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MINISTRIA E ENERGJISË DHE MINIERAVE
MINISTARSTVO ENERGIJE I RUDARSTVA
MINISTRY OF ENERGY AND MINING



INSTITUCIONET E PËRKOQSHME VETËQEVERISËSE
PRIVREMENE INSTITUCIJE SAMOUPRAVLJANJA
PROVISIONAL INSTITUTIONS OF SELF-GOVERNMENT

QEVERIA E KOSOVËS

VLADA KOSOVA

GOVERNMENT OF KOSOVO

**MINISTRIA E ENERGJISË
DHE MINIERAVE**

**MINISTARSTVO ENERGIJE
I RUDARSTVA**

**MINISTRY OF ENERGY
AND MINING**

Statement of Security of Supply for Kosovo (Electricity and Gas)

May 2007

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Abbreviations

DH	District Heating
EAR	European Agency for Reconstruction
ECS	Energy Community Secretariat
EnC Treaty	Energy Community Treaty
ERGEG	European Regulators Group for Electricity & Gas
ERO	Energy Regulatory Office
ESTAP	Energy Sector Technical Assistance Project
HPP	Hydro power plant
IPCC	Inter-governmental Panel for Climate Change
GIS	Generation Investment Study
GDP	Gross Domestic Product
GNP	Gross National Production
ICMM	Independent Commission of Mines and Minerals
KEK	Korporata Energjetike e Kosovës (Kosovo Electro-Energy Corporation)
KTA	Kosovo Trust Agency
KCB	Kosovo Consolidated Budget
KOSTT	Kosovo Transmission and Market System Operator
LEAP	Long Energy Alternative Planning
LPG	Liquefied petroleum gas
MEM	Ministry of Energy and Mining
MTI	Ministry of Trade and Industry
SoSSoK	Security of Supply Statement of Kosovo
TPP	Thermal Power Plant

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Executive Summary

The Ministry of Energy and Mining (MEM) has developed this Statement of Security of Supply of Kosovo (SoSSoK) following the recommendations of the Energy Community Secretariat ECS. It is designed to help with the monitoring of the security of electricity and gas supply. This has been done to both satisfy EC relevant Directives and Treaty requirements but also to enable Kosovo to track these crucial areas, which are key to its future economic development.

The Energy Community Treaty in its article 29 calls for statements on monitoring of security of supply one year after the entering into force of the Treaty. In particular the statement should cover: a) diversity of supply, b) technological security and c) geographical origin of the imported fuels.

Furthermore, article 4 of the Directive 2003/54/EC and article 5 of the Directive 2003/55/EC require statements on monitoring of Security of Supply in the electricity and gas markets, in particular of:

- a) Supply/demand balance on the national market,
- b) Level of expected future demand and available supplies,
- c) Envisaged additional capacity being planned/constructed,
- d) Quality and level of maintenance of the networks,
- e) Measures to cover peak demand, and
- f) Measures to deal with shortfalls of one or more suppliers.

The current situation of the electricity sector in Kosovo is uncertain. Low payment collection rates as a consequence of illegal use of electricity leads to its extensive use for heating, and limited availability of power generation capacities do not allow providing a steady electricity supply to all consumers. Therefore, the available power is distributed as actually possible, and customers are cut-off in load-shedding regime as necessary. To increase the payment discipline, areas with good collection rate A are supplied with preference, whereas those with bad collection rate in C areas are subject to cut-off from supply many hours daily. The application of restricted supply regime is bringing about only around 8% of electricity saving.

Power generation in Kosovo is performed by two lignite fired power plants of KEK: Kosovo A (5 units) and Kosovo B (2 units). Total installed capacity of both plants is 1,478 MW, which could have been sufficient for fulfilment of current Kosovo's demand for electricity.

However, due to age, improper maintenance and operation during the years before and after the war and due to war damages, the reliability and net generation capacity of these plants have been seriously compromised. Hence Kosovo A in particular demonstrates small remaining generating capabilities unless it would be rehabilitated.

The power generation in the near future 2007 - 2010 will focus on meeting demand of consumers in Kosovo with stable, uninterrupted electricity supply and competitive prices. In order to meet the local growing demand and export electricity surpluses to the regional and wider markets in the longer term, investments in the following projects are needed:

- Rehabilitation of TPP Kosovo A;
- Development of new units in a new TPP Kosovo C with installed capacity of up to 2,100 MW;
- Construction of HPP Zhur; and
- Stimulation of construction of small HPPs by private investors.

The lignite resources in the two existing lignite mines (Bardh and Mirash) feeding Kosovo A and B will be depleted by 2010/2011. Total production of lignite is expected to drop sharply by 2010 to about half their current capacity. *This would lead to a dramatic reduction of the electricity generation in Kosovo by 2010.*

In order to avoid the insufficient volume of lignite for the electricity production an immediate development of a new mine is required. Development of the new mine should start before 2008. A possibility to bridge the gap is the project prepared to develop first a small part of the Sibovc mine, in the Sibovc Southwest area, to maintain so the necessary lignite supply to existing TPPs.

The full development of the large new lignite mine in Sibovc will go in parallel with the Project for the TPP Kosovo C. The Southwest Sibovc mine and that of the Sibovc as a whole will have enough reserves to accommodate the present generating capacity of TPPs Kosovo A and B, and the 2100 MW additional capacity of TPP Kosovo C for a period of 40 years.

Work has started with the World Bank, EAR and USAID in completing the necessary open and transparent competitive procedures and studies for the selection of a private investor that will be engaged in developing a combined project of:

- opening of a new mine in Sibovc,
- construction of new generation capacities in TPP Kosovo C of around 2,100 MW, including transmission connection line, and
- rehabilitation of TPP Kosova A Units.

At this point in time, a number of large worldwide operating companies and consortiums have expressed their interest in these investments in Kosovo, which are expected to amount all together to approximately € 3,500 million. The four shortlisted consortiums are visiting Kosovo on preparatory work of their tenders.

1. Introduction to Statement of Security of Supply (SoSSoK)

The Ministry of Energy and Mining (MEM) has developed this Statement of Security of Supply of Kosovo (SoSSoK) following the recommendations of the ECS¹. It is designed to help with the monitoring of the security of electricity and gas supply. This has been done to both satisfy EC relevant Directives and Treaty requirements but also to enable Kosovo to track these crucial areas, which are key to its future economic development. Statistical data are based on the year 2005, since the energy balance for 2006 is still in preparation

1.1 Legal Background

The Energy Community Treaty in its article 29 calls for statements on monitoring of security of supply one year after the entering into force of the Treaty. In particular the statement should cover: a) diversity of supply, b) technological security and c) geographical origin of the imported fuels.

Furthermore, article 4 of the Directive 2003/54/EC and article 5 of the Directive 2003/55/EC require statements on monitoring of Security of Supply in the electricity and gas markets, in particular of:

- g) Supply/demand balance on the national market,
- h) Level of expected future demand and available supplies,
- i) Envisaged additional capacity being planned/constructed,
- j) Quality and level of maintenance of the networks,
- k) Measures to cover peak demand, and
- l) Measures to deal with shortfalls of one or more suppliers.

According to the above-mentioned articles, “Members States shall ensure the monitoring of security of supply issues. Where Member States consider it appropriate they may delegate this task to the regulatory authorities.”

The European Commission has indicated that the obligations under the Energy Community Treaty should not go beyond the EU *acquis*. Therefore it will be sufficient to comply with the Security of Supply requirements under the energy *acquis*.

1.2 Experience in the European Union

In 2005, under the reporting requirement in Directives 2003/54/EC and 2003/55/EC, the European Commission assisted by the European Regulators Group for electricity and gas (EREG), developed the structure of the so called “National reports”. The purpose of these is to gather from each EU member the necessary information to prepare reports that are the responsibility of the European Commission under the Directives.

