

## Restructuring of the Central Asian Power Sector

### Restructuring of the Kazakh Power Sector

In 1996, the Government of Kazakhstan developed and adopted a programme aimed at creating the necessary organisational and economic conditions for stabilisation and further development of the electricity sector. For that purpose the Government commenced reorganisation of the management structure and privatisation of enterprises within the energy sector. By 1997, this aim was achieved: electricity plants were separated from the national energy system and their privatisation was implemented, the grid was formed and regional grid companies were established and took over the functions of regional electricity supply. Privatisation of the generation plants is now coming to an end; the new main operators are: Almaty Power Consolidated (Belgium), AES/Suntree (USA), State Property & Privatisation Committee, Euro-Asian Power Corp. (53% was Japan Chrome), JSC "CARBID", Samsung Vitol Munai (now Energoproekt), KazZinc, Ispat Karmet, JSC "Inform Marketing Service (Ukraine), Whitesman Ltd, CCL Energo, Limited Partnership (Roskazenergo).

In 1997, the Government reviewed the results of reforms in the electricity sector and set up a new programme at improving the structure of grids and electricity supply and further enhancing the sector's financial viability, management efficiency, and improvement of the terms of trade for energy enterprises. Between 1998 and 2000 the Government intends to create a market infrastructure, launch the market mechanism and develop free market competition.

As per end of 1999, the reform of the electricity sector is still going on and the following structure currently functions:

- Independent privatised power stations; about 85 % of the power stations are privatised,
- Integrated industrial power stations with the functions of production and sale of electric energy to their own consumers and territorial companies, i. e. the oil and gas exploration companies;
- Joint Stock Company, "Kazakhstan Electric Grid Operating Company" (KEGEC), owner and operator of the HV national grid, central dispatch administration and nine regional dispatch centres;
- Independent, private, territorial distribution companies, i. e. Almaty Power Consolidated, the utility of the Almaty distribution grid owned by Tractebel, Belgium;
- Territorial distribution companies not yet sold to operators. For example KEGOC operates on an interim basis ten of the fifteen Regional District Companies (RDC).

Besides general sector development strategy programmes, a comprehensive legislative base regulating the functioning of the electricity market and defining the rules of

interaction of the participants has been developed. The principal law defining the mechanism for making entry into the market equally easy for all companies regardless of their type of ownership is the Presidential Degree of 23 December 1995 "On Electric Power".

In accordance with the Presidential Degree, companies operating in the electricity sector must obtain an operations licence, as well as licences for import and export activities. The regulatory body for all energy companies regardless of their type of ownership is Gosenergonadzor. The State body responsible for price regulation in the electricity sector is the State Regulation Committee, Agency on Regulation of Natural Monopolies. This agency as well as regional administrations play a primary role on the price setting and approves the tariffs.

The operation of the power system by the generation companies and by KEGOC is presently reviewed and improved, since the generation companies try to produce at the highest possible efficiency in respect to their generation plants. This efficiency might be a sub-optimum whereas the overall optimum is necessary including generation, transmission and distribution. Especially, spinning reserve, reactive power, and auxiliary services are presently not provided in the necessary scope and quality. As a remedy, market prices and regulations must be defined so as to reach the required results. Out of that reason USAID Consultant, Hagler Bailly elaborated studies on:

- System Control;
- Reserve Capacity (Spinning, Non-spinning – hot and Non-spinning – cold)
- Energy Balancing (Frequency regulation, Balancing capacity, Load following)
- Transmission Losses;
- Reactive Power;
- Black Start Capability,

and monitored the necessary provisions to be ensured both by the generation companies and by KEGOC and the price for providing these services for every partner participating in the power sector.

The re-structuring process is continued in order to privatise the remaining generation and distribution companies, rehabilitate the transmission system with Worldbank and EBRD funds and iron out the deficiencies observed during the first years of the sector restructuring. Overall Kazakhstan is well advanced in the restructuring of the power sector and has taken a lead role in implementing a modern electricity supply system.

