of network energy (electricity and gas).

#### 4.8 Standard Market Design - Prospects for the SEE Electricity Market and the Position of Kosovo in Such Market

As mentioned in previous chapters above, the “Athens Process” is seeking to create a competitive regional market for electricity in SEE, where all customers enjoy continuous supply of electricity and have choice of supplier. The electricity market must deliver reasonably priced energy with the highest service levels to the final customer. To achieve this objective, the EC led the initiatives as described to underline the basic requirement that the signatory parties to the Treaty establishing the Energy Community have to quickly adopt legislation and build institutional capacity and rules enabling them to be in line with the *Acquis Communautaire*.

Nevertheless establishment of energy markets do not happen overnight simply by the setting of rules but as a result of careful design. By just introducing competition it does not create an efficient liquid market, but there is clearly the need of carefully designed rules, interfaces and trading arrangements. A successful fully competitive energy market (on a regional level) is the final result of a stage-by-stage approach in each step of which the necessary pre-requisites for formation must exist. The elements that need to be in place for the markets to be competitive and work properly are:

- Many Buyers and many Sellers – lack of market power on both sides;
- Demand and Supply responsiveness to price;
- Liquid (easily absorb the addition or loss of any player without a noticeable change in the market price) and efficient (if participants cannot predict which way prices will move) market places;
- Transparent and non-discriminatory access to any essential facilities (networks);
- Treatment of subsidies and environmental controls so that they do not interfere with the workings of the market.

Achieving all the above in electricity is quite a substantial design job, due to its special physical characteristics namely; of non-storability, flowing through the path of least resistance, that transmission of power over the network is subject to a complex series of physical interactions, so that what happens on one part of the system affects conditions on the network many miles away, and finally propagation at the speed of light. The first characteristic implies that the System Operator who has the responsibility for real time operation has to deal with **Imbalances**; the second characteristic implies that transactions of electricity over the network can affect any or all other transactions, requiring **Congestion Management** by the SO; the third characteristic requires the production of other services – **Ancillary Services** – necessary to make the whole integrated system to work; and finally fourth characteristic implies that the SO has to be in charge of the fluctuating needs of supply and demand, the imbalances, the congestion and the complex interdependencies through the process of **Scheduling and Dispatch** in real time. The trading rules that deal with the four features of electricity just mentioned are the four pillars of good electricity market design. All other aspects of market design become quite straightforward once these are in place:

- Imbalances;
- Congestion Management;
- Ancillary Services;
- Scheduling and Dispatch.

A complete Market includes:

- **Spot Markets** - for most commodities these are markets for immediate delivery. However in electricity and due to its natural characteristics, spot markets are usually developed on “**Day Ahead**” basis (i.e. bids and offers are submitted 24 hours ahead for delivery next day), usually on an hourly or half-hourly settlement. Contracted energy can never exactly match the actual real time requirements of the market players therefore the Spot Market plays the role of a day-ahead market (DAM) which allows the market participants to fine tune their positions and facilitate contracting close to real time. It is also used to streamline and facilitate the settlement of transactions between market players. The role of Spot Markets in electricity is played by the **Pools** and increasingly by the emerging **Electricity Power Exchanges**. Electricity PXs are “energy only markets” since they do not take into account any technical aspects, and if they develop adequate liquidity they can provide on a regional basis (hub) a useful public price index underlying the spot value of the commodity (MWh), which provides a transparent benchmark for bilateral transactions and hedging purposes. PXs are developed as a natural consequence to the expressed demand by all Market Participants to have an organized marketplace to facilitate short term trading, where anonymous transactions (an important consideration in a competitive environment) can take place under reduced credit risk, since all transactions are covered by the PX’s clearing house. Parties who hold net positions when an exchange contract expires (or declared programme in the case of DAM), and can therefore not be further traded, will be required to deliver or accept electricity on the HV grid of the System Operator, or be exposed to the imbalance price. Any cross border or transit arrangements that this entails will be the responsibility of these parties and not the exchange.
- **Bilateral Trading Market** – The main bulk of transactions in electricity is done through bilateral contracts of many types in the so-called “Over the Counter” market – OTC. Electrical energy is a homogeneous product (MWh) bought and sold as commodity through contracts. The contracts can be **physical** (for delivery) or **financial contracts** (for hedging), however all contracts share 4 characteristics: a defined period, a defined amount of electricity, a defined location and a price.
- **Forward Market** is the market where delivery is at some point in the future. Suppliers for example buy in advance using long-term forward contracts to cover their consumption and hedge against the volatility of prices.
- A **Future Market** is one type of forward market that takes place in a PX. It relies on standardised contract terms – the only item that can vary is price – so that market for that forward contract is liquid and facilitates trading. **Risk Management Tools** include contracts, SWAPS, insurance, hedges and options.

Forward contracts and markets are useful for buyers and sellers because they fix the price in advance, reduce price risks to both and may provide liquidity, which helps to underpin the costs of expansion. Different markets develop different mixes of contract and spot sales, depending on the participants’ appetite for risk, and the underlying nature of the product.

There have been many alternative models of Electricity Market Design and the final judgment on their degree of success is still not passed. A full description of all models or the best way to categorize them is outside the scope of this report, however there have been two schools of thought in classification; One based on the scheduling and dispatch arrangements differentiates between the “compulsory” **Gross Pool model** through which all energy is traded at the market clearing price and the **Bilateral Trading or Net Pool** where there is self-dispatch and most of the

energy is traded directly between generators and suppliers through bilateral contracts, while the net pool is used to clear the residual energy or any un-contracted demand. The second and most modern school of thought on classification of electricity market models is based on the degree to which operational and commercial arrangements for scheduling and dispatch, imbalances, congestion and ancillary services are integrated with **spot markets**, and differentiate between the **integrated, wheeling and decentralized** models.

Under the **integrated model** (PJM, NY, New Zealand, NORDPOOL), the System and Market Operator schedules forward contracts at the request of traders, but also takes bids from traders to modify scheduled contracts and to provide imbalances, congestion management and ancillary services. The SMO runs the spot market using a large optimization program and by doing so, the SMO minimizes the overall cost of these services.

Under the **wheeling model** (rest of USA), an integrated utility with its own generation runs the transmission and system operation; it provides access to the transmission by scheduling contracts at the request of traders, after it has scheduled its own resources for its own load. The utility provides imbalances and manages congestion and ancillary services at regulated prices. There are no formal spot markets.

Under the **decentralized model**, (UK, California, Texas) the SO also schedules traders' contracts, but the aim is to get the SO out of the spot markets. The SO has to administer arrangements for imbalances. As far as possible the traders, run the spot market and manage congestion; separate arrangements are set up for ancillary services.

From all the above it emerges that the first important pre-requisite in the development of an electricity market, is the immediate establishment of an explicit wholesale market, which in order to be successful it needs to be accompanied with mandatory regulated Third Party Access, full legal and functional unbundling of transmission and distribution and establishment of non-discriminatory, regulated balancing mechanisms, and in due course of balancing markets.

Efficient Wholesale Markets bring extensive benefits to Customers. Liquid wholesale markets are used to discover the true cost of energy in "forward" contractual horizons and therefore to hedge and manage the price risk. Liberalization has effectively created a new wholesale marketing or "trading" function in electricity markets. Wholesale electricity market prices tend to be highly volatile and peak prices can often be several times the average price of power. The trader will offer prices fixed for future periods allowing generators and retailers to lock in their margins in advance of delivery.

The wholesale marketer performs the following basic functions:

- Aggregating a portfolio of generation purchases from a variety of independent sources (including imports) for delivery at some future time; and then
- Disaggregating or "repackaging" that portfolio in onward sales to retailers and to those customers sourcing their own requirements;
- Unlike many other industries, power is a perfectly fungible commodity one MWh is identical to the next MWh, which allows wholesale electricity to be traded as a standard product in liquid forward and spot markets. As competition increases, a range of standard forward products delineated by time period and geography become actively traded. As mentioned above in European mature markets, power is openly bought and sold in the following products: individual half-hours; six daily blocks of eight half-hour periods; individual days; blocks of weekdays and weekends individual months; seasons; and annual contracts for several years into the future.