1.3 Structure of the SoSSoK Statement for Kosovo

As proposed by the ECS in a communication from 09.10.2006, the SoSSoK shall follow the proposed structure, which limits the scope to electricity and gas sectors only, as per the relevant directives 2003/54/EC and 2003/55/EC:

¹ Draft Structure for the Statements on Monitoring of Security of Supply, ECS, 09.10.2006

Electricity Directive 2003/54/EC, Article 4, requires:

a) A general description of the ongoing supply-demand situation with the following indicators included, reference should be made to the Transmission System Operator (TSO) projections where available:

- Current levels of electricity peak demand (MW) and expectations for the next three years (i.e. 2007-2010)
- Currently available generation capacity
- Forthcoming generation investment for the next three years:
 - authorised
 - actually in process of construction
- Current generation fuel mix and expected developments
- Actual investments commissions / or retired during 2005 including:
 - net new coal/oil capacity (GW)
 - net new gas capacity (GW)
 - net new renewables capacity (GW)
 - net new cogeneration (CHP) capacity (GW)
 - net new other capacity (GW)

b) A description of the role of regulatory or other authorities should also be included, specifically:

- Authorisation criteria for new generation investments and the role of long term planning.
- Implicit and explicit incentives to build capacity (e.g. explicit payments, capacity options, design of balancing mechanism)

c) Finally the regulator should report on any progress in major infrastructure projects and in particular important interconnection projects between or within Member States, including the regulatory framework under which they will operate.

d) The TSO processes for planning new network build should be described, and how they are integrated with congestion management and the functioning of wholesale markets.

Gas Directive 2003/55/EC, Article 5, requires:

a) A general description of the ongoing supply-demand situation with the following indicators included, reference should be made to TSO projections where available:

- Current levels of gas consumption (bcm) and expectations for the next three years (i.e. 2007-2010)
- Currently available production and import capacity (bcm)
- Forthcoming production and import investment for the next three years:
 - authorised
 - actually in process of construction

b) A description of the role of regulatory or other authorities should also be included as described in Directive 2004/67 specifically:

- requirements relating to supplier of last resort
- incentives to increase production/import capacity or any type
- requirements relating to the availability of storage for public service reasons.

c) Finally the regulator should report on any progress in major infrastructure projects and in particular important interconnection projects between or within Member States, including the regulatory framework under which they will operate.

1.3 Defining Security of Supply

Despite the widespread use and discussion of Security of Supply (SoS) there is no agreed definition of this important parameter. However, there are a number of perspectives from which the subject can be viewed. Because of the large number of related issues encompassed by the term, and the lack of a single analytical framework, SoS has tended to be an overused and misunderstood term. However, this has not limited its use or focus in energy policy.

Based on international experience to date, a country's energy security policy generally comprises measures taken to reduce the risks of supply disruptions below a certain tolerable level. Such measures should be balanced to ensure that a supply of affordable energy is available to meet demand. Security of energy supply encompasses both issues of quantity and price. However, time is also a key parameter, as a sudden price hike will have very different effects on both society and the economy compared to those of a long-term price increase. Insecurity in energy supply originates in the risks related to the scarcity and uneven geographical distribution of primary fuels and to the operational reliability of energy systems that ensure services are delivered to end users.

Kosovo's Law on Energy states that 'Security of Supply means technical safety as well as assurance of an adequate amount of energy to serve the needs of the people of Kosovo'. It is almost impossible to capture fully the essence of security of supply in a single sentence, as particular areas like electricity system security may have specific definitions.

For example, the Commission for Energy Regulation (CER) in Ireland in a recent publication states that it "...refers to the ability of the electricity system to provide end-users with a sustained standard of electricity supply. This relates to the reliability of the electricity system (in terms of its tolerance for shocks/outages in maintaining electricity supplies and the management of the system in overcoming difficulties/issues) and in terms of the adequacy of infrastructure (generation capacity, transmission capacity)". Yet even this definition requires a number of varied metrics ranging from issues of engineering to investment to emergency management.

Referring to the difficulty with SoS definition, Jacques de Jung noted that in the EU, "...on the key issue of security of supply, little had been done to date and nothing comprehensive [in terms of policy, data analysis, etc.]. The resulting imbalance [compared to environmental and competitiveness] in policy [has] left the EU without any guarantees in its system, and exposed [it] to a long-term supply risk.

One consideration in security of supply is that the reliability and adequacy measures are sufficient such that it is agreed that it is not feasible (either physically or economically) to provide a 100% secure electricity system to the nation and rather, a specific level of security is provided so that what is deemed to be a reasonable standard of supply is provided to end-users.

In terms of delivery of electricity supplies, the following are the key input components:

Electricity Security of Supply		
Fuel	Generation	Networks
Diversity ²	Capacity	Development
Security	Performance	Performance

In the case of Kosovo, for the period 2007-2010, the definition of the SoS (SoSSoK) would focus on simultaneously performing the following activities:

- Increasing the generation and network capacities so they meet the electricity demand,
- Controlling fully the use of electricity by increasing billing and eliminating non-technical losses, and increasing the collection rate above 90% of billed amount of electricity, which will cause substantial saving of electricity,
- Establishing a liquid electricity market where prices reflect real cost, provide economic signals to efficient use of electricity and enhance security of supply, and finally eliminate load shedding.

2. Situation of supply and demand balance in the electricity sector in Kosovo

The current situation of the electricity sector in Kosovo is uncertain. Low payment collection rates lead to extensive use of electricity for heating, and limited availability of power generation capacities do not allow to provide a steady electricity supply to all consumers. Therefore, the available power is distributed as actually possible, and customers are cut-off in load-shedding regime as necessary. To increase the payment discipline, areas with good collection rate A are supplied with preference, whereas those with bad collection rate in C areas are subject to cut-off from supply many hours daily. In such a situation it is difficult to determine the “real” balance of supply and demand.

2.1 Situation until 2005

a. Electricity generation

Power generation in Kosovo is performed by two lignite fired power plants of KEK: Kosovo A (5 units) and Kosovo B (2 units). Total installed capacity of both plants is 1,478 MW, which could have been sufficient for fulfilment of current Kosovo’s demand for electricity.

However, due to age, improper maintenance and operation during the years before and after the war and due to war damages, the reliability and net generation capacity of these plants have been seriously compromised. Hence Kosovo A in particular demonstrates small remaining generating capabilities unless it would be rehabilitated.

The only other important power generation plant outside of KEK is the HPP Gazivoda/Ujmani (2 units of 17.5 MW each), administrated by the water company Hydrosystem Ibër-Lepenc. In November 2005, the new HPP “Lumbardhi” began its

² In terms of fuel diversity for power generation, Kosovo may only rely mostly on its lignite resources

operation. This plant is located in the South-Eastern part of Kosovo, around 15 km from the town of Deçan. It is owned by KEK and it is operated by Triangle General Contractors Inc. (TGC) under a 20 years lease agreement and PPA with KEK (“feed-in” price). In this project around € 6 million was invested for refurbishment increasing its capacity from 7.35 MW to 8.3 MW. Until the end of 2005 this HPP had produced 1.9 GWh. It is worth noticing that this is the first private project in Kosovo’s energy sector financed by the “non recourse” method.

b. Electricity demand

The period 2000-2005 has been characterised by substantial growth in electricity demand in Kosovo. Annual average growth is approximately 8%, whereas growth from 2004-2005 had even reached 10%. Total net energy demand imposed to the system for 2005 was approximately 4.5 TWh with the winter peak demand reaching 898 MW, even though this energy and peak demand have been registered with the load shedding regime.

This growth is not reflecting equal rates of economic development, and in the case of Kosovo it can be attributed to the very low payments of the electricity bills and the weak enforcement tools by the utility company to collect the payments, both creating unfortunately the environment for uncontrollable increase of electricity consumption.

Electricity demand growth rate in Kosovo could be much higher, if the potential increase of industry demand would be considered which currently represents only a very small percentage of total electricity consumed. However, most of industrial entities are in the process of privatisation and it is considered that their consumption will increase after they are put again in operation.

A load shedding regime was applied during the whole year 2005. During winter the so called 4:2 regime (4 hours with; 2 without electricity) was applied, whereas there has been even worse applied regimes (3:3) in some cases during very low temperatures and when imports of electricity was not available. During summer the regime was 5:1 and 24:0 when there was low demand, particularly during night.

The fact that only 52% of the delivered electricity (in kWh) was billed, from which only 66.6 % was collected in money terms, did not generate the necessary funds required to invest in power capacities (generation and network). In table 1 the power balance for 2005 and forecast for 2006 is shown.

