

**National Agency of the Republic of Kyrgyzstan for  
Anti-Monopoly Policy and Promotion of Competition**

**«International Water Resource Management:  
Division of Hydro Resources between the Kyrgyz  
Republic and Republic of Uzbekistan»**

**Kyrgyzstan, Bishkek**

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## **System Capacity**

**The energy system the Kyrgyz Republic has 18 power plants with total installed capacity 3678 MW, including 16 HPPs (2950 MW) and 2 CHPs located in the city of Bishkek (678 MW) and city of Osh (50 MW). The Bishkek CHP is the main thermal power plant in the Kyrgyz Republic and the main producer of hot water and steam for the capital of the republic.**

**The data given below show that in the total energy balance of the grid HPPs have more than 80 %, while actual share of hydro generation is more than 91 %, and 97 % of HPPs' generating capacity is concentrated on the Narynsk chain of power plants that uses a single water flow regulated by the Toktogul water storage, which is a long-period storage reservoir with full capacity of 19.5 billion cubic meters and useful capacity of 14 billion cubic meters.**

- **In all other HPPs of the chain there are small capacity water reservoirs that ensure daily regulation of the water flow. During the last five years (2000-2005) generation of electricity comprised 64.8 billion kWh, export of electricity – 8.8 billion kWh. And capacity of the power grid increased by 400 MW. The year of highest production (14.8 billion kWh) and export (3.15 billion kWh) of electricity was year 2000. It has to be noted that potential of water energy resources of the basin of rivers Naryn-Syrdarya is used only for 10%.**
- **In accordance with previous agreements with the republics of Kazakhstan, Uzbekistan, Tajikistan and agreements with the Russian Federation, during the period of 2004-2010, it is expected to have growth of export of electricity from the Kyrgyz Republic, which would lead to higher generation of electricity by power plants in the Kyrgyz grid.**

## Current issues and tasks

- In order to ensure reliable work of power plants, sustainable functioning of the Kyrgyz energy system and security of supply for consumers, the Kyrgyz Republic, among other republics, is a member of a number of intergovernmental agreements of Central Asian states and CIS countries.
- One of the key documents in this regard is the framework Agreement between governments of the Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan and the Republic of Uzbekistan on utilization of hydro power resources of the Syrdarya river basin dated March 17, 1998; on the basis of which every year quadruple and bilateral intergovernmental documents are prepared, which envision relevant volumes of mutual deliveries of water and fuel and energy resources. Using this mechanism of mutual exchanges, every year, during the vegetation period, the open joint-stock company “Power Plants” exports electricity, acquiring in exchange fuel resources for thermal power plants to work during fall-winter period.

- This source and mechanism of ensuring fuel supply would be retained for the next years due to the weak fuel extracting industry in the republic.
- An important step in the field of joint use of water resources that promoted changes in the existing water and energy mode of operation of the Narynsk chain of HPPs could be a joint with other stakeholders construction and putting into operation of Kambaratin HPPs located upstream from Toktogul water reservoir, as they could help to eliminate existing contradictions between water users in the Syrdarya river basin.
- Completion of construction of Kambaratin HPP 1 and 2 and putting them into operation would help to address the following problems:
- Increase of the generating capacity by 2260 MW and the volume of annual generation of electricity by more than 6 billion kWh;
- Creation of conditions for sustainable water supply and environmental safety in the Syrdarya river basin;
- Improvement of the water and energy regimes in the basin;
- Increase of export deliveries of electricity;
- Covering of peak loads and frequency regulation in the united energy system of Central Asia;
- Creation of a flexible mode of operation of power plants under different conditions.

## **Settlement of the Issues**

- **Departure of the Republic of Uzbekistan from cooperation in the water and fuel and energy fields aggravated issues of sustainable supply of natural gas to CHPs, and worsened the hydrological situation in the Kazakh part in the lower reaches of the Syrdarya river, which fact caused certain problems with economic entities in the Republic of Kazakhstan while coordinating issues of export to the Republic of Kazakhstan and transit of electricity through its territory to the Russian Federation. In addition, there are also technical constraints related to insufficient transfer capacity of interconnecting lines between neighboring states.**

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- In accordance with the framework Agreement, in May 2005, the interdepartmental working group that consisted of top managers of water, fuel and energy industries of Central Asian Republics prepared, initialed and then signed by the Government of the Republic of Kazakhstan, the Government of the Republic of Kyrgyzstan, and the Government of the Republic of Tajikistan a draft of the quadruple Inter-Governmental Protocol on Utilization of Water and Energy Resources in the Nyryn-Syrdarya basin in 2005 and in the first quarter of 2006.
- As this draft was not signed by the Government of the Republic of Uzbekistan

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- As a result of negotiations, the participants from the Republic of Kazakhstan, the Republic of Kyrgyzstan, and the Republic of Tajikistan coordinated and initialed the draft of the Inter-Governmental Protocol on Utilization of Water and Energy Resources in 2006 and in the first quarter of 2007.
- Representatives of the Republic of Uzbekistan did not initial the document as they had to coordinate terms and conditions of the document with the top authorities of the Republic.

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- Experience of cooperation during past years showed that the existing scheme of interaction is efficient only under conditions of very low water supply in the Syrdarya river basin, when consumers of water experience deficit of water resources during summer time, which deficit can be compensated only from the Toktogul water reservoir.
- In such conditions, Kyrgyzstan exported electricity to neighboring republics, in exchange it got natural gas, black coal and other heat carriers in the volumes sufficient to provide for load of thermal power plants.
- During the years of high water supply, the water users experience almost no need in additional outflow volumes from the Toktogul water reservoir, which fact prevents export of electricity despite existence of the Agreements.

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- During three years, 2004-2006, due to high water supply in the Syrdarya river basin, the Republic of Uzbekistan almost did not participate in cooperation on joint utilization of water and energy resources. As a result of the absence of demand from the side of the Republic of Uzbekistan, part of electricity from Kyrgyzstan had to be sent, in coordination with the Republic of Kazakhstan, through transit to the Russian Federation, revenues from the sale are also used to acquire fuel resources.

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- For the near future the volume of annual generation of electricity by existing generating sources, out of which more than 90% are HPPs, would remain on the average level of about 14 billion kWh, provided there would be multi-year average flow of water to Toktogul water reservoir, as it would allow to retain export possibilities of electricity during the summer time, in average on the level of 2 billion kWh, while providing for existing operational mode of thermal power plants.
- That is why the National Agency of the Republic of Kyrgyzstan for Anti-Monopoly Policy and Promotion of Competition (open JSC «Power Plants») considers it important and necessary to develop cooperation between countries of the region in the field of rational use of water and energy resources in the basin of rivers Naryn-Syrdarya,