This is a typical breakdown of products in a liberalized and competitive power market. Contracts are traded bilaterally, over-the-counter via brokers and on screen-based markets and on power exchanges with the result that the prices for buying and selling these products are readily observable to market participants. This allows all market participants – including traders - to make informed decisions on when and how to source their requirements. Vertically integrated players, independent generators, independent retailers and wholesale traders compete to buy and sell in these markets. As competition grows between these players, these forward markets become increasingly liquid, such that the market participants can buy or sell significant volumes without a material impact on market prices. In turn, the spread between buy and sell prices (i.e. the “premium” paid by market participants for managing their wholesale market risks) narrows. This results in huge efficiency savings along the value chain for the production and sale of electricity. These efficiency savings can be broadly broken down as follows:

- **Efficient operation and maintenance.** Generation is sourced at least cost. Over longer-time periods, forward market prices provide signals on the most advantageous time to take a generator off for maintenance. Similarly, large customers with tariffs linked to wholesale prices may choose not to consume at particular times of the day or year to avoid relatively high prices. The overall result is an economically efficient pattern of generation and consumption.
- **Efficient risk management.** Forward markets allow market participants to buy and sell electricity over many different periods and to fine-tune their portfolios as their expected requirements change. Traders facilitate this process by adding liquidity and reducing the costs of buying and selling power (indeed traders can only profit if they can manage these risks more cheaply than physical market participants). Liquid forward markets allow market participants to reduce their volume and price risks which in turn leads to stable cash flows and reduced financing costs.
- **Effective competition in generation and retail.** The presence of a liquid wholesale market significantly reduces the barriers to entry for independent generation and retailers. Even small generators and retailers will have access to efficient markets for risk-management services without the need to build a substantial portfolio of assets or customers to manage those risks internally. This will promote competition in retail and generation and deliver further benefits to customers.
- **Efficient investment and improved security of supply.** Liquid wholesale markets provide signals several years into the future on the level and pattern of prices. This provides efficient signals on when to invest in new generation to meet demand. New investments will take place when forward prices rise to account for increased tightness between demand and available capacity. This ensures that adequate generating capacity is constructed. Moreover, in shorter timescales, the ability of market prices to rise to reflect shortages can provide efficient signals to bring on additional generation, to accelerate maintenance, defer consumption etc. The transparency of the market price signals therefore provides a direct, financial incentive to underwrite security of supply.
- **Efficient use and expansion of transmission infrastructure.** Transparent, liquid regional wholesale markets provide effective price signals of the value of electricity within each region. As a consequence, clear signals are also provided of the value of interconnections between these regional wholesale markets. When market participants can freely access the capacity at the interconnections, power is efficiently transferred between regions and congestion on those interconnections is managed optimally. In turn, this provides efficient longer-term signals on the value of expanding transmission capacity to facilitate more flows between regions. This can provide an invaluable guide



to transmission companies and regulators in prioritizing transmission capacity expansions, which in turn further strengthens security of supply.

Competitive wholesale markets therefore bring significant efficiency savings to customers. The development of liquid, transparent forward markets is crucial to the realization of these benefits. Efficient Markets require greater Information Transparency for all market participants. Therefore full transparency of information at wholesale level to all market participants, both “ex ante” and “ex post”, regarding transmission capacity availability/ utilization, demand levels and generation availability/ output is required.

Another pre-requisite for the development of a Wholesale Market on a regional basis is the Cross border co-operation between governments, regulators and TSOs; Divergent legal standards, particularly in electricity transmission access and in generation, may cause distortions in competition. A certain degree of harmonization is therefore required to ensure a level-playing field in the regional electricity market, especially in rules for cross border transmission and allocation of transmission capacity at borders as well as in measures governing market opening, third party access and unbundling. These measures should include:

- No import/ export restrictions;
- No transaction related cross border transmission tariffs; this implies the setting of a uniform CBT compensation mechanism for the recovery by the regional TSOs of the costs incurred due to transit flows. As of 1<sup>st</sup> July 2004 an inter-TSO compensation scheme proposed by SETSO TF has been put in place along the same conceptual design lines as the ETSO CBT mechanism in Western Europe. It is very important to emphasize that **Kosovo and its transmission assets have not been included in this scheme** as well as the one proposed for 2005. Instead the transmission assets operated by KEK, have been included in the horizontal network of EPS, the power utility of Serbia. Kosovo does not receive any compensation for the transit flows through its network instead those are aggregated to the transit flows through EPS. Moreover EPS has stopped to pay for transit flows compensation on the basis of a bilateral agreement between KEK and EPS, which was signed in 2002 and was in force. Several attempts at the highest political level (EC and Government of Serbia) have been made in 2004 and February 2005 with no positive result up to now due to the refusal by EPS to accept Kosovo representatives to the SETSO TF. In the absence of co-operation from EPS, Kosovo may have no other way but put in place its own mechanism of “transit charges” for flows that incur losses and costs to the transmission assets operated by KEK.
- Mutual recognition of supply licenses, retail and wholesale;
- Open exchange of information between TSOs concerning modeled flows, expected flows, nominations and congestion forecasts;
- Fully coordinated cross border congestion management using market-based methods. Again SETSO TF was set-up to propose a coordinated scheme based on market principles and again Kosovo was exempted from the proceedings on the insistence of EPS.
- Co-ordination between TSOs to include arrangements to manage congestion away from borders wherever possible by e.g. re-dispatch of plant, counter-trading;
- Harmonized TSO nomination procedures, time and volume blocks for trading and gate closures, balancing and intra-day arrangements;
- Compatible market designs.

Regarding the design of a regional SEE market, the Commission also believes that the establishment of a regional electricity market is an evolving and gradual process and initially invited all countries to proceed with essential electricity market reforms, all in line with the common format put forward by CEER. In March 2003 CEER proposed a strategy and basic model principles for the development of a REM, the so-called **Standard Market Design – SMD**. Each country should develop its own electricity sector legislation so that as a forthcoming stage, a regional electricity market may become operational. The ultimate objective is to create good functioning electricity markets, which are open to trade. The design of the national electricity market shall be based on the following assumptions:

- Establishment of a Independent Regulatory Authority;
- Establishment of an Independent System Operator (TSO);
- Definition of non-discriminating and transparent rules for the TPA to the Networks, including Interconnectors;
- Establishment of tariffs for the use of the network;
- Sufficient unbundling of the TSO;
- Legal separation of generation, transmission and distribution/supply;
- Definition of eligible customers;
- Creation of a Wholesale Markets by December 2005 and a Regional one from December 2007; Establishment of competitive markets both in generation and supply to eligible customers and suppliers to end customers.

In considering the design of the wholesale market it is recommended that each participating country should:

- Establish a competitive market model mainly based on bilateral contracts;
- Wholesale buyers (suppliers to final customers and large customers directly connected either to the transmission or to distribution grid) can choose their supplier bringing competition into the generation and wholesale supply;
- Establish a suitable balancing mechanism which is conducive to new suppliers, taking into account the generation market structure in the country concerned;
- Establish and enforce rules, which allow the creation of a non-discriminative competitive wholesale market conducive to investments.

All reforms should be done in compliance with the European legislation and standards, particularly the EC 2003/54 Directive and Regulation (EC) 1228/2003. Therefore, energy regulators should be independent from any industry interest. The regulator's main task is to create and implement a system of regulations with a view to ensuring the proper functioning of the electricity sector and market in terms of efficiency, competition, and transparency and customer protection. The regulator has to issue methodologies to establish tariffs for electricity transmission and distribution systems and to determine balancing arrangements. It should also oversee system operation, ancillary services, the electricity wholesale market and tariffs charged to captive electricity customers. Tariffs must be cost reflective and ensure adequate recovery of costs, including a reasonable profit commensurate with the market risk of the regulated activity. Moreover, the regulator should prepare a non-discriminatory, transparent and fair system for license granting.

Similarly the TSO must be independent of any commercial interests on the electricity market (generators, suppliers, or eligible customers) at least in terms of legal form, organization and decision-making. TSO actions and decisions regarding the development of the national grid and of the inter-connectors with neighboring countries should be influenced by the requirement to ensure the economic efficient physical support of the regional electricity market at economically justified costs.

Therefore the phased approach as proposed by the Commission involves an institutional build-up in the first phase, ending on December 2005, during which the legislative, regulatory and technical rules for the development of each national market in the SEE region will be concluded. In the second phase to be completed by December 2007, will comprise the full detailed development of the regional market trading arrangements and interfaces between national TSOs and the regional market operator. The third phase, starting from January 2008, is the actual, real-time operation of the Integrated SEE regional energy market.

A market design for the region is an option. The market design could be either a unique system across the region or a series of compatible national markets with regional trading. The main characteristics in brief of the proposal of CEER is as follows:

### ***Standard Market Design***

Trading Structure: A mixed **pool** and **contract-based** market, at two levels (regional and national) encompassing:

#### **Bilateral contracts** with physical delivery

- Standardized type, basically non regulated, except if supplier is regulated;
- “Ex-post” control at national/local level (but harmonized) against excessive dominant positions;
- Submit balanced offers to Day Ahead – Subject to balancing arrangements;
- Preferably throughout the SEE region – Transmission Quota Reservation.