KEK Power Balance	Forecast 2005	Actual 2005	Forecast 2006
<i>Production in each unit</i>	<i>GWh</i>	<i>GWh</i>	<i>GWh</i>
A1	119.9	77.8	0.0
A3	0.0	0.0	430.6
A4	0.0	0.0	0.0
A5	667.7	667.6	348.0
TPP Kosova A	787.6	745.5	778.6
B1	1 676.9	1 621.3	1 772.1
B2	1 813.7	1 977.9	1 932.6
TPP Kosova B	3 490.6	3 599.2	3 704.7
HPP Ujmani	79.2	111.6	88.0
Import	399.9	490.6	685.6
Total Available Energy	4 757.3	4 946.9	5 256.9
<i>Consumption</i>	<i>GWh</i>	<i>GWh</i>	<i>GWh</i>
PP Self Consumption	403.6	457.2	420.2
Direct & Internal Consumer	413.0	97.2	359.9
Transmission Losses	129.1	280.6	138.0
Export	87.3	226.0	210.7
Distribution Losses	1 101.6	1 875.0	1 507.3
Net Distribution	2 622.7	2 010.9	2 620.2
Total Demand	4 757.3	4 946.9	5 256.3

Table 1: Power Balance: Forecast 2005 – Actual 2005 – Forecast 2006³

The central (yellow) column indicates actual production, import, consumption and export. The average self-consumption of the power plants (PP) was approximately 10.3 %.

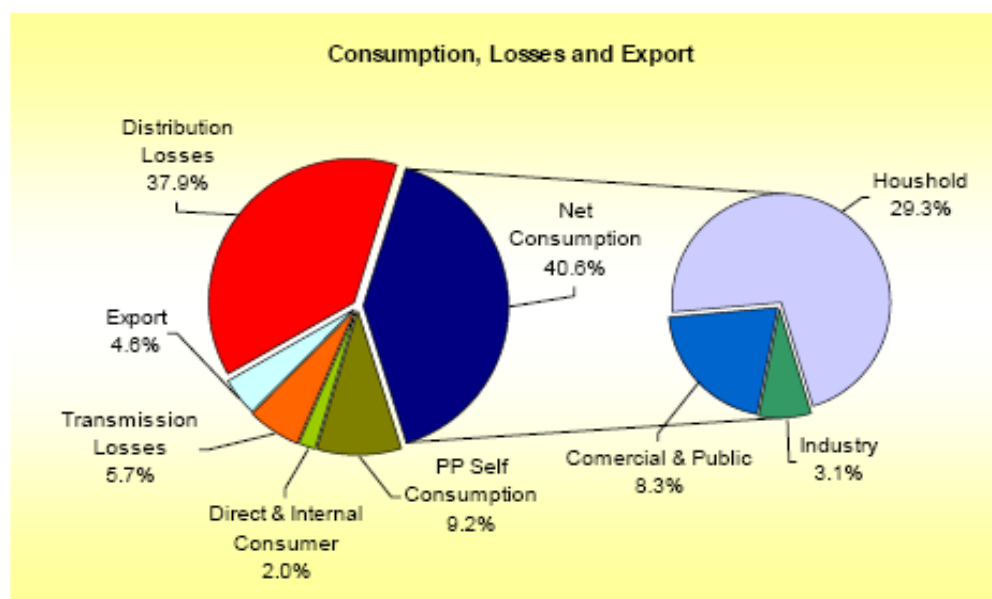


Figure 1: Consumption by customer class, losses and export in 2005 ⁴

³ Source: ERO Annual Report for 2005

⁴ Source: ERO Annual Report for 2005

Total billed electricity in 2005 was 2,334 GWh, comprising of net consumption of 2,010 GWh (distribution customers as stated in Table 1.7), consumption of 97.7 GWh by direct and internal customers and of export of 226 GWh.

Billed electricity in 2005	GWh	%
Electricity delivered in the system	4 489.7	100.00%
Transmission Losses	280.6	6.25%
Distribution & Commercial Losses	1 875.0	41.76%
Billed in all categories	2 334.0	51.99%

Table 2: Total billed electricity and losses in 2005 ⁵

c. Observed trends of electricity supply in energy balances 2003 - 2005

For adequate understanding of the available statistical data on electricity supply the trends in the total energy supply in Kosovo should be considered.

The MEM compiled energy balances for the years 2003, 2004 and 2005 according to the Eurostat format and definitions⁶. The final energy consumption is indicating the total amount of energy sources which have been supplied to final consumers. Figure 2 shows a decrease of total final energy supply from 1012 ktoe in 2003 to 931 ktoe in 2004, and then an increase to 1086 ktoe in 2005.

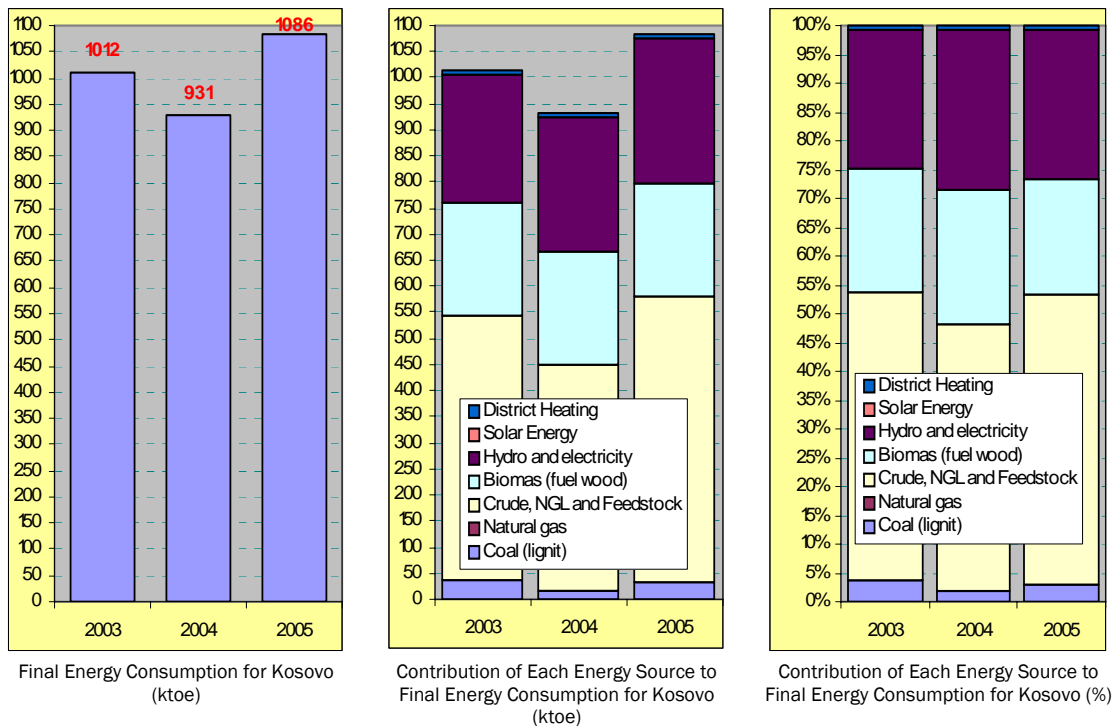


Figure 2: Development of final energy consumption from 2003 to 2005

⁵ Source: ERO Annual Report for 2005

⁶ Kosovo Energy Balance for the Period 2003-2005, MEM, 2006

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Year	Industry	Transport	Households, others	Total
2003	216	273	523	1012
2004	186	232	512	931
2005	227	296	562	1086

Table 3: Final energy consumption in Kosovo 2003-2005 in ktoe

The supply of electricity to final consumers, however, increased continuously from 244 ktoe in 2003 to 278 ktoe in 2005. By far the largest part (215 to 245 ktoe) of the electricity was supplied to households, services, public sector and agriculture, whereas industry received a small share of 29 to 33 ktoe. It has to be mentioned that these figures represent the official amount of electricity supplied, excluding the amount of electricity losses by illegal consumption and for technical reasons, which were 72 ktoe in 2003, 81 ktoe in 2004 and 88 ktoe in 2005.