# **Restructuring of the Kyrgyz Power Sector**

## ***Kyrgyzenergo***

The joint stock company Kyrgyzenergo, the majority state-owned electricity monopoly responsible for generation, transmission and distribution, contains 16 organisational units:

- Thermal Power Plant Bishkek
- Thermal Power Plant Osh
- Hydro power plant cascade Toktokul
- Hydro Power Plant Construction Company
- 7 electric network enterprises: Bishkek, Chui, Talas, Issyk-Kul, Dzhahal Abad, Naryn, Osh
- Bishkek Thermal Network Repair Company
- Kyrgyzenergo Remont (construction and repair unit for electric power systems)
- Kyrgyzenergo Spezremont (specialised repair unit for electric power systems)
- Procurement Enterprise
- Training Centre

Kyrgyzenergo operates some 20 power plants with a total installed capacity of 3586 MW, consisting of 3 combined heat-and-power plants (638 MW) and 18 hydro power plants (2948 MW). The company has a capacity to produce about 142,000 GWh and generates around 640 million dollars in export revenues per annum.

Since the disintegration of the Soviet Union the industrial production and consequently its demand of electric energy dropped dramatically. This loss of demand was compensated, since due to the price increase of gas and oil the domestic consumers switched over to cheap electricity for all heating purposes. This domestic increase made up the reduction of industrial demand. However, the distribution network was designed for a capacity of about 4 GW and cannot carry the present load of about 5.5 GW. Therefore, Kyrgyzenergo is faced with overloaded equipment, burnt out material, excessive technical losses, increase of outages, and no material for repair and uprating of installations. System losses and electricity thefts have dramatically increased to one third of the total output of the power plants.

The company continues to operate at a loss. Plans to expand electricity output have been hindered by inadequate domestic production of transmission gear and limited financial resources, caused by inadequate pricing and cost recovery. Consequently, tariffs must be increased and it is estimated that about US\$ 650 million are needed for upgrading the electricity sector compared with US\$ 450 million expected to obtain for the sale of the distribution companies. However, as Kyrgyzstan exploits less than 10 % of its hydroelectric potential, estimated at 26,000 MW, the Kyrgyz electricity sector could prove attractive for foreign investment if export markets can be secured in growing Asian energy markets.

## ***Electricity policy***

The structure of authority and responsibility within Kyrgyzenergo remains unclear, as management decisions continue to emanate from the government and not the shareholders. Kyrgyzenergo has also suffered from the lack of a coherent and unified

energy policy, and differences of opinion on how to proceed with energy sector reform. However, the government is currently planning to develop its energy policy inter alia, by:

- decreasing the amount of money owed to Kyrgyzenergo for electricity supplies to no more than 45 days for state-budgeted organisations and 90 days for non-budgeted and private consumers;
- restructuring unrecoverable payments owed by rural consumers;
- restricting state-budgeted organisations from using electricity above established limits;
- reconsidering tariffs for electricity and heating for 1999;
- decreasing power losses to 28%; and
- raising electricity prices in stages to at least a cost recovery level and eventually to a level that will also cover depreciation and new investment (although, with the average monthly salary amounting to just 870 som (20 dollars), the government will be hard pressed to collect much of its outstanding arrears).

### ***Privatisation plans***

The privatisation of Kyrgyzenergo has been stalled at the parliamentary level since 1997, when sell-offs of large monopolies were suspended following allegations of price-rigging and corruption. The privatisation foresees the separation of the monopoly into hydroelectricity producers and distribution systems. Transmission system shall remain under government control.

Thus so far,

1% of shares has been transferred to Kyrgyzenergo employees; another

1% may be transferred by government at a later stage, if an improvement in productivity is reached (i. e. increase of output at less cost per unit of electricity produced and delivered to the consumer);

4.5% sold during the coupon stage of privatisation;

5 % transferred to the Social Fund of the Kyrgyz Republic; around

8% transferred by the State to the lower income population through the state social fund;

the rest (80.5 %) are reserved by the State and used later according to the decision made by the Government of the Kyrgyz Republic. Plans foresee up to 70% being sold to a foreign strategic investor, although the state will retain a controlling share in the large hydroelectric power stations of the Naryn cascade.

Under recently signed bilateral agreements, shares of Kyrgyzenergo will be floated on either the Kazakh or Turkish stock exchanges.