#### **Regional Day-Ahead market**, operated by a Regional Market Operator RMO

- Partial non mandatory pool – Handles mostly regional trading flows;
- Liquidity supported by ad hoc measures (obligations for partial must-buy on regulated suppliers and partial must-offer on certain generation resources, like hydro).
- Real-time dispatching and flows managed by the TSOs and their cooperative regional organization (SEETSO).
- Simple accounting rules for balancing prices;
- Two-level clearing: regional and national;
- TSOs contract for reserve energy and ancillary services.

The regional market could become operational from December 2007. Transactions will be carried out either through bilateral contracts, with physical delivery, or through the SEE regional wholesale Day Ahead Market (DAM).

### ***Wholesale Market Design***

It is only natural, expected and welcomed, that trading will be initially performed on the basis of bilateral contracts between generators and suppliers (or end users) and between suppliers and other suppliers and/or end users throughout the SEE region. Bilateral contracts will always be one of the pillars of the liberalized market in SEE, especially in its early stages of development. It is only, though, through the existence of the framework described above that bilateral contracts between players of the countries of the region (and also between the countries of the region and external parties) will be conducted and implemented on a transparent and non-discriminatory manner, without distorting competition or exercising market power by the incumbents of the region. Based on standardized trading contracts, a functioning **contract exchange**, acting as a clearing mechanism as well, should be set up. This might create liquidity in the power, gas and carbon markets and also provide benchmark regional prices. Donors (EBRD) could assist in ensuring that non-market risks are assumed by the clearing mechanism.

**Mutual recognition of licenses** might apply at this stage. If a shipper is licensed in one state, his license might also be recognized in the other participating states on a national basis. The Regulatory Board might establish minimum criteria for license awards such as creditworthiness.

**Day-ahead markets at national and regional levels.** Besides the bilateral contracts with physical delivery, equally important for the market design is the establishment of a regional Day-Ahead Market that will be tightly connected to real-time balancing. The DAM is a non-mandatory electricity market where none, (with the exception of RFT suppliers obliged to buy 10% of their supply through this market for liquidity reasons) is obligated to purchase from or sell to it. The DAM performs price-driven clearing of electricity sale offers made by Producers and importers in combination with purchase offers put by Suppliers, exporters and end-users. The market clears for every hour, one day prior to the real-time day. The regional DAM is operated by SEEMO. Together with bilateral contracts, the DAM handles physical delivery of electricity, and will operate on a regional basis with the option of market splitting. Imports and exports will also be handled in the DAM. All power exchange transactions (supply and demand) will be scheduled through the regional DAM. This will be done in order to allow for the efficient operation of the electricity networks, at a regional level, for the next day (preliminary dispatching plan of power plants, forecasted mode of operation of the interconnectors, etc.). This will also provide to different TSOs (through their cooperation with SEEMO) an accurate indication of what the balancing needs on a national / local (and regional) level will be for the next day. Finally, it will provide market participants with transparent information on the real market for the next day and prepare accordingly. Issues of confidentiality of commercially sensitive information will have to be handled within the SEEMOC and TSO operating codes.

### ***Regulated End User Tariffs during Transition Phase***

It is considered that a gradual transition to a competitive market is necessary and that this should be obtained by dividing the electricity market into two components. Each country should designate:

- A retail tariff segment (Public Supply), which is regulated and based on cost and tariff transparency and unbundling. It is clear that this market segment has to be well defined and include households and small businesses. Regulators could be invited to define the eligibility threshold;
- A wholesale market, which is the competitive market of bilateral contracts with negotiated quantities and prices for eligible customers.

A Regulated Fixed Tariff Regime (RFT) will allow smooth transition and to protect customer categories from price spikes.

Under RFT:

- a) Electricity prices bundled (with transmission, distribution and other costs) in the RFT are regulated at a national/local level and include the due proportion of costs incurred by the TSO for energy, balancing and ancillary services;
- b) Regulated Suppliers (RS) are licensed by the relevant Regulatory Authority. They are subject to regulation establishing special capacity obligations for the supply of their own customers. The exact terms and conditions of their operation will be subject to national circumstances (e.g. standard bilateral contracts through public tendering, regulated prices to customers, etc). They shall be constrained to follow transparent and non discriminatory procedures for the conclusion of bilateral contracts (e.g. through public tendering procedures);
- c) Regulation over the bilateral contracts will also ensure the financial viability of both Producers and Regulated Suppliers.

After December 2007, what further enlargement of the eligible customer definition - allowing more entrants into the wholesale market - will need to be addressed in line with the requirements of Directive 2003/54 and the Treaty Establishing Energy Community.

### ***Balancing of the Market & Ancillary Services***

TSOs are responsible of the real time operation of the market. Over the initial stage of developing the market, the implementation of a market based mechanism for balancing and reserves is not the appropriate solution. A real time balancing mechanism and ancillary services system will be performed at national level. Administrative prices will exist for settling deviations and paying for ancillary services based on true incurred costs and on “ex-ante” methodologies.

### ***Regional Trading Centre***

The application of the CBT mechanism and the coordinated congestion management are prerequisites but not adequate for the development of the efficient regional trading. A central market place would mostly facilitate this trading. For this reason efficient regional trading requiring the concurrent growth of trading mechanisms and infrastructure has been facilitated in the advanced countries (as mentioned above) by the development of spot markets, power exchanges and pools that are further supported by credit institutions, such as clearing houses and credit banks.

The establishment, within 2005, of the SEE Trading Centre, is proposed, based on the infrastructure, knowledge basis and experience already existing in the more advanced markets in the region (Slovenia, Romania – “Borzen” and “Opcom”, respectively) with the participation of every national market operator already in operation in the countries of the SEE region. The role of this Trading Centre will be to act similarly to a regional Power Exchange for the electricity exchange transactions between regional market players. The participants to this market place may be all regional power generators, all registered traders or brokers from every country of the region and also all eligible customers from every country of the region. Trading through this Trade Centre should be completely voluntary. At the initial stage of development, the Trade Centre may offer simple products, such as OTC bilateral contracts, where two entities agree to trade a bulk amount of electricity in time sessions that may vary. It might also develop standard tradable contracts (products) for multi-regional exchanges, traded as futures.

The Trading Centre will be supported by a clearing-house for the participants, performing also the accounting and settlement of transactions concluded on the organized market. It will act as the central counterparty in each transaction concluded and will ensure the fulfillment of financial obligations to the participants. To this end, it will require financial guarantees from the participants, and will closely collaborate with the banking institutions of the Donors' community (e.g. according to EBRD proposal).

### ***Adequacy of Generation Capacity***

One of the key issues of the operation of an electricity market is the ability of its design to ensure the adequacy of long-term generation and transmission capacity. For this purpose, Regulatory Authorities of the SEE should coordinate in order to analyse the needs and the regional long-term reserve margins and collaborate with EC, regional governments and TSOs and other stakeholders. In order to ensure the adequacy of generation availability –TSOs and SEETSO carry out periodic Capacity Adequacy Studies, which are approved by the regulators/governments and serve to define the capacity margin and the mandatory reserve energy to be contracted by TSOs

- Regulated Suppliers (under RTR) will have to hold a portfolio of capacity and energy contracts, at a volume depending on capacity margin, their customer basis and their quota on must-buy obligation from regional Day-Ahead.
- Non-regulated Suppliers are not bound but also not covered by TSO's reserve energy offers, unless they contract for such a service.
- In case of forecast about capacity shortages, the TSOs shall be obliged to buy (after a tender) a minimum set of capacity contracts corresponding to new generation plants, costs being recovered partly through the balancing bills, partly through the regional Day Ahead Market. Such measures have to be of limited use and never fully cover all risks related to new generation investment.