Year	Industry	Transport	Households, others	Total
2003	29	0	215	244
2004	31	0	227	258
2005	33	0	245	278

Table 4: Final consumption of electricity in Kosovo 2003-2005 in ktoe

The key problems identified and the potential trends for future energy supplies in Kosovo are:

- Electricity consumption growth in the transition period lead to an increase in non-technical losses (illegal use) and a reduction in security of supply
- Lack of alternative energy sources (e.g. natural gas) and low electricity prices (for many consumers the price was zero, since electricity consumed by them has not been paid for years) has resulted in significant usage of electricity by the residential sector (households/apartments) and the service sector (communications and space heating)
- Relatively high prices of other energy sources (e.g. fuel oil), which have to be paid for at delivery, are pushing consumers to focus largely on using electricity
- The increase of petrol and diesel consumption in transport has contributed to the growth of the overall energy imports into Kosovo.

2.2 Current levels of electricity peak demand (MW) and expectations for the next years (2007-2016)

a. Peak demand in 2005 and expectations for 2010⁷

Adding the peak load observed in the substations in all regions of Kosovo, the total peak demand in 2005 was 1001 MW. Large industries (eligible customers) accounted for only 5 MW, and transmission losses for 30 MW.

Until 2010, the range of expected peak demand is from 870 MW in the low demand scenario, 1065 MW in the base scenario and 1332 MW in the high demand scenario.

⁷ Long-Term Balance in Electricity 2007 – 2016, Annex 4; KOSTT, draft November 2006

b. Development of long term peak demand (period 2007 –2016)⁸

The economic growth considered in the three scenarios and the corresponding development of the total consumption (excluding industrial consumption) is shown in Table 5:

Yearly growth (%)	GDP Development	Total consumption (excluding industry)
Low scenario	1.7%	1.7%
Base scenario	3.2%	3.6%
High scenario	4.7%	6.2%

Table 5: Relation between the GDP growth and the consumption growth

In Table 6 the three scenarios for the forecast of electricity growth have been defined by means of the GDP growth and the 4 corrections. Correction 1 and 3 are assumed to be the same for all scenarios. The values for GDP growth are according to the scenarios in the REBIS study. For the low growth (low economic development) it is assumed that better metering and billing will have a larger impact on consumption than in case of higher economic growth. People will have less money to pay the (increased) bills and will look for saving measures. Technical losses are assumed to be higher in the low growth scenario due to lack of money for network improvements.

	Low growth	Base growth	High growth	
GDP growth	1.7%	3.2%	4.7%	
Correction 1	10%	10%	10%	Non shedding hours by 2016
Correction 2	20%	10%	0%	Improved billing and collection
Correction 3	fixed	fixed	fixed	Monthly changes based on REBIS study
Correction 4	20%	15%	12%	Technical losses in 2016

Table 6: Scenarios on GDP growth and Correction factors

⁸ Long-Term Balance in Electricity 2007 – 2016; KOSTT, draft November 2006

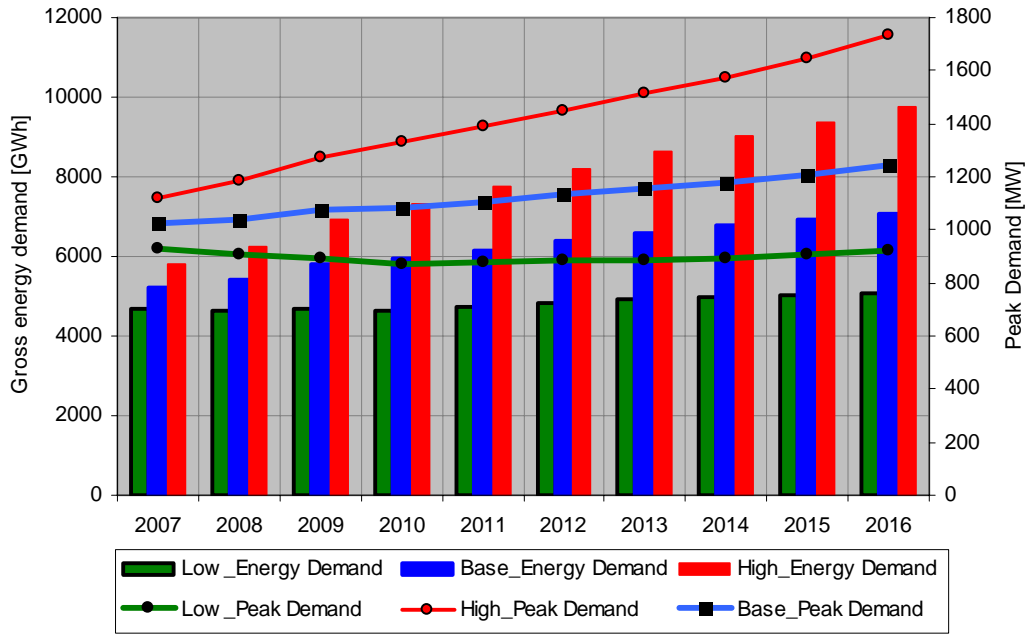


Figure 3: Base Scenario of Gross Energy and Peak Demand⁹

The base scenario of the gross electricity demand¹⁰ and the gross peak demand¹¹ for the period 2007 – 2016 by Industry and Rest Consumption are presented in Figure 3. This represents the base scenario of the electricity demand forecast for the years 2007 – 2016. The low, base and high forecast scenario of energy and peak demand are shown in Figure 4.

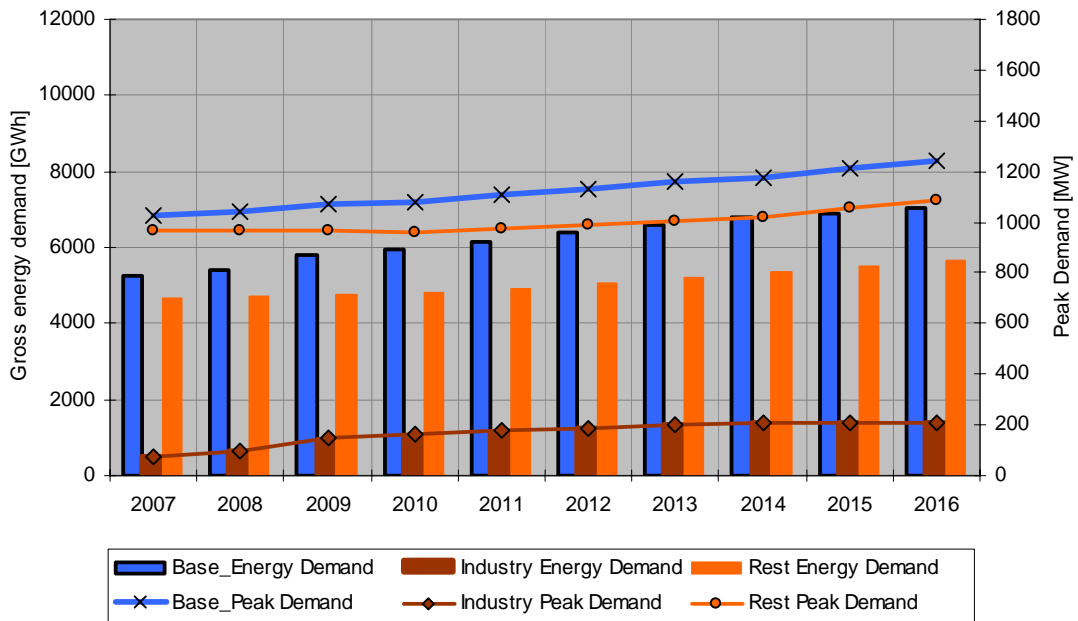


Figure 4: Low, Base and High Scenario of Gross Energy and Peak Demand¹²

⁹ occurs ones a year

¹⁰ gross electricity latent demand (includes the delivery of shed load)

¹¹ gross latent peak demand (includes the delivery of shed load)