## ***Restructuring***

The fundamental barrier to speedy privatisation is agreement over how to divide Kyrgyzenergo's distribution network. One proposal foresees dividing the sector into five constituent parts based on the five regions of Bishkek City, Talas/Chui, Naryn/Issyk-Kul, Osh and Jalal- Abad. An alternative would be to create seven units with Talas, Chui, Naryn and Issyk-Kul regions being separate, corresponding to the existing operation units. Two international tenders have been held, most recently in November 1998, for a consultant to assess the financial suitability of distribution companies considered for privatisation. However, the State Property Fund and the government have yet to make a decision on the second tender, although Bishkek, Chui and Talas regions are likely to be among those privatised first. The State Energy Agency would need technical assistance for the implementation of the restructuring process but until now a consultant has not been foreseen, nor have tender documents been prepared for the following steps of restructuring.

Kyrgyzenergo has several plans to rehabilitate the existing small-scale hydroelectric units, built between the 1940s and 1970s. The government is currently accepting bids on the sale of the Alamedin hydroelectric plants, with the aim of developing a small hydroelectricity sector. This would deliver a reliable energy source to satisfy the domestic, industrial and agricultural needs of the more mountainous regions (96% of Kyrgyz terrain is regarded as mountainous).

The construction of a 220 kV power line in Naryn region has now been completed. Several further construction projects, aimed at expanding the infrastructure to enable the export of large amounts of energy, are envisioned:

- Reconstruction of the Bishkek power plant and heating network is well under way, financed jointly by the World Bank and Asian Development Bank.
- Construction of two power plants, Tash-Kumyr and Shamaldy-Sai, is to be completed at a cost of about 42 million dollars.
- Construction of the new high-voltage Alai-Batken line in the Osh region is being financed by Kuwait Fund and Islamic Development Bank.
- The construction of several high-voltage lines is planned, including one designated to export electricity to China.

In order to fund such development projects, Kyrgyzenergo will need to attract huge sums of investment. An estimated 650 million dollars are required to modernise the distribution network. However, Kyrgyzenergo is only valued at 460 million dollars. The government hopes to raise more than 300 million dollars from the sale of Kyrgyzenergo, and sees its export potential as being its main attraction. In view of the financial situation of Kyrgyzenergo, the Worldbank has advised that further HV projects shall not be funded unless the Kyrgyzenergo's debt rate is improved. Therefore, all electricity projects with foreign financing have been put on ice.

Therefore, Kyrgyzenergo has yet to secure investment for the proposed power line to neighbouring Xinjiang province in China, whose energy market has still not been fully developed. In light of the East Asian and Russian crises, markets in Kazakhstan and

Uzbekistan have also been adversely affected, exacerbating the company's payment arrears problems. It is unlikely that these countries will provide stable markets in the near future. Moreover, despite Kyrgyzstan's rather advantageous legislation governing the foreign investment environment, prospective foreign investors are likely to be cautious in a country that has had limited success in attracting significant investment, particularly in the run-up to parliamentary and presidential elections in 2000.

The government has been slow to privatise state electricity monopoly Kyrgyzenergo, with much of the programme stalled at the parliamentary level. Power generation and distribution systems continue to decay.

## **Restructuring of the Tajik Power Sector**

Since in 1996, all enterprises involved in the energy sector report directly to the prime Minister's office, where a Deputy Prime Minister is in charge of the co-ordination of all energy related matters. The main institutions in the energy sector are:

- Barki Tajik (power generation, transmission and distribution)
- Tajik Committee for Oil and Gas (TAJIKNEFT), (exploration and exploitation of oil and gas resources in Tajikistan)
- TAJIGASKOMUNSERVICE (TADJIKGAS) (import and distribution of natural gas)
- Dushanbe Geology Department
- TAJIKOILPRODUCTS (importation, storage of oil products)
- TEPLOENERGYA (district heating in Dushanbe and Yavan)
- Shurab Coal Mine

The energy sector in the whole country is monopolised by these state owned companies. The restructuring of the energy sector has hardly started and Consultants have been engaged to assist the Government in the restructuring process.

The State Stock Energy Holding Company Barki Tojik is responsible for power generation, transmission and distribution throughout the country. Concerning rehabilitation and upgrading of the power sector, no projects have been implemented until now. However, few studies analysed the Tajik power system and experts have been delegated to Tajikistan for study and re-organisation of the power subsector.

In 1994 and 1995, three TACIS studies were performed covering the Improvement of the Energy Sector of the CIS or five Central Asia Countries, namely:

1. Common Technical and Organisational Requirements for Extended Economy and Security of Power System Operation in all the CIS Countries.
2. Improvements in System Operational Planning, Operation and Central Practises in Caucasus and Central Asia Countries.
3. Improvements in Electricity Transmission, Distribution and End-use efficiency in Central Asia Countries.