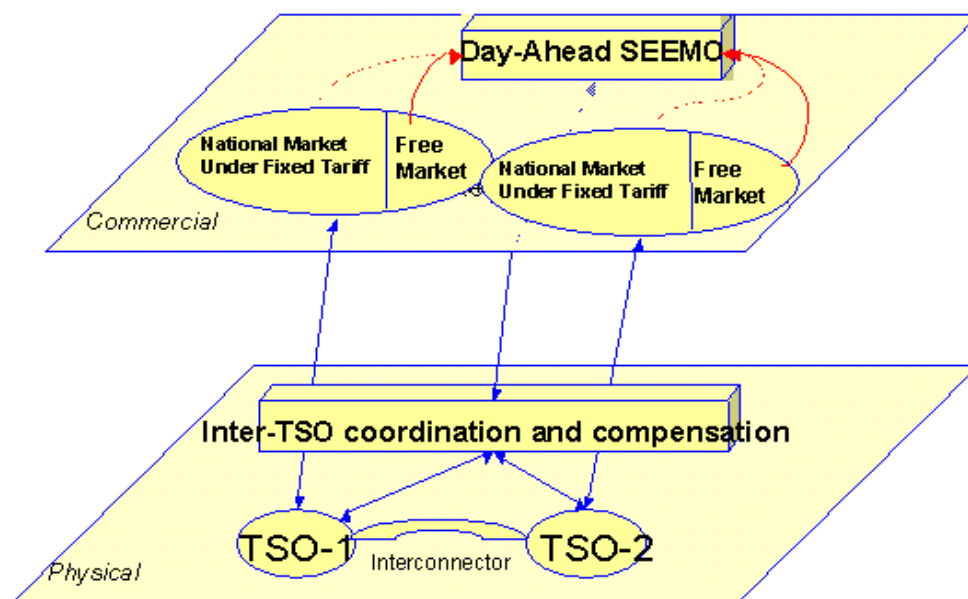
### ***Financial Hedging***

DAM and capacity adequacy system facilitate the development of power exchanges and financial hedging instruments, by providing sufficient liquidity and an underlying market basis, i.e. a market price that can be used as a reference for price related risk management. In turn, the power exchanges and the financial hedging instruments facilitate new entry of generators and suppliers as well as the shift to market structures entailing more risk-prone behaviors and higher efficiency. This is essential for the development of competition, the offering of stable and secure services to end-users and for market stability. Although there might be one or more Power Exchanges operating for the region they will be managed independently or through a separate branch of the SEEMO.

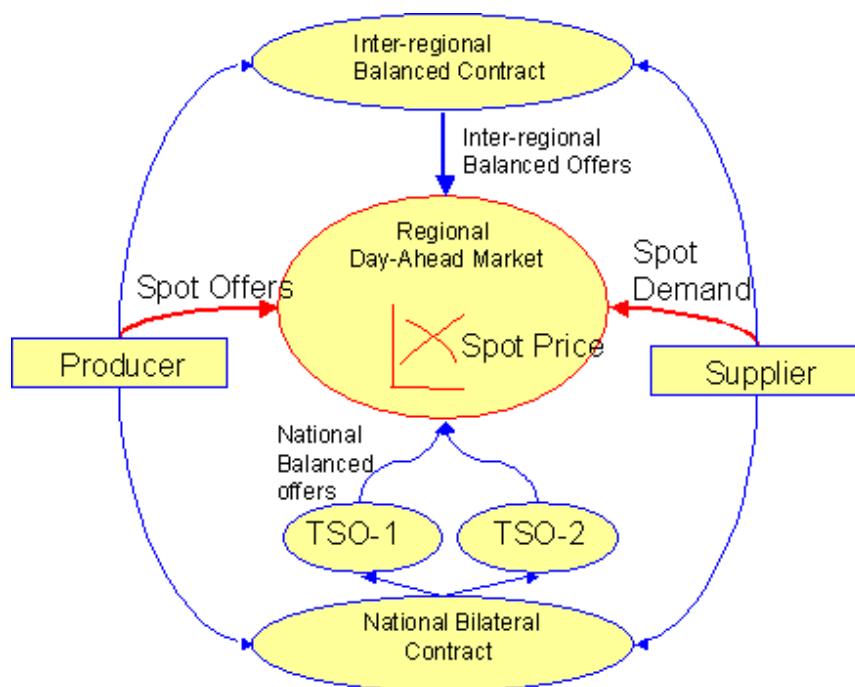
The operation of the SMD in diagrammatic form can be seen in Figures 4.1 and 4.2 below.



**Fig 4.2 SMD Market Structure**



**Fig. 4.3 Market Structure in a Single Price Zone**



Based on the above, Kosovo with its rich resources of base-load fuel (lignite) stands to benefit from the creation of a Regional Wholesale Market, and the harmonization of trading arrangements and rules. On the one hand the fuel resources of Kosovo are adequate to feed Generation much in excess of its own indigenous demand requirement (Lignite deposits to be developed in the next 5 years are capable to feed up to 2,000 MW of new Generating capacity for the next 25 years plus the requirements of Kosovo “B” for the rest of its economic life, thus making the REM an attractive marketplace for IPP developers, while on the other hand a “spot” DAM will provide the much needed load following capability for Kosovo where Suppliers and Generators, can “fine-tune” their hourly positions despite the inflexible local base-load plant. Kosovo also stands to gain in such a regional market on the basis of its central geographic position and good interconnections Figure 4.3 particularly in the prospective of the new 400 kV lines between Kosovo and Albania, Albania and Montenegro and FYR of Macedonia and Albania.

The conceptual design of the Kosovo market has not commenced as yet, however at this early stage there are thoughts that both bilateral trading and a Day-ahead-Market along the lines of the above mentioned principles will be adopted, thus creating probably a form of **Net Pool**. Some Market design elements under consideration:

- Administrative (set “ex-ante” by ERO) **uniform prices for imbalances** (deviations), so to reflect costs that are to be allocated to those who cause deviations and in a way such as to minimize total cost to the system.
- Administrative **prices for the Ancillary Services** based on “ex-ante” methodologies set by ERO on the basis of costs and procured by TSO in order to minimize total costs.
- **Capacity Payments**. The Law on Electricity in Kosovo, states that no Public Supply PPA can be longer than 5 years (maximum period before being reviewed by ERO). Such a short guarantee covers little ground to alleviate the concerns about future guaranteed cash flow projections that investment banks usually require for IPP projects, particularly in the case of base-load plants with 25 and 30 years of useful economic life. If a true liquid market develops in SEE then the market clearing price will tend to converge to marginal costs which makes difficult the recovery of the substantial fixed (capacity) costs of base-load IPPs. In order to attract the necessary private capital investments, Kosovo market design could include some form of a “**capacity mechanism**” either by guaranteed payments by the TSO to new Generators for making available capacity (which they can cover up to a percentage of say 70% of fixed costs the rest expected to be recovered by the energy price in the REM), or through **capacity obligations** which require to all load serving entities that serve final customers to acquire **capacity tickets** from Generators, in order to cover the expected peak load of their customers multiplied by  $(1 + X)$ , -  $X$  is set administratively as the required reserve margin. TSO can act as the counter-party in pre-buying such tickets on behalf of future suppliers and customers on the basis of the reserve margin projections. In such case the cost of the capacity tickets is socialized in the tariff. ERO prefers such an administrative measure for the transitional period, because of the security of supply situation in Kosovo that urgently demands the incentivization of new capacity, while long term PPAs capture capacity and demand and impede competition and liquidity.
- The size of the market is obviously very small while there is little scope of competition and differentiation of marginal generation costs over the whole of the Load Duration Curve. Small countries are well advised to share DAM, Balancing and Ancillary Services.

The map illustrates the proposed DC Line, a high-voltage direct current transmission route, connecting the Adriatic Sea to the Black Sea. The route is marked by a red dashed line, with a segment near the coast indicated by an orange dashed line. Key nodes along the route are labeled A, B, and C, representing planned 400 kV nodes. The map also shows existing 400 kV, 220 kV, and 110 kV lines, as well as planned lines. Major cities and regions in the Balkans are labeled, including Belgrade, Zagreb, Ljubljana, and Skopje. The DC Line is shown crossing the border between Serbia and Montenegro, and then continuing through Albania and Greece towards the Black Sea.