¹² occurs ones a year

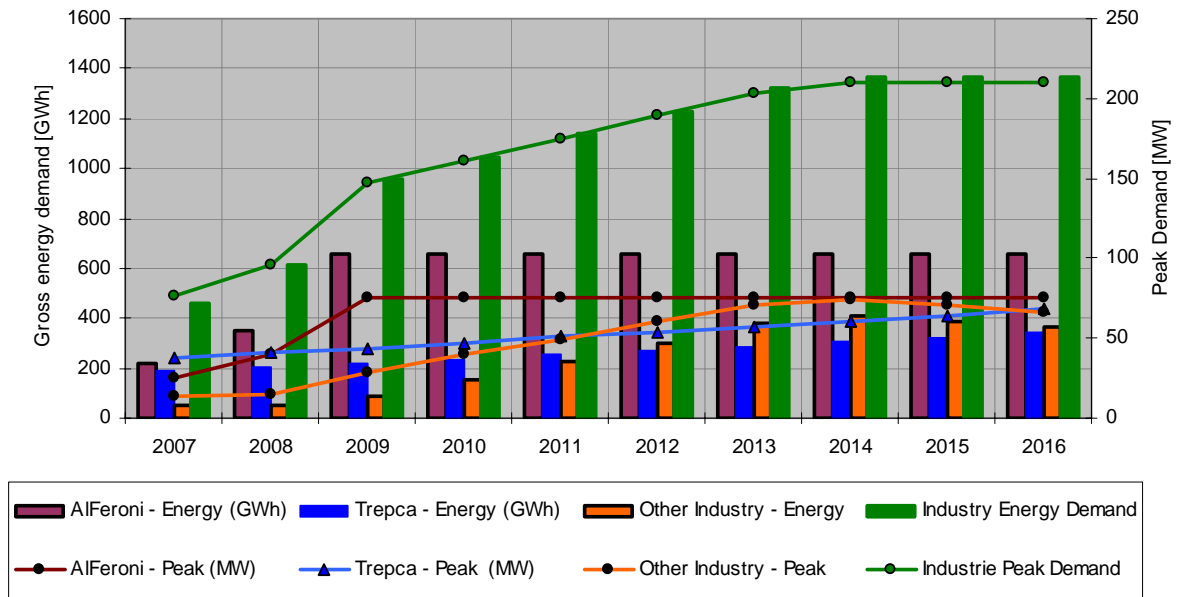


Figure 5: Industrial costumers - Base Scenario of Gross Energy and Peak Demand

The Industry Consumption consider the forecast data as provided by Trepca and SharrCem (KOSTT questionnaires), and the demand forecast of AlFeroni and future Industrial Costumers as considered by MEM (as AlFeroni didn't reply on KOSTT request). The Industry Demand forecast is presented in figure 5.

In the future KOSTT will go for a bottom-up approach, i.e. the forecast of transmission electricity demand should be calculated considering the forecast of distribution electricity demand.

2.3 Currently available generation capacity¹³

Electricity in Kosovo is supplied by two main thermal power plants: Kosovo A and Kosovo B. Both power plants use lignite from local mines nearby as fuel.

Besides Kosovo A and B there is one relatively small hydro plant for electricity supply. The generating units of Kosovo A and B were commissioned in three phases:

- Phase 1: Kosovo A units 1 and 2 in 1962 and 1964
- Phase 2: Kosovo A units 3, 4 and 5 in 1970, 1971 and 1975
- Phase 3: Kosovo B units 1 and 2 in 1983 and 1984

Official data of 2000-2005 show efficiency for Kosovo A of about 27% and for Kosovo B of 30-34%. Current efficiencies of Kosovo A however are much lower.

The gathered information on the performance of the generating units showed a considerable range dependent on the source of information. In Table 7 the most recent information is included.

¹³ Long-Term Balance on Electricity 2007 – 2016, KOSTT, draft November 2006

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	First year of operation	Actual life time	Net available capacity (MW)	Time availability	Efficiency
TPP Kosovo A G1	1962	2008	35	53.6%	21%
TPP Kosovo A G2	1964		0		
TPP Kosovo A G3	1970	2011	110	75%	21%
TPP Kosovo A G4	1971	2012	110	75%	21%
TPP Kosovo A G5	1975		110	0%	0%
TPP Kosovo B G1	1983	2027	270	79.0%	34%
TPP Kosovo B G2	1984	2027	270	79.0%	34%
HPP Ujman	1983	2033	32	95.0%	
Total			937		

Table 7: Main characteristics of the present generating units in Kosovo

Lignite Fired Power Plant	Years of Construction	Designed Capacity	Operational Capacity	Load Factor (designed)	Load Factor (operational)
Units	year	[MW]	[MW]	%	%
A1	1962	65	25	13.67%	35.55%
A2	1964	125	-	-	-
A3	1970	200	-	-	-
A4	1971	200	-	-	-
A5	1975	210	110	36.29%	69.28%
TPP Kosova A		800	135	10.64%	63.04%
B1	1983	339	285	54.60%	64.94%
B2	1984	339	285	66.60%	79.22%
TPP Kosova B		678	570	60.60%	72.08%
U1	1981	17.5	17.5	-	-
U2	1981	17.5	17.5	-	-
HPP Ujmani		35	35	36.39%	36.39%
Total		1 513	740	33.62%	68.74%

Note: Load Factors of designed and operational capacities are calculated based on gross production of the power plants

Table 8: Nominal and operational capacity of the power units in 2005¹⁴

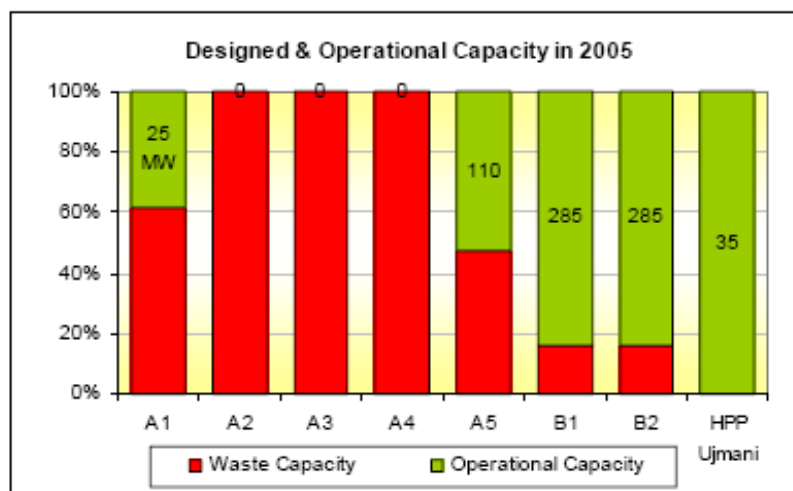


Figure 6: Designed and operational power generation capacity in 2005

¹⁴ Source: ERO Annual Report for 2005

The actual lifetime, available capacity and availability of the Kosovo A units has been obtained from the Feasibility Study of the rehabilitation of Kosovo A. The efficiencies of all units are taken from the Electricity Forecast for 2006. Because of coal supply constraints, only about 740MW of generation capacity are operational.

2.4 Forthcoming generation investment for the next three years

The power generation in the near future 2007 - 2010 will focus on meeting demand of consumers in Kosovo with stable, uninterrupted electricity supply and competitive prices. In order to meet the local growing demand and export electricity surpluses to the regional and wider markets in the longer term, investments in the following projects are needed:

- Rehabilitation of TPP Kosovo A;
- Development of new units in a new TPP Kosovo C with installed capacity of up to 2,100 MW;
- Construction of HPP Zhur; and
- Stimulation of construction of small HPPs by private investors.

a. Refurbishment of TPP Kosovo A

During 2005/2007, partial refurbishment was performed to the units A3 and A4 of the TPP Kosova A. Each of these units may operate at 110 MW, at average. Because of lack of enough lignite production to feed both of these units, they cannot be simultaneously in operation. At present A5 is operating at the average net capacity of 110 MW and is a valuable asset for operation.

Based on a 2005 study, it is recommended that a major overhaul of the unit A1 is undertaken. Its cost is estimated at € 9.45 million. It will extend the life of this unit for 3-4 years. Based on the same study, a Capital Rehabilitation (CR) of units A3, A4 and A5 units is advisable. Unit A4 is the first unit recommended for CR. The CR costs are similar for units A4 and A5, with an estimated total investment for both of them of € 120.6 million. The major Overhaul for unit A3 is estimated at € 24.4million.

b. Preparation of development of new TPP Kosovo C

A new TPP Kosovo C is in the preparation phase. The expected capacity is 1,800 - 2,100 MW which will be developed in two phases. First phase of 1,000 MW will be implemented until 2012-2014, and second phase until 2018-2020. The development of the TPP Kosovo C is part of a comprehensive project including the parallel development of a new lignite coal mine in Sibovc to ensure sufficient fuel supply of all TPP Kosovo A, B and C.