These studies included as well the Tajik power system but the recommendations were never implemented due to the civil war in the country.

TACIS financed a further study, titled Advice to the Government and Preparation of a strategic Plan for the Energy Sector that was completed in March 1997, but recommended actions have not yet been executed. In 1999 a further feasibility study had been tendered, but not yet awarded, for rehabilitation of the Greater Dushanbe power grid. This study is financed by the Kuwait Fund. The World Bank carries out a further study, namely the analysis of the export demand for power from the Rogunskaya project from such countries as Pakistan, Afghanistan and other Central Asian Republics. The study shall investigate the feasibility of the Rogun HPP.

Finally, in 1999 an association of consultants, Lois Berger SA, Lois Berger International and Snowy Mountains Engineering Corporation Ltd was engaged for Institutional Strengthening of the Transport and Energy Sector. The Institutional Strengthening of the Transport and Energy Sector is to assist the Government of Tajikistan in:

1. Reviewing and preparing draft legislation to create an enabling framework for the delivery of market-based services;
2. Restructuring and establishing key institutions to improve the management efficiency of the sectors;
3. Separating the regulatory and operational functions of the sectors;
4. Improving corporate governance by commercialising and making transparent the operations of Government-owned enterprises in the sectors;
5. Implementing market pricing and user pay principles to increase self-financing;
6. Promoting competition by ensuring the removal of impediments to entry and exit of enterprises in the sectors;
7. Developing a participatory framework for the Program and implementing mitigating measures to address social costs of the above objectives; and
8. Preparing performance indicators to monitor the effectiveness of the above reform program.

The World Bank now financed a study for development of the least cost power expansion plan that shall define the necessary rehabilitation works in generation, transmission and distribution and prioritise them, as well as to indicate the necessary tariff. The study is under preparation now, data collection was completed in August 1999.

The World Bank Study and the institutional strengthening will help to identify and to remedy problems of the power sector, so that the rehabilitation of the Tajik power system can follow the classic steps and follow the most effective way in launching the rehabilitation works and upgrading the power system in performing the following steps:

- Feasibility study of the necessary rehabilitation works (rehabilitation masterplan) (Worldbank)

- Study of the necessary institutional changes (ADB)
- Presentation of feasibility study to donors and banks for possible financing of identified projects of the study
- Definition of emergency program out of the identified projects
- Implementation of the institutional reforms
- Implementation of the so-called emergency program
- Implementation of the different projects.

With the initiated technical and institutional assistance from abroad and with firm commitment by the Government for reforms, and provided that civil rest will further improve the energy situation in Tajikistan will improve.

## **Restructuring of the Uzbek Power Sector**

Compared with Kazakhstan, Uzbekistan still has miles to go for creating a market infrastructure for power generation and distribution. The central complaint is the currency restrictions with a black market rate up to three times the official exchange rate. These currency restrictions prevent foreign companies from business actions in the country. Furthermore the Government made no serious steps toward restructuring and privatisation of the Minenergo complex. All decisive decisions are still made by the Ministry and not by the established joint stock companies. In addition, the hierarchical structures of the companies remained almost unchanged to Soviet times.

Unless the Government enforces institutional and organisational changes including the necessary legal provisions the power sector will remain as inflexible and inefficient concerning cost effective power supply as it is now. In addition foreign investors will not move in.

## Tariffs in the CA EP

The tariffs are all structured in the same way, since they have been developed from the Soviet tariff structure. As an example the Uzbek and Kyrgyz tariffs are translated below, as valid at the end of 1999.

The Uzbek tariff is expressed in Uzbek Som and not transferred into US \$, since the official exchange rate shows a strong inflationary tendency (1 US \$ = 160 Soms in July 1999 and 1 US \$ = 200 Soms in December 1999). In addition, the black market exchange rate reaches up to four times the official rate. Thus, the domestic tariff for households, equal to 3 Soms corresponded to 2 US cents in July 1999 and decreased to 1.5 US by the end of December as per official exchange. Accounted with the black market value, that corresponds to the purchase value, even a quarter of these values have to be taken into account.

The Kyrgyz tariff is expressed in Kyrgyz Soms and Tyins (1 US \$ = 40 Som = 4,000 Tyin). Thus, the lowest tariff per kWh of 16.8 Tyin corresponds to 0.42 US cents and the highest tariff of 54 Tyin per kWh amounts to 1.35 US cents.