Legend

- 400 kV node (red dot)
- 220 kV node (green dot)
- 110 kV node (blue dot)
- planned (red outline)
- planned (green outline)
- planned (blue outline)

400 kV line (red dashed line)

220 kV line (green dashed line)

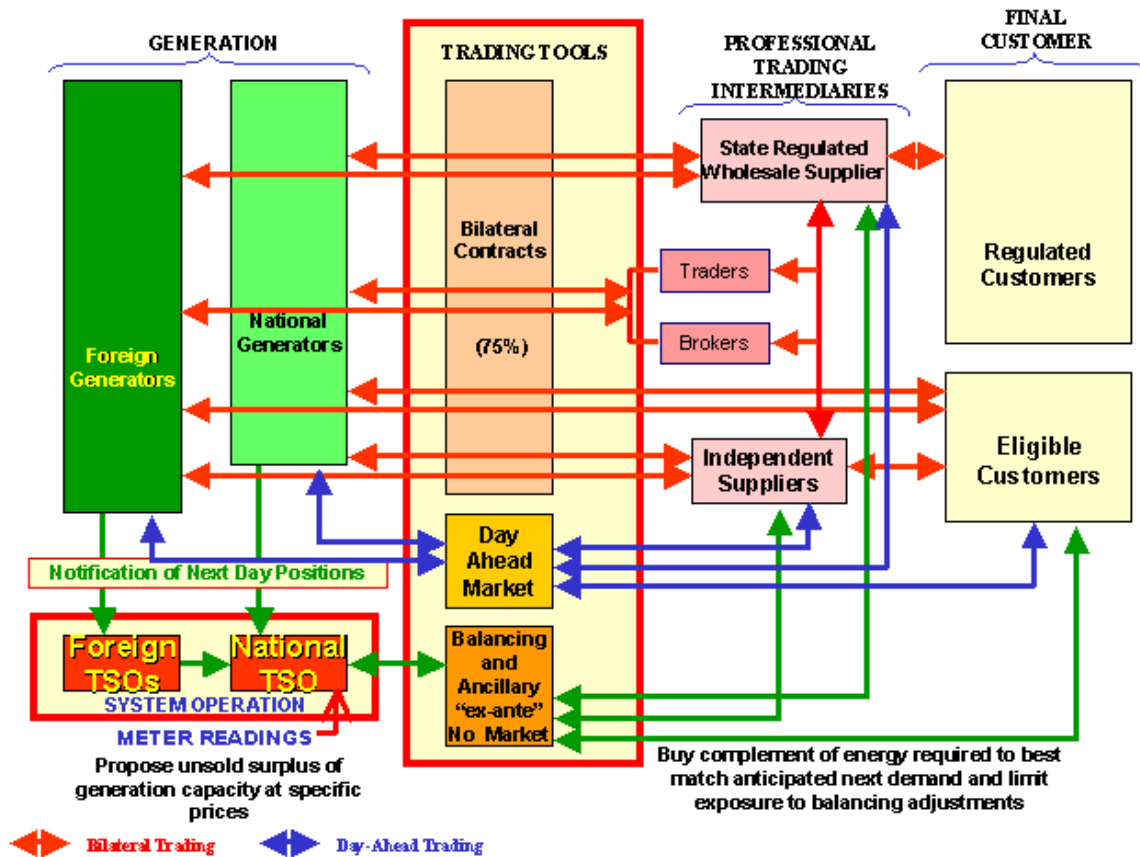
110 kV line (blue dashed line)

planned (red dashed line)

planned (green dashed line)

planned (blue dashed line)

**Fig. 4.5: Conceptual Market Model of Net Pool**



## 5. Licensing

Energy activities shall be carried out by energy enterprises on the basis of licenses granted by ERO on the basis of criteria that are non-discriminatory, public and transparent.

License is the authorization issued by ERO that allows the energy enterprise to perform an activity in the energy sector for which a license is required.

License is required for energy activities as set forth in Article 28.2 of the Law on Energy Regulator.

The license is required for the different energy activities such as generation, transmission, distribution, supply, trade, the cross-border transmission (import, export, transit) of electricity and natural gas and any transmission or distribution network operator under the condition set in the Article 30 of the Law on Energy Regulator.

The requirement to be licensed is stipulated in order to ensure the efficient functioning of the energy market, protect the customers in relation to the safety, security, and quality of the services of electricity system, heat and natural gas and to ensure the environmental protection, energy efficiency.

In accordance to Law on Energy Regulator the Board of ERO shall issue the Rule on Licensing which prescribes the procedure for issuing, modifying, or terminating licenses as well as the rights and obligations to be included in the licenses.

As of end February 2005, ERO is finalizing its Rule on Licensing where the procedure for applying, conditions and obligation of the licensees as well as all relevant forms of applications and statement are included. The Rule is defining basic elements of the obligations and rights of the license holders and offers guidance for present and future energy enterprises applying for licenses. It also sets the general and specific requirement to be provided by the different categories of the applicants for the license.

The general framework for application to ERO for permits for the new generation capacity is set in the Rule and will be subject of the separate Guidance, that will give detailed instructions to the applicant based on the criteria set forth in accordance with the Strategy Implementation Program, prepared and adopted by the MEM.

All energy enterprises in operation at the time of adoption of the Rule on Licensing shall apply for the license within four (4) months from the day of publishing of the adopted Rule on ERO website. This includes KEK, DH companies and other energy enterprises.

## 6. District Heating

### 6.1 Current Status and Development Requirements

#### *Market Aspects*

The DH sector in Kosovo is underdeveloped and significantly small, with partial diffusion, consisting of only three DH systems covering towns of Prishtina/Priština, Gjakova/Djakovica and Mitrovica.

Consequently the market share of the DH in relation to the estimated heat demand in Kosovo is very small, thus supplying some 5% of the total heat demand.

However the role of the DH in Kosovo is deemed quite important, primarily as to substitute the usage of the electricity for space heating purposes and for the hot domestic water if/when will be introduced.

Reasons for low utilization of the DH is that DH companies do not operate all the year due to the exclusive usage of DH for space heating purposes, (not supplying hot domestic water). Also during the heating season DH companies operate with night-stops.

Based on analysis of WB ESTAP I, it is estimated that in approx. only 13% of cases DH is the main heating source, ranked third after firewood (51%) and electricity (32%).

Taking into account the available choice of technologies and their efficiencies, and fuel prices for final customers in 2002, the annual fuel costs of the DH system were estimated at € 186/a (ESTAP I). Less expensive were coal stoves (€ 98/a) and firewood stoves (€ 160/a), while more expensive were electrical heating (average of storage and direct) at € 250/a, oil heaters (€ 392/a) and LPG heaters (€ 510/a). Should Kosovo had access to natural gas, the DH systems would be comparable to gas-based systems (€ 183/a).

### ***Financial Aspects***

In general all three DH companies face financial difficulties resulting in severe company non-liquidity, and mainly due to:

- Low payment collection rate – An average collection rate for Kosovo DH sector for the period 2000 to the present is estimated to be on the level 35 – 45 %. Reasons for that cannot be explained in the mono-causal way, it is evident influence of the set of various factors, some of them directly linked to the DH enterprise such as generation and supply performance, customer service, billing & collection efficiency, while other factor is linked to the overall economical and income situation of the population such as affordability and willingness to pay, lack of housing administration, and uncertain legal measures on the treatment of non-paying customers.
- High cost level of the DH companies – is one of the main factors impacting the financial sustainability and the final price. For the overall district-heating sector in Kosovo can be concluded that the operational costs are high, particularly the variable part (average about 65 %) with its main constituent fuel (average 55% to 60%). Another reason for the cost inefficiency is the technical losses (in the range of 30 – 35 %), which despite of the improvement still remain above the average of the countries with advanced DH systems (10 to 15%).
- Legal and managerial status of DH companies – The legal status, as POE seems to be unreasonable coverage for non-commercial based functioning and managing of the DH companies.

### ***Technical Aspects***

General characteristic of three DH systems in Kosovo is that they are consisting of the main boiler plant where the heat generation is taking place and the distribution networks through which the supply of heat is performed.

- Heat generation is carried out at the heating plants equipped with fuel oil boilers using heavy oil (mazut) in the larger scale and the light oil (diesel) in the smaller scale. Average boiler efficiency is estimated to be in the range 70 – 75 %, which cannot be considered as entirely exact because in most cases the heat production hasn't been metered properly or not-metered at all at the boiler level. Reasons for the low



efficiency are several: life time of the boilers; improper operation and maintenance causing the boiler damages, which couldn't been eliminated entirely even after the boilers were refurbished; low quality of the fuel oil very often not having the heating value as it is declared;

- Distribution networks cover the most densely populated zones of the towns, and consist of the primary network and secondary network, and the substations through which the DH is supplied to customers. DH networks are being transformed from constant flow systems to the variable flow systems, since in the most substations are installed heat meters and flow control valves. Distribution losses are estimated to be on the level 20 – 25 %; accurate distribution losses still can't be given due to the fact that heat metering at the substation level of the heat supplied to customers is still not entirely established. High losses are the result of the bad technical condition of the pipelines (leaks, damp ducts, and missing insulation, bad concrete pipes) that are partially replaced with pre-insulated pipes. Customers heating installation in the building are of acceptable quality – almost all systems are 2-string system with fairly good radiators and ordinary valves, which are a good base for introducing consumption-based billing system and thermostatic valves.

### ***Regulation of the DH Sector***

In accordance to the Kosovo energy legislation the regulation of the energy sector including DH is done by the energy regulatory authority. As the DH is considered a natural monopoly it is the subject of the regulation. Main regulation activities are economic regulation and the operational regulation.

Economic regulation is done through the setting and approving of heat tariffs, which are reviewed on an annual basis. DH companies submit to ERO the tariff applications for price review on yearly basis. It is based on the Rate of Return Regulation or the so-called “cost plus” tariff methodology.