A Project Steering Committee was set up with MEM, ERO, Ministry of Finance and the Independent Commission of Mines and Minerals (Regulator for Mines). The tasks of this Steering Committee are to prepare the necessary legal basis, to prepare and implement a tendering procedure, and to select bids for project implementation by 2008.

c. Development of new hydro power plants

Kosovo is planning to develop its hydro resources through a concessioning arrangement following the completion of a study in 2006 on the potential for hydro electricity generation. Great interest is expressed by private investors. At this time it is important that rules for their concessioning get prepared.

d. Authorised investment projects

Regarding the Project 'Electricity from Lignite' - which includes (i) development of the TPP Kosova C, (ii) development of a new lignite mine in Sibovc, and (iii) rehabilitation of units of the TPP Kosova A - four international, highly reputable, consortiums are prequalified/shortlisted until now. It is expected soon that one of these four consortiums is selected as the project developer.

e. Actually in process of construction

Actually there are no projects of capacity investments in process of construction.

2.5 Current generation fuel mix and expected developments

a. Fuel diversity and geographic origin

In 2005, the fuel input in thermal power stations in Kosovo was 1197 ktOE of lignite and 11 ktOE of petroleum products¹⁵.

Due to the large remaining domestic high-quality lignite resources, the current and expected further price hikes of imported oil and the lack of natural gas supply, it is expected that the domestic lignite will remain the predominant source of fuel for large-scale power generation in Kosovo.

For medium or small scale power production by private autoproducers (which have generation units for back-up in periods of power cuts) petrol and diesel are the dominant fuels. Since there are no data available on the volume of power generation by autoproducers, it is difficult to estimate the contribution to total power supply and the related fuel mix.

b. Lignite fuel stocks

The data on the energy sources' stock were collected in cooperation with KEK, ICMM (on coal), and the MTI (on oil derivatives).

The maximum reserve capacity for Kosovo A is 630,000 t, while the maximum reserve capacity for Kosovo B is 560,000 t. The actual level of reserve varies considerably, being at its highest at the beginning of winter and lowest in the springtime. For example, the reserve level measured on 5th March 2007 showed reserves as 74,645 t for Kosovo A and 204,510 t for Kosovo B.

Assuming the average output load from Kosovo A is 110 MW and that it takes 2.0 t of lignite to export 1 MWh of electricity then this implies a usage of 5,280 t per day. Therefore the actual reserve of 74,645 t implies sufficient reserves for 14 days.

Assuming the average output load from Kosovo B is 500 MW and that it takes 1.5 t of lignite to export 1 MWh of electricity then this implies a usage of 18,000 t per day. Therefore the actual reserve of 204,510 tonnes implies reserves for 11 days.

Based on the same output assumptions as above, if the full reserve level was achieved then there would be sufficient coal for 119 days of operation at this level. Of course, if the plant and coal availability increased the same reserve level would be sufficient for a considerably smaller number of days.

¹⁵ Energy balance for Kosovo 2005

For Kosovo B, again assuming the same output as above, if the full reserve level was achieved then there would be sufficient coal for 31 days of operation at this level.

c. Contingency plan for fuel stocks

Under Article 6 of the Generation Licenses KEK Generation has prepared a contingency plan for fuel stocks for Kosovo A and B. This plan requires that stocks of lignite, equivalent to 10 days running at full output, are maintained as a contingency stock.

A generation license condition is requiring the Generator to co-operate with the MEM/ERO in all of its strategic contingency planning with respect to fuel stocks and procedures with respect to security of supply. Article 6 describes the Security Arrangements of Kosovo Generation Licenses for Kosovo A and B thermal power plants.

The Generation Licenses states: The Licensee shall comply with any provision setting up the type and extent of the minimum fuel stocks or the specific reserve capacity and any relevant secondary legislation of the Minister of Energy and Mining and relevant Codes.

d. Lignite resources in Kosovo mines

The lignite resources in the two existing lignite mines (Bardh and Mirash) feeding Kosovo A and B will be depleted by 2010/2011. Total production of lignite is expected to drop sharply by 2010 to about half their current capacity. *This would lead to a dramatic reduction of the electricity generation in Kosovo by 2010.*

In order to avoid the insufficient volume of lignite for the electricity production an immediate development of a new mine is required. Development of the new mine should start before 2008. A possibility to bridge the gap is the project prepared to develop first a small part of the Sibovc mine, in the Sibovc Southwest area, to maintain so the necessary lignite supply to existing TPPs.

The full development of the large new lignite mine in Sibovc will go in parallel with the Project for the TPP Kosovo C. The Southwest Sibovc mine and that of the Sibovc as a whole will have enough reserves to accommodate the present generating capacity of TPPs Kosovo A and B, and the 2100 MW additional capacity of TPP Kosovo C for a period of 40 years.

2.6 Actual investments commissioned or retired during 2005

a. Net new coal/oil capacity (GW)

There were no commissions of new coal or oil fueled power generation stations, nor retirements in 2005.

b. Net new gas capacity (GW)

No natural gas supply is available, so there are no such power generation plants in Kosovo.

c. Net new renewables capacity (GW)

In November 2005, the new HPP “Lumbardhi” began its operation. This plant is located in the South-Eastern part of Kosovo, around 15 km from the town of Deçan. It is owned by KEK and it is operated by Triangle General Contractors Inc. (TGC) under a 20 years lease agreement and PPA with KEK (“feed-in” price). In this project around € 6 million was invested for refurbishment increasing its capacity from 7.35 MW to 8.3 MW. Until the

end of 2005 this HPP had produced 1.9 GWh. It is worth noticing that this is the first private project in Kosovo's energy sector financed by the "non recourse" method.

d. Net new CHP capacity (GW)

No new CHP plants were commissioned.

e. Net new other capacity (GW)

No new other power generation plants were commissioned.

2.7 Description of the role of regulatory or other authorities¹⁶

The Law 2004/9 "on Energy Regulator" established a strong, fully-independent Regulator (Energy Regulatory Office - ERO) in Kosovo, which is completely autonomous from any Governmental Department to exercise economic regulation in the energy sector (Electricity, District Heating and Natural Gas), 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,
- the conditions of energy supply,
- monitoring the effective unbundling and development of competition in the energy sector
- customer protection, etc.

The establishment of ERO falls within the wider framework of energy policy harmonization in South Eastern Europe. On behalf of Kosovo, UNMIK signed Energy Community of South East Europe (ECSEE). 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 2012 and to further reinforce its central role in facilitating power wheeling in the SEE region.

On an annual basis ERO reports to the Assembly of Kosovo and the SRSG. The report shall be made public.

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.

While performing its activities ERO co-operates with energy enterprises, Ministries (especially MEM), different associations and institutions in Kosovo:

¹⁶ Information from ERO website

- **Ministry of Energy and Mining (MEM)** is, 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;
- **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 2006;
- **KOSTT** is the Kosovo Transmission System Market Operator (TSMO) playing a key role in the Kosovo electricity market. Appointed by the Ministry of Energy and Mining and licensed by the Energy Regulatory Office, pursuant to the provisions of the primary and secondary legislation, KOSTT became a licensed entity for the Transmission System Operation and for the Market Operation, since October 2006. KOSTT is responsible for planning, developing, maintaining and operating the Kosovo Electricity Transmission System as well as operating the new electricity market.

2.8 Authorisation criteria for new generation investments and the role of long term planning

a. License Requirements

The ERO is responsible for licensing and authorizing electricity generation investments. It has the power to require measures to provide for the enhancing of security of supply through the imposition of conditions.