The tariffs in the Kyrgyz Republic, Tajikistan and Uzbekistan do not cover cost nor the marginal costs. In the Kyrgyz Republic in 1999 the domestic rate should be 0.94 US cents, in the year 2000 increased to 1.13 US cents and reach 1.46 US cents in 2001.

In Kazakhstan numerous distribution companies have their own tariffs which have to be approved by the Agency on Regulation of Natural Monopolies. These tariffs are closer to marginal costs and are considered as a heavy burden by the consumers from the domestic clients to the industrial ones. However, the distribution companies are in constant discussions that the approved tariffs are too low and prevents them from investing in system improvements. Almaty Power Consolidated is constantly disputing who shall bear the cost of non-technical losses, either APC, the consumers or both. The Agency on Regulation of Natural Monopolies requests APC to cover these costs.

Agreed  
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\_\_\_\_\_ B.Zinin

Approved  
Minister of Power and Electrification  
of the Republic of Uzbekistan  
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Tariffs  
**on electrical and heat power**  
Are coming into force commencing from 1.07.1998

Types of tariffs and groups of consumers

SECTION 1 – ELECTRICITY

**Group 1 - industrial and similar consumers with the connected capacity  
≥750 kVA**

**Two-rate tariff:**

- **7000 sums/year for 1 kW of the peak load**
- 2.8 sums for 1 kWh of consumed power

Group 2 - industrial and similar consumers with the connected electric capacity up to  
750 kVA

Single-rate (horizontal) tariff  
- 5.5 sums / kWh

Group 3 - production agricultural consumers, pump stations for machine irrigation,  
vertical drainage wells, artesian wells, rural water supply conduits, water  
mains and irrigation canals, as well as water protection and production  
subdivisions for their operation which are financed from the budget  
at the rate of - 3.5 sums / kWh

Group 4 - electrified railways and urban public transport with electric traction  
- 5.0 sums / kWh

Group 5 - non-industrial consumers, budget financed organizations, street lighting  
of towns - 4.5 sums / kWh

Group 6 - trade organizations, coffee bars, restaurants and public services  
- 15 sums / kWh

- Group 7 - for population and settlements - 3 sums/ kWh  
for residents of dwelling houses equipped with electric oven - 1.5 sums/  
kWh
- Group 8 - electricity used for heating, hot water supply and cooling (air-  
conditioning)  
- 15 sums / kWh
- Group 9 - Advertisement and illumination – 50 sums / kWh

## **SECTION II – HEAT POWER**

- Group 1- All consumers, excluding wholesale consumers-marketeers and green  
houses, hot water and steam of all parameters – 1600 sums/ kWh
- Group 2 - Wholesale consumers-marketeers and green houses, hot water and steam  
of all parameters – 1332 sums/ kWh

Notes:

1. The present tariffs have been approved in accordance with the Statement No.453 of the Cabinet of Ministers of the republic of Uzbekistan as at October 16, 1992 and September 8, 1994.
2. The present tariffs are established with the consideration of VAT( excluding Group 8 Population and settlements)
3. After the new tariffs come into force, the previous tariffs established since December 1, 1996 and August 1, 1997 will cease to be in force.
4. Privileges previously established by the Cabinet of Ministers are to be kept in force.

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## Kyrgyz Republic Tariff for Electricity, Heat and Hot Water Supply