Operational regulation is done through licensing and monitoring, that will take place as soon as the regulatory framework will be in place. The license for carrying out energy activity will contain the specific criteria and requirements related to the safety and quality of the supply, environment protection, and to the capability of energy enterprises for efficient technical and financial operation.

### ***What is required for Improvements – Based on International Comparisons***

The international comparison (benchmarking with Scandinavian countries, Poland and Lithuania) gives the main directions for the measures to be undertaken for significant improvement of the DH sector in Kosovo.

- DH in the benchmarked countries is very well developed and spread all over the country; besides for the space heating, DH supplies the hot domestic water, and in several cases it is introduced district cooling; in addition the heat supply is reliable and of the highest quality, as well as the customer service. Consequently the market share of the DH in heat market is quite high, in the range from 25 up to 50 %.

Further development of the DH in Kosovo and an increased market share are closely related to increased reliability and quality of supply as well as improved customer service. Kosovo DH companies must fulfill above conditions (together with increased efficiency and reduced costs) in order to promote the DH as the most convenient source for space heating.

Further more the companies and other stakeholders involved should put efforts toward extension of the costumer base (new connections where is technically and economically feasible) by extending the network and generation capacities if needed.

Evaluate possibilities (financial and technical) for introducing the DH in other towns and/or districts of Kosovo with the high density of population.

Accounting unbundling of the DH with particular focus on supply and maintenance service, and ensuring third party access is of vital importance for introducing competition.

- Generally adopted approach in the benchmarked countries is that DH companies have to operate on pure commercial “for-profit” base in the regulated market with introduced elements of free competitive market, or in open and competitive markets. Given that, there is a continuous challenge for DH companies to improve the overall performance.

Having in mind the financial difficulties that Kosovo DH sector as a whole is presently facing, the following is recommended:

In order to increase actual payment collection rate the companies must implement as soon as possible heat metering at the delivery point of the substation, which will enable switching from nominal tariff (per square meter) to a real consumption of the heat. It will provide incentive for customers to minimize and control consumption. This should be followed by developing and implementing an advanced billing & collection system integrated within universal MIS for the follow-up of the payments and reminders. The following organizational issues have to be resolved by the companies in order to improve internal and external reporting: a comprehensive regular reporting system (focused on costs and revenues) must be established, the customer database has to be updated i.e. the full list of substations with a complete list of connected customers to individual substations (total heating area in m<sup>2</sup> and the designed capacity).

DH companies are urged to improve efficiency and reduce costs by reducing losses. To undertake short-term measures for cost reduction by having lower purchase price of the fuel oil, while in long-term, should be considered diversification of the primary energy source by searching for cheaper fuels (natural gas, coal, renewables), as well as to consider co-generation.

- Overall improvement of the technical operation of the DH facilities including both heat generation plants and the distribution networks will increase quality and reliability of heat supply, as well as will contribute cost reduction.

DH Companies are urged to improve efficiency and reduce costs by taking following measures: Reduce production (boiler) losses, and Reduce distribution losses, this will be achieved by investing in further rehabilitation of the plants and networks.

A comprehensive metering system should be established immediately by the DH Companies to include:

- Monitoring of fuel deliveries (flow meters);
- Fuel consumption metering (at the heat plant, preferably boiler level);
- Heat production (heat meters at the heating plant, preferably boiler level);
- Heat supply control (heat meters and flow control valves at heat exchange substations).

- In order to allocate equitable and fairly the tariff to customers, in the mid-term horizon DH companies should consider instalment of individual meters (heat allocators), in the customer's secondary systems.

## 6.2 Legislation Under Development

### *Primary Legislation*

The Law on DH was drafted in July 2004 and was delivered to the Assembly for adoption and promulgation. However, it has not been promulgated yet.

The Law on DH establishes the standards and the condition for performing activities of heat generation, distribution, and supply in the district-heating sector in Kosovo. It also sets the conditions for operation of the DH plants and other related facilities.

The purpose of the Law is to:

- Provide and ensure condition for developing a sustainable open market for DH under the principles equality and competition.
- Ensure the safe, reliable and efficient supply of heat to the customers for maintaining the indoor temperature at the suitable level during the heating season, and eventually to provide supply of the hot domestic water to the customers all the year.
- Grant the right to final customers connected to the distribution network for a supply of heat with a specified quality at a reasonable price.

### *Secondary Legislation / Rules, Decrees, Codes, Instructions*

In accordance to the provisions of the Law on Energy Regulator ERO is responsible to develop and issue secondary legislation. Most of the rules are already drafted. As far as DH is concerned some of the rules have to be separately developed, while the others require DH input.

### *Separate Rules for DH*

- **Rule on Pricing and Tariffs** in the DH Sector in Kosovo. The last draft version is dated October 2004. This rule establishes the principles and rules for calculating and approving the heat prices and tariffs in regulated DH market as follows:
  - Calculation of prices by DH enterprises;
  - Modifying the initial prices charged by the DH enterprises
  - Approval of the tariff structure and the tariffs; and
  - Supervision over the application of prices.

Also the rule sets out the procedures to regulate following:

- Prices and tariffs of heat supplied to customers connected to the distribution network;
- Prices for connection to the distribution network.
- **Tariff Methodology** regarding tariffs and prices of heat, the last draft version is dated October 2004. The methodology determines detailed rules for:
  - Tariffs formation and calculation by heat enterprises, which generate, distribute and supply of heat;
  - Accounts settlement between heat enterprises and customers;

Common rules for the energy sector which includes also the DH part:

- **Rule on Licensing** of Energy Activities in Kosovo;
- **Rule on Disconnection**;
- **Rule on Dispute Settlement Procedure** and the **General Conditions of the Energy Supply** are still in preparation and will cover the electricity and DH.

Sample model of the License for Operation of the DH Enterprise and the form of Licence Application for DH Services are drafted on October 2004.

For the completion of the legal and regulatory framework governing the DH sector as it is also stipulated in the provisions of the draft law on DH, DH companies have to develop and issue the following technical documents / codes, which shall be approved by ERO:

- **Customer's Protection Code**, which defines the rights and obligations of the supplier and the customer in the DH sector;
- **Distribution Code**, which define the rules and procedures for heat distribution;
- **Heat Equipment Code**, which sets the standards for the selection of equipment in the district-heating sector;
- **Metering code**, which define the rules and procedures regulating the metering, billing and fee collection in the district-heating sector;
- **Pressure Vessel Code**, which will be the Kosovo version of the international pressure vessel regulation.

### 6.3 Price Review for Year 2004-05

ERO's preparation for the DH price review for the heating season 2004/05 has started in early September 2004 with preparation of the temporary instructions:

- Temporary Instruction No. 01/2004 "On the Principles of calculation of the Prices and Tariffs in the DH Sector in Kosovo for the Heating Season 2004/2005", in which are determined the principles and procedures for calculation and approval of heat prices and tariffs in the regulated DH market for the heating season 2004/05; and
- Temporary Instruction No. 02/2004 "On the Terms and Procedure for the new Connections in the DH Distribution Network", in which are determined terms and procedures for the new connections to the DH distribution network.

Price review process, which was preceded by interfacing with DH companies for further explanations and clarifications of the Instructions, begun by the DH companies Termokos, Prishtina/Priština and DH Gjakova/Djakovica submitting to ERO tariff application packages in mid October 2004, while Termomit, Mitrovica has failed to submit the application. It must be stated that the Termokos and DH Gjakova/Djakovica applications were far more complete than in previous years and generally in compliance to the Instruction, with some deficiencies and mistakes which were eliminated after ERO's intervention and remarks.

Evaluation and elaboration of tariff applications have resulted in a comprehensive and detailed report, containing the tariff methodology applied, regulatory price review and the tariff calculation.

Tariff methodology applied is Rate of Return (RoR) or so called cost plus regulation.

- Regulatory price review has covered main items that have the major impact on the price of heat such as: valuation of the assets (establishment of the Regulated Asset Base), and

defining the depreciation rates; the treatment of customers' non-payment and losses that are covered through the government subsidy; verification and determination of the allowable (justified) operating costs – ERO has adopted “top down” approach; process of approval of the investment as used-and-useful; approval of the working capital; the determination and calculation of allowable rate of return as the base for setting the reasonable profit for the DH enterprise.

- Final tariff calculation is formulated by dividing the total allowed revenue by the total amount of unit produced, but in the case of Kosovo, this in fact is the total square meters of the property that are served by DH Companies. In fact in the DH sector in Kosovo there are 2 classes of customers; Residential and Commercial, and the basic criterion for establishing the two classes of tariffs (residential and commercial), is the different heat demand/consumption per square meter. Two main parameters determining the heat demand/consumption of each class are: specific capacity need, and the nominal full load hours for heating.