Article 6 of the Generation Licenses to Kosovo A and B has the following provisions with regard of security of fuel supply:

- The Licensee shall prepare a contingency plan for fuel stocks under the Article 11 of the Law on Electricity and in accordance to the relevant secondary legislation issued by the Minister of Energy and Mining
- The Licensee shall comply with any provision setting up the type and extent of the minimum fuel stocks or the specific reserve capacity and any relevant secondary legislation of the Minister of Energy and Mining and relevant Codes

In accordance with Article 35 of the Rule on Licensing of Energy Activities in Kosovo, ERO may modify the license “... Where required to protect the energy system in Kosovo, in connection with security of supply, national security, security of life and health of citizens or protection of environment”.

b. Authorization requirements

ERO is to finalize and approve soon the Authorization Criteria and procedure which are fully in line with the Law on Energy Regulator 2004/9 and the Directive 2003/54.

Regarding the Lignite to Power Project, through the Executive Decision No.2006/06 of the Special Representative of the Secretary General of the United Nations (SRSG) it is established the Project Steering Committee (PSC) which is in charge with the process of the preparation and approval of this Project. The PSC is supported by a technical assistance office.

c. Role of long term planning

The Law No. 2004/8 on Energy entrusts the MEM in Article 6 to adopt long-term and annual energy balances which will forecast energy demand, sources (types) of energy and measures to be implemented for meeting the demand.

The long-term and annual energy balances for electricity shall be proposed to the MEM by the KOSTT after consultation with ERO. The long-term energy balance shall be adopted for a period of ten (10) years. Updates to the long-term energy balance shall be adopted every two years. The mandatory components of the long term energy balance document shall be:

- a) a forecast of the demand of individual energy sources by type;
- b) a forecast of the supply of individual energy sources by type;
- c) the manner in which supply requirements will be met for individual energy sources including primary (renewable and non-renewable energy sources) and final energy;
- d) a forecast for the emission of harmful substances from energy sources and the environmental impact resulting from the production and use of energy; and
- e) a list of the required stock levels and reserve capacity in order to achieve the planned level of supply reliability.

A first long-term balance of electricity for Kosovo was drafted by KOSTT in November 2006¹⁷.

The annual and long term balance for the whole energy sector in Kosovo was drafted by MEM for the year 2007 and for the period 2007–2016.

2.9 Implicit and explicit incentives to build capacity

There are no implicit or explicit incentives to build electricity generation capacities in general beside the fact that Kosovo provided the framework for free competition and market rules in the electricity sector.

For the promotion of electricity generation from renewable energy sources the Law No. 2004/8 on Energy requires in Article 11 that participants in the energy sector shall perform the following tasks:

- a) when dispatching generation, the transmission system operator shall give priority to generation using renewable energy sources as permitted under the Grid Code and other applicable rules and regulations;

¹⁷ Long-Term Balance on Electricity 2007 – 2016, KOSTT, draft, November 2006

b) system operators shall establish and publish standard rules on who bears the costs of technical adaptations, such as grid connections and grid reinforcements, necessary to integrate new generators feeding electricity produced from renewable energy sources into the interconnected system. Such rules shall be approved by the Energy Regulatory Office, shall be consistent with the Energy Strategy and shall be based on objective, transparent and non-discriminatory criteria, taking particular account of all the costs and benefits associated with the connection of these producers to the system;

c) system operators shall provide any new generator wishing to be connected with a comprehensive and detailed estimate of the costs associated with the connection; and

d) system operators shall establish and publish standard rules relating to the sharing of costs of system installations, such as grid connections and reinforcements, between all generators benefiting from them. Such rules shall be approved by the Energy Regulatory Office, shall be consistent with the Energy Strategy and any applicable secondary legislation on the tariff methodology.

The development and discussion of secondary legislation, and amendments to laws which may be necessary, are ongoing.

2.10 Progress in major infrastructure projects

The following activities were carried out for long term planning and improvement of the balance of electricity supply and demand during 2006:

a. Improving situation of the electricity supply from KEK

- With the support of a Joint Task Force, there is an obvious increase in revenue collection for electricity invoiced by KEK. It should be mentioned here that, with local personnel managing KEK since November 2006, revenue collection has increased by about 30% (in monetary terms) compared to the same period in 2005, thereby increasing the total revenue by around € 10 million.
- An agreement of co-operation was signed for electricity exchange with Albania; this has improved the amount and regime of exchange between the two countries. Also, another agreement of cooperation was signed between the Albanian Government and Kosovo-UNMIK for the construction of a Kosovo-Albanian 400 kV line.

b. Restructuring and preparation of energy sector in order to attract large private investments

- For the implementation of the Energy Strategy in Kosovo and in compliance with the Document for Energy Policies approved by Government and endorsed by PSSP and World Bank, MEM/Government have taken some important measures for restructuring the Energy Sector. In this regard the Government has approved two important measures:
 - i. Steps for restructuring and unbundling of KEK – October 2006 - as set out in the governmental document of 2005, and for reforming the energy sector which resulted in the Independent Corporation of Transmission System Operator and Market Operator (KOSTT) being established in July 2006, and

- ii. Approval in principle to incorporate the new Corporation of Lignite Mining, in November 2006, by suggesting to KTA/UNMIK to take this proposal forward for further consideration.
- Work has started with the World Bank, EAR and USAID in completing the necessary open, transparent and competitive procedures and studies for the selection of a private investor that will be engaged in the combined project of:
 - i. opening of a new mine in Sibovc,
 - ii. construction of new generation capacities in TPP Kosovo C (about 1,000 MW in the first stage by 2012-2014 and the second stage by 2018-2020 when the total capacity of the new TP is expected to be around 2100 MW), and
 - iii. rehabilitation of TPP Kosova A Units.

At this point in time, a number of large worldwide operating companies and consortiums have expressed their interest in these investments in Kosovo, which are expected to amount all together to approximately € 3,500 million. The four shortlisted consortiums are visiting Kosovo on preparatory work of their tenders.

- Improvement and processing of the legal base and regulations needed to attract private investments. In this regard, a number of important amendments to the existing laws for the Energy Sector were submitted to the Kosovo Assembly; these amendments are expected to be approved in the near future.

c. Regional and European Integrations

During 2006, Kosovo has continued the European Integration process. Thus Kosovo is already a member, with full rights, of the Energy Community South-East Europe. In this regard, MEM is implementing Kosovo's Treaty obligations not only with liberalization, integration and development of the Energy Sector, but it is also dealing with the preparation of an adequate legal, regulatory and institutional framework for environment protection. Here we should mention the membership of KOSTT, with full rights, of the SETSO Task Force (from the middle of October 2006).

On December 4, 2006, the public opening of tenders submitted by many investors, and groups of investors from the biggest companies in the world, that were interested in investing in the opening of a new Lignite Mine in Sibovc, construction of new electricity generation capacities based on lignite and rehabilitation of existing generation Units in TPP Kosovo A. Their interest seems to be very encouraging for Kosovo. From now on, all that is required from Kosovo Institutions and all the Institutional and non-Governmental players is to work together and contribute in a rational way to make the commencement of large private investments in the above-mentioned sectors a reality. In the meantime, MEM/Government will ensure that these investments deliver the maximum benefits for Kosovo.

2.11 Interconnection infrastructure

Actual cross-border capacity

The maximum current cross-border capacity on high voltage lines is 1080 MW. On the 400kV line the existing cross-border capacity is about 900 MW (3x300MW) and on the 220kV it is 180 MW (105 MW line to Albania plus 75 MW Kryshevc-Serbija line). The future plans for the cross-border capacity include the building of a 400 kV line with Albania with a capacity of 600 MWA.

A study on construction of a new 400 kV interconnection line to Albania is currently being prepared with funding of KfW. It will take up also the issues of interconnection capacity requirements in context with the new TPP Kosovo C and possible export of electricity produced for the regional market.

Electricity import requirements

Import requirements, calculated as difference between demand and supply, are presented in figure 7 for the MEM (base) supply scenario¹⁸, and the base demand scenario. The figures show that until 2009 the import requirements will be quite constant (about 15% of the demand). Starting with 2009 the import requirements will increase to 19% by 2011. In 2012 the import requirements may become zero (0) when the new coal fired plant will be in operation, and interconnection lines would allow then for exports.