- I The present tariff per kWh consumed is valid from 20.1.1999 :
- 1.a residential consumers monthly consumption
- |                    |           |                  |
|--------------------|-----------|------------------|
| up to 150 kWh      | 16.8 Tyin | (=0.42 US cents) |
| from 150 – 500 kWh | 20.4 Tyin |                  |
| from 500 – 70 kWh  | 45.0 Tyin |                  |
| exceeding 700 kWh  | 52.6 Tyin | (=1.32 US cents) |
- b irrigation, pumping stations 21.6 Tyin
- c industrial and similar consumers with declared capacity exceeding 150 kW
- |                                  |           |  |
|----------------------------------|-----------|--|
| monthly per kW declared capacity | 25.2 Som  |  |
| per kWh consumed                 | 50.4 Tyin |  |
- d for industrial poultry farms, dairy, flour and bread production with declared capacity up to 150 kW
- |   |           |  |
|---|-----------|--|
| per kWh consumed                        | 41.4 Tyin |  |
| with declared capacity exceeding 150 kW |           |  |
| monthly per kW declared capacity        | 21.6 Som  |  |
| per kWh consumed                        | 38.8 Tyin |  |
- e for consumers financed from republic or local government budget
- |                  |           |  |
|------------------|-----------|--|
| per kWh consumed | 45.0 Tyin |  |
|------------------|-----------|--|
- f for non-industrial consumers, catering facilities with declared capacity of 10 kW and above  
(excluding financed from republic or local government budget)
- |                                  |           |  |
|----------------------------------|-----------|--|
| monthly per kW declared capacity | 25.2 Som  |  |
| per kWh consumed                 | 54.0 Tyin |  |
- g all other but the above using electricity for heating and hot water supply with declared capacity of 10 kW and above
- |                                  |           |  |
|----------------------------------|-----------|--|
| monthly per kW declared capacity | 25.2 Som  |  |
| per kWh consumed                 | 54.0 Tyin |  |
- h for the rest of consumers
- |                  |           |  |
|------------------|-----------|--|
| per kWh consumed | 54.0 Tyin |  |
|------------------|-----------|--|
- II From 1.4.1999 the following tariffs shall apply
- 1.a residential consumers monthly consumption
- |               |           |  |
|---------------|-----------|--|
| up to 150 kWh | 18.2 Tyin |  |
|---------------|-----------|--|
- b from 1.4.1999 till 1.11.1999
- |                    |           |  |
|--------------------|-----------|--|
| from 150 – 300 kWh | 23.8 Tyin |  |
|--------------------|-----------|--|

	from 300 – 50 kWh	45.0 Tyn
	exceeding 500 kWh	52.5 Tyn
c	During the heating period from 1.11.1999 till 1.4.2000	
	from 150 – 500 kWh	23.8 Tyn
	from 500 – 70 kWh	45.0 Tyn
	exceeding 700 kWh	52.6 Tyn

## Tajikistan Tariff for Electricity

The tariffs are the same for the whole country

Categories:

a)	Industry, Agriculture, Product organisation	=20,00 TR/kWh (1999) (=1,35 US c)
b)	Water Department, Transport, water pumping	= 2,50 TR/kWh (1999) (=0.167 US c)
c)	Private households up to 150 kWh / month	= 2,50 TR/kWh (1999) (=0.167 US c)
	above 150 kWh/month	= 8,50 TR/kWh (1999) (=0.567 US c)

(Remarks: 1 USD = 1.500 TR, Tajik Rubel )

About 50% of private households consume more than 150 kWh per month, about. 20% remain within the limit of 150 kWh, balance changing.

About 40% of private households are not able or do not want to pay. Arrears must be paid till the year 2004. This includes as well the time of civil war 1992 – 1994 (partly till 1997).

About 50% of industry does not pay or refunds through barter deal

Tariff increases can only be performed by Government

Presently all consumers of Dushanbe are in arrears to Barki Tojik with about 2 Million USD.

### Development of Tariff:

Year	>	1997	1999	2000	
Private households					
Up to 150 kWh/month		0,5	2,5	5	TR per kWh
Above 150 kWh		2,5	8,5	11	TR per kWh
Water supply		0,5	2,5	2.5	TR per kWh
Transport, Pumping					
Industry		1,35	1,35	1.35	US cent per kWh

Years	>	1996 – 1997	
Private households			
Up to 100 kWh/Month		0,2	TR per kWh
Above 100 kWh		1,0	TR per kWh
Water supply		0,10	TR per kWh
Transport + pumping		0,14	US cent per kWh
Industry		1,5	US cent per kWh
Ministry, Embassy etc.		0,74	US cent per kWh
Government Org.		0,4	TR per kWh

Jail (incl. their industries) 0,8 (1996-1999) TR per kWh

**Years > 01.09.95 – 01.04.96**

Less categories

Industry and other

Organisations etc. 3 US cent per kWh

Private Households

With gas for cooking 0,12 TR per kWh

Electricity only 0,2 TR per kWh

**Development of Inflation Rate**

Year	Exchange Rate
1996	1 US \$ = 300 T Rubel
1997	1 US \$ = 600 T Rubel
1998	1 US \$ = 900 T Rubel
up to May 1999	1 US \$ = 1,200 T Rubel
after May 1999	1 US \$ = 1,600 T Rubel