It must be mentioned several main issues were subject to discussion and debate with DH companies:

- Non-Allocation of subsidy for the mazut as a real justified operational cost for the company – ERO follows the approach that the subsidy could not be considered as a real cost for the company, therefore it can't be included in the allowable operational costs.
- Having the greatest impact in the heat price (65%), high purchasing price of the mazut was questioned by ERO taking into account the market price of the heavy oil.
- Determination of the Regulated Asset Base was also the convolute process due to the unreliable accounting information about the book value and the (re) – evaluation of the assets.

Based on the above described price review process, ERO finally set the tariffs of the heat for Termokos, Prishtina/Priština and DH Gjakova/Djajovica by the Decision D\_01\_2004 as in the table below:

#### Section 1 : Tariff rates for heating season 2004/05

Customer Class	DH Company “Termokos”	DH Company “Gjakova”
Residential	€ 0.85 / m <sup>2</sup> per month	€ 0.82 / m <sup>2</sup> per month
Commercial	€ 1.10 / m <sup>2</sup> per month	€ 1.25 / m <sup>2</sup> per month

In the case of Termomit, Mitrovica, since it failed to submit the application, ERO has applied the benchmarking comparison with other two Kosovo DH companies, and also considering specific conditions of the company like size/capacity of the plant, number of customers etc.

## Section 2 : Tariff rates of “TERMOMIT” for heating season 2004/05

Customer Class	DH Company “Termomit”
Commercial	€ 1.20 / m <sup>2</sup> per month

## **7. Local and International Co-operation**

### **7.1 Local Co-operation**

Being directly involved in the energy sector development issues, ERO conducts a pro-active role both locally as well as at international and regional level. While some of ERO’s international activities are highlighted in the sub-sections hereafter, ERO takes a pro-active role in liaison and co-operation with administration bodies, both of UNMIK and PISG, and other energy sector stakeholders in Kosovo. In particular, ERO cooperates with the line ministry (MEM), however, with MEF and MTI, too. As a result of good cooperation with Assembly and its working groups, the primary energy legislation was completed and promulgated in 2004. In addition, with respect to solving the issues of socially vulnerable customers, ERO co-operates with Ministry of Labour and Social Welfare.

On the UNMIK’s side, ERO particularly co-operates with the EU Pillar IV and Pillar I, in terms of contributing to the improvement of economic development and appropriate procedures at courts and police, respectively, within the limits of its jurisdiction. Finally, the legal department of ERO provides a liaison with the OLA office whenever required. In 2005, a special attention will be put on co-operation with ICMM and MESP (PISG) in order to develop a consistent Authorisation procedure for construction of the new power plant - indeed, a very demanding task of extra importance for Kosovo.

Because all regulated energy enterprises (KEK, DH companies) are currently still controlled by KTA, ERO conducts numerous discussions on various professional matters with KTA. Regarding co-operation with KEK, ERO holds regular monthly meetings with a special department in KEK in charge of cooperation with the regulator. Finally as aforementioned, ERO is both the recipient / beneficiary of donors’ assistance (EAR, SIDA, WB, etc.) as well as member of several Steering Committees of several strategically important projects supported by the donors, for example, ESTAP II (Lot on a 400 kV line with Albania) and ESTAP III (Lot on tariffs, both WB), Incorporation of POEs (EAR) and so forth.

In 2005, ERO plans to improve co-operation with relevant NGOs and especially, associations of various consumer protection groups.

### **7.2 International Co-operation**

UNMIK on behalf of Kosovo initialled the EC Treaty of SEE. UNMIK-Kosovo institutions participated on development of the Treaty, ERO in particular was involved in institutions and forums of EC Treaty; Head of ERO participated as ERO-UNMIK representative on SEER (South East Europe Regulatory) Working Group of CEER (Council of European Energy Regulators), ERO staff is involved on different Task Groups of WG of SEER. Two staff members of ERO participated as ERO-UNMIK representatives at the ETSO (European Transmission System



Operators) Workshop in Brussels. ERO also contributes to the “Vienna Process” of dialogue between Kosovo and Serbia and has a member in the “Energy Dialogue” working group.

### **7. 3 ERO joined as an Associate member, ERRA (Energy Regulators Regional Association)**

ERRA is a voluntary organization comprised of independent energy regulatory bodies of Central/Eastern Europe (CEE) and the countries of the Commonwealth of Independent States (CIS). The Purpose and Objectives of ERRA are:

- To improve national energy regulation in member countries;
- To foster development of stable energy regulators with autonomy and authority;
- To improve cooperation among energy regulators;
- To facilitate the exchange of information, research, training and experience among members and other regulators around the world.

General Assembly of ERRA (Energy Regulators Regional Association) on 14<sup>th</sup> of April 2005 accepts ERO-Kosovo as Associate member of ERRA. ERRA is composed by 22 Full members (Albania, Armenia, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Macedonia, Moldova, Mongolia, Poland, Romania, Russian Federation, Slovak Republic, Turkey, Ukraine) and 5 Associate Member (**Kosovo** - ERO, **Romania**- National Natural Gas Regulatory Authority of Romania, **Romania** – National Regulatory Authority for Municipal Services of Romania, **Russian Federation** - Inter-regional Association of the Regional Energy Commissions of the Russian Federation, and **USA** – National Association of Regulatory Utility Commissioners (NARUC))

### **7.4 Staff Training and Study Tours**

Experience has showed that direct contacts with other regulators, especially if such regulators deal with similar problems as ERO, are most useful and beneficial for all staff members.

During 2004, ERO participated at several study tours. That experience was useful not just because of knowledge and better understanding of the functions of the Regulator but also because of the material provided by such Regulators including the primary and secondary legislations, Codes, Reports and similar.

#### ***Study Tour to Albania (20-23 June 2004)***

ERO arranged the study tour to Albania. Local staff, both those on the EU-Pillar as well as on the KCB contracts, used the opportunity to exchange experience with the colleagues at similar regulatory experience and practices.

During the study tour staff of ERO has visited the Albanian utility (KESH), the newly established Transmission System Operator (TSO) and the Energy Regulator (ERE).

#### ***Study Tour held in Czech Republic (14-21 November 2004)***

Two ERO staff members participated at a 6-day study tour to several key energy sector institutions in the Czech Republic, notably:

- ERU, Energy Regulatory Office of the Czech Republic
- ČEPS – Czech TSO
- ČEZ – Czech Power Utility
- OTE – Czech Market Operator
- Ministry of Trade and Industry (responsible for the energy sector in CZ)
- SEI – Energy Inspectorate

Visit to ERU was held with particular discussions regarding: Licenses, Prices and Tariffs, Dispute settlement procedure, Condition for Supply of Energy, Quality of Supply, questions and answers etc. and lessons learned regarding the conditions for supply of energy and non-payment of the customers in the period some 10 years ago, measures taken by the Government.

#### *Study Tour in Slovenia (5-12 September 2004)*

The purpose of the Study Tour in Slovenia was to meet with Slovene key energy sector institutions and companies with particular focus on electricity and DH in order to gain additional knowledge, exchange experience and establish relationships as the base for future cooperation.

The study tour can be distinctly divided in parts where are elaborated following areas:

- **Institutional, legal and regulatory;** visits and meetings with Energy directorate of Ministry of Environment and Spatial Planning and the Energy Agency (regulator) where are elaborated the energy strategy, energy law, structure of energy sector and development of energy sector in the future, and the regulation of energy sector;
- **Research & Study, consulting and engineering;** visits to Electro Institute Milan Vidmar – research and planning of the Slovene power system, IREET – energy, environment and technology consulting company, and IBE – consulting, design & engineering company. Elaborated topics: studies research programs related to power system, power economy problems and development options of the power sector, macro-restructuring of the Slovene energy sector with a specific focus on the power sector, renewable energy sources for electricity and heat generation.
- **Energy generation and system services;** visits to the thermo power plant Šoštanj (TEŠ) in Velenje, DEM in Maribor – HPPs on the Drava river, TE-TO Ljubljana – Plant for co-generation of power and heat, ELES (TSO) – the Slovene TSO, Elektro Celje – Power Distribution Company in Celje, Borzen – Power Market Operator, PU Energetika – heat and natural gas distribution and supply in Ljubljana. The elaborated issues concerning electricity and heat generation, transmission, distribution and supply / trade of electricity, distribution and supply of heat in the light of new market opening conditions.