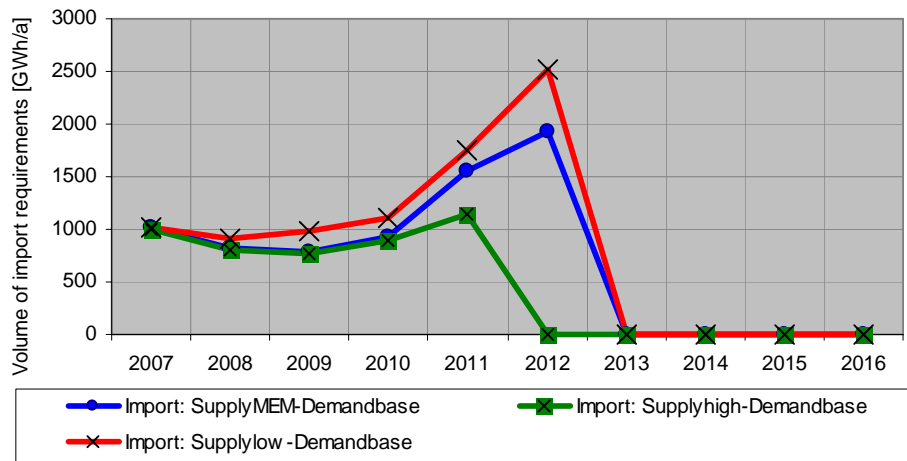


Figure 7: Electricity import requirements

In case no capital refurbishment of Kosovo A5 will take place (as considered in MEM supply scenario) the increase of import requirements will start to increase even earlier. In 2007 the import requirements are about 19% of the yearly demand.

A delay in building new generation capacity will even have a higher impact for the not served electricity. If HPP Zhur will not be in operation by 2012 and will have one year of delay, the import requirements for 2012 will be about 28%. If the new lignite power plant will be commissioned one year later as by 2014, the import requirements for 2013 will be about 41%.

The scenario with coal shortage in 2008 (in case a new mine will not be opened on time) has not been considered in our sensitivity analyses. In that case the import requirements will be much higher starting in 2008.

Import contracts

A substantial part of the electricity demand is supplied by import of electricity to Kosovo. Based on the demand and supply forecast a plan is made for additional supply through import contracts. Monthly contracts are mainly meant to fill the gap between forecasted demand and planned supply. Due to the financial problems only contracts for a maximum of months are made now. Besides explicit import contract there are also contracts for natural exchange with Albania, Montenegro, and Serbia.

¹⁸ MEM (base) supply scenario considers the commissioning of the 293 MW HPP Zhur by 2011 and the commissioning of the 700 MW lignite plant by 2012.

e. KOSTT processes for planning new networks

The Article 13 of the Law on Electricity states that the Transmission Network Operator, that is KOSTT, shall be responsible for:

- Operating, maintaining, and if necessary, developing the transmission network and its inter-connectors with other networks, in order to guarantee security of supply
- Preparing every two years, on the basis of regional needs, a list of the new transmission capacities and interconnection power lines required to meet the needs of Kosovo.

As a result of last war in Kosovo the transmission and distribution network is heavily damaged. No proper maintenance took place for a long period. Most of the projects identified in ESTAP studies have not been completed. This means that many substations are still in bad technical condition and that insufficient transformation capacity prevails in certain areas.

If disturbances on high voltage lines occur, it means that a big geographical area remains without electricity. In order to prevent this, the rehabilitation of high voltage transmission lines is of first priority. A high redundancy of the lines and availability of production and / or import capacity is therefore requested.

At the same time KOSTT will have to consider that reliability of electricity delivery has different importance for different (industrial) consumers. As some of them can and are ready to reduce their consumption in periods of electricity shortage (therefore they will receive a payment for their service or will be offered a lower tariff), other industrial clients need a high reliability (because of their industrial processes and the damage the absence of electricity can cause) and are ready to pay a higher tariff for its reliability.

The formation of KOSTT, the independent transmission system and market operator for Kosovo, creates an opportunity to build upon the good work of KEK Transmission Division to develop and implement longer-term plans to expand and enhance the network. In accordance with the terms of its licence and of its obligations as a member of SETSO, KOSTT's transmission planning will address a number of objectives, including, as a priority:

- completing the process of rehabilitating and reinforcing the network so as to improve the security and quality of supply to native Kosovan load;
- connecting new distribution substations so as to allow KEK Distribution to supply increased distribution system demand with greater reliability and lower losses; and
- increasing useable interconnector capacity so as to facilitate and promote the growth and development of the regional market, both for import/exports and for transit flows.

KOSTT will prepare and publish annually its forward-looking development plan for the transmission system, in order to make current and potential users of the system aware of the opportunities for connecting to and using the system and to keep them informed as to its planned future development.

Reliability of the distribution lines and transformers

Some conclusions of the ESTAP study [2] for the 10kV and 35kV voltage networks and transformations, relevant in order to form a view of distribution network reliability, are:

- One of the characteristics of the Kosovo distribution network is the small number of its supply sources, i.e. the 110/35kV substations supplying a certain number of 35/10kV substations. The loads on 110/35kV and 35/10kV Substation are generally

high. In some instances the transformer rated power is exceeded. The loads on the 35 kV network are high most of the time, and in some peak states, its thermal capacity is exceeded. There are some substations with direct 110/10 kV transformation,

- The network is on the 10 kV voltage level and is mainly constructed with Al/Fe conductors of 25 mm² and 35 mm² cross-sections. 10kV feeders from Substation are usually very long in rural areas, thus giving rise to high voltage drops (up to 40% of the nominal voltage) and considerable technical losses,
- Due to the radial structure of the 10kV network (particularly in the rural areas), it is not possible to assure reserve supply from Substation during outages of important feeders. Likewise, reserve supply is impossible in looped networks, where long loops, small conductor cross sections and the 10 kV voltage level causes excessive voltage drops. As a result of the weak 10 kV network, it is sometimes necessary to alternatively disconnect individual feeders to avoid operation discontinuity,
 - In the town cable network (in the town of Prishtina) more than half of the cables are older than 20 years (copper oil-filled cables),
 - All the newly laid cables are built for 20kV nominal voltage, and
 - Approximately 10% of all the MV/LV TS are of the reconnectable type, 10(20)/0.4kV.

These conclusions lead the conclusion that current reliability of supply on the distribution network is low. At KEK distribution department the definition and registration of reliability parameters are not yet an issue.

3. Gas

3.1 General description

Kosovo is not linked to natural gas supply networks. A connection to natural gas supply would be an important option to diversify fuel supply and to increase security of supply, but there are actually no projects planned.

Gas supply and consumption in Kosovo is therefore limited to bottled LPG (liquefied petroleum gas).

3.2 Current levels of gas consumption (bcm) and expectations for the next three years (i.e. 2007-2010)

In 2005 in Kosovo 16.12 ktoe of LPG were supplied to final consumers. For the coming years, no significant change is expected.

3.3 Currently available production and import capacity (bcm)

There is no production of gas in Kosovo, nor import capacity by pipelines.

3.4 Forthcoming production and import investment for the next three years

a. Authorised

There are actually no investment projects, nor expectation of such projects in the next three years.

b. Actually in process of construction

There are no projects in construction.

3.5 Description of the role of regulatory or other authorities

Law 2004/9 “on Energy Regulator” established a strong, fully-independent Regulator (Energy Regulatory Office - ERO), completely autonomous from any Governmental Department to exercise economic regulation in the energy sector (Electricity, District Heating and Natural Gas) and defined its executive powers, duties and functions, primarily amongst which are:

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- the criteria for regulating network and public supply prices and approving tariffs,
- the conditions of energy supply,
- monitoring the effective unbundling and development of competition in the energy sector
- customer protection, etc.

The establishment of ERO falls within the wider framework of energy policy harmonization in South Eastern Europe. On behalf of Kosovo, UNMIK signed Energy Community of South East Europe (ECSEE).

a. Requirements relating to supplier of last resort

There are no special requirements.

b. Incentives to increase production/import capacity or any type

There are no incentives in place.

c. Requirements relating to the availability of storage for public service reasons

There are no such requirements.

3.6 Progress in major infrastructure projects

a. Important interconnection projects between or within Member States

Currently there are no natural gas network interconnection projects for Kosovo in preparation.

b. Regulatory framework under which they will operate

A draft Law on Gas is prepared by the MEM. It will undergo stakeholder discussion and submitted for approval in the Assembly of Kosovo later this year. After the Law approval, ERO will draft the regulation natural gas supply.