#### *Study Tour in Lithuania and Sweden (5-12 December 2004)*

One-week study tour was provided for ERO staff members involved in the DH issues, with the main aim to increase knowledge and gain the experience related to the DH sector particularly the “turn-around” that Lithuania achieved in commercializing the DH sector.

## 8. Annual Financial Report of ERO, Breakdown of Contributions from KCB'04

As previously stated ERO has been established in June 2004. For the period since its establishment it has received financing from KCB and donor organisations, to enable its operational set up. ERO has not yet generated any income from its normal operation as an independent regulatory body. The financial aspects of the operations of ERO for 2004 are thus presented with a statement of Sources and Applications of Funds (Table 8.1).

**Table 8.1: Income Statement of ERO (2004)**

<b>Energy Regulatory Office of Kosovo Sources and Applications of Funds</b>	<b>2004 K C Budget</b>	<b>2004 Actual</b>
<i>All figures are in Euro</i>		
<b>SOURCES OF FUNDS</b>		
License and permit fees	-	-
Kosovo consolidated budget (KCB)	238,649	124,028
UNMIK (EU Pillar)	-	147,800
Donor organisations		
USAID	-	102,000
SIDA	-	209,352
KfW	-	210,000
<b>Total Donor organisations</b>	-	<b>521,352</b>
<b>TOTAL SOURCES OF FUNDS</b>	<b>238,649</b>	<b>793,180</b>
<b>APPLICATIONS OF FUNDS</b>		
<b>Staff costs</b>		
UNMIK (EU Pillar)	-	65,300
Kosovo consolidated budget	43,064	15,538
<b>Total staff costs</b>	<b>43,064</b>	<b>80,838</b>
<b>Goods and services</b>		
UNMIK (EU Pillar)	-	82,500
Kosovo consolidated budget	146,650	108,495
KC budget reduction (10%)	(14,665)	-
Donor organisations	-	521,352
<b>Total goods and services</b>	<b>131,985</b>	<b>712,347</b>
<b>Utilities</b>		
Kosovo consolidated budget	4,000	-
KC budget reduction (10%)	(400)	-
<b>Total utilities</b>	<b>3,600</b>	-
<b>Capital expenditure</b>		
Kosovo consolidated budget	60,000	-
<b>Total capital expenditure</b>	<b>60,000</b>	-
<b>TOTAL APPLICATIONS OF FUNDS</b>	<b>238,649</b>	<b>793,180</b>
<b>SURPLUS/ (DEFICIT)</b>	<b>-</b>	<b>-</b>

### ***Support to ERO by Kosovo Consolidated Budget 2004 (KCB'04)***

Total approved KCB'04 of ERO was initially € 253,714.00. However, by applying solidarity principles to remedy the additional budgetary obligations as a consequence of riots in Kosovo in March 2004, this amount was eventually reduced by € 15,065. The finally available budget was € 238,649.00, of which:

- Salaries: € 43,064 (18.0%);
- Goods and Services: € 131,985 (55.3%), after the initial budget of € 146,650 was reduced by 10%;
- Utilities: € 3,600 (1.5%), after the initial € 4,000 was reduced by 10%, and
- Capital Expenditures: € 60,000 (25.1%).

The breakdown of the approved and the actually utilized KCB'04 budget is shown in Table 8.2. By 31 December 2004, ERO used € 124,028 in total or 52% of the budget. The main reasons for using considerably less funds from KCB than planned is described in the following.

**Table 8.2: Approved and Used KCB'04 Budget (EUR)**

<b>Cost Category</b>	<b>Approved</b>	<b>Actually Utilized</b>	<b>Under spent</b>
Goods and Services	131,985	108,495	-23,490
Utilities	3,600	0	-3,600
Salaries	43,064	15,533	-27,531
Capital Expenditures	60,000	0	-60,000
<b>TOTAL</b>	<b>238,649</b>	<b>124,028</b>	<b>-114,621</b>

#### Salaries

The salary-budget forecast was issued in accordance to the assumption of CRU/ERO that the Law would be promulgated much earlier than in June 2004. The late adoption of the law prevented ERO from hiring more staff members faster. After the adoption of the Law, the number of ERO staff members started increasing more rapidly.

In January 2004, ERO started with 9 staff members, notably: 4 supported by KCB, 3 contracted by the UNMIK/EU Pillar and 2 advisers supported by the donors, in particular:

- (4) KCB positions: Tariff Structure Analyst, DH Expert, Cost and Price Analyst, and License Monitoring Analyst;
- (3) UNMIK/EU Pillar positions: Head of Licensing and Legal Department, Head of Energy Supply and Market Structure, and Language Assistant; and
- (2) donor positions: Acting Head of ERO (KfW), and Technical Adviser for DH (SIDA).

Along with the adoption of the Law, ERO hired 4 additional staff: in June 2004 – the Financial Officer, in July 2004 – the Administrative Officer, in September – the Data Management Officer, and in December – the Market Monitoring Analyst. All these new staff came on the KCB payroll.

Also, ERO begun to fill the most senior positions in ERO, like departmental heads and technical experts. These (4) posts were contracted through the EU Pillar, in particular: (international) Head

of ERO (starting in October 2004), Power System Expert (since September), DH Expert (since August), and Head of Customer Protection Department (since November). The new DH Expert replaced the previous one who was on the KCB budget.

In December 2004, the Head of Energy Supply and Market Structure left ERO. So, the total number of ERO staff at the end of 2004 was 15 (fifteen).

In January 2005, the number of ERO employees further increased to 18 staff members (9 KCB, 7 EU Pillar, 2 donors) due to considerably increased scope of work. The new (3) recruitments were supported both by KCB'05 as well as the EU Pillar. These were:

- (2) KCB positions: Assistant in Customer Protection Department, and the Procurement Officer, and
- (1) EU Pillar: Head of Administration Office.

As of end February 2005, the following additional posts leading to 23 staff members (12 KCB, 9 EU Pillar, 2 donors) were under recruitment:

- (3) KCB positions: Legal and Licensing Officer, Assistant to Power System Expert, and Secretary, and
- (2) EU Pillar: Head of Energy Supply and Market Structure Department, and Senior Economic & Financial Advisor.

Following that the initial staffing of ERO will be nearly completed. As of February 2005, ERO still expects 2 additional members of ERO Board, to be nominated by PISG and appointed by SRSG in March 2005. The only 2 vacant posts (see Figure 2.1) would then remain Deputy Head of ERO and Head of Pricing and Tariffs Department. In the final stage, the total staff of ERO would be 27.

In 2004, due to incomplete staffing, ERO therefore used considerably less (€ 15,533 or 36% only) than allocated in KCB'04 (€ 43,064). The remaining amount could not be transferred to 2005.

All salaries of KCB-supported staff in 2004 were paid by strictly following the applicable regulation on remuneration of civil servants based on coefficients, despite the fact that ERO staff because of a special mandate of ERO as independent organization cannot be compared with the status of such employees.

#### Goods and Services

This category represents by far the major share in the used KCB'04 budget – 87%. Expressed in the decreasing order of main expenditure categories, it consisted of: IT equipment (€ 51,867), office furniture (€ 12,765), other goods and services (€ 9,256), petty cash expenses (€ 6,760), training (€ 6,392), travel expenses (€ 5,083), office supplies (€ 4,832), vehicle repairs and maintenance (€ 4,302), purchased educational and training services (€ 3,446), fuels (€ 3,137) and other supply (€ 655). The depreciation charge in relation to IT equipment and office furniture is charged in accordance with regulation No. 2002/3 and amounts to € 9,501.

An invitation for bids was launched in November 2004 for provision of technical assistance to ERO in the area of economic/financial advice focused on tariffs. However, as no more than 2 offers were received, which was insufficient according to the Public Procurement rules, and the tender was cancelled. Therefore, in 2004 ERO used less (€ 108,495 or 82% only) than allocated in KCB'04 (€ 131,985). The remaining amount could not be transferred to 2005.

#### Utilities

In 2004, ERO was operating under CRU of the EU Pillar, which covered the costs of utilities.

Therefore, this part of the KCB'04 budget (€ 3,600) was not utilized and not transferred to 2005.

#### Capital Expenditures

Because ERO has no transportation fleet of its own, the planned expenditure was the procurement of 3 vehicles for the office. In October 2004, a public tender was launched and the winning bidder was chosen. However, one of the bidders launched a complaint appeal, and according to Public Procurement procedures the tender was cancelled eventually. In conditions of insufficient time to re-launch the tender, no KCB'04 allowance could be utilized for this purpose. As ERO has not requested the provision of new cars in the budget request for 2005, ERO asked MFE for approval of the transfer of € 60,000 to 2005, in order to repeat the tender.

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