

State Energy Agency of the Government of the Kyrgyz Republic



«SEA»

Vertical unbundling

by

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First Annual Meeting of CAREC Members Electricity Regulators Forum
Beijing, 4-6 July 2005

The energy sector of Kyrgyzstan has experienced a crisis, which started from the early years of the country's attainment of independence. The crisis is characterized by a continued decrease in industrial power consumption and increase in domestic daily consumption.

Due to scarcity of resources and persistent delays in replacing equipment, system losses have reached more than 3.5 to 4.0 billion Kwh annually or approximately 42% to 44% of transmitted electricity.

The fundamental reasons for this situation are the non-market approaches in promoting energy saving measures and inefficient use of electricity and investments. Essentially, the function of the energy sector was similar to that of the fire department's job. Where there is a burning installation, there is repair.

In situations like this, drastic changes are necessary both in long-term development planning and management methods.

The energy sector, through the years, has had great difficulties in financing capital investments. Thus, attracting private investments has become a burning issue in the agenda for the energy sector.

For the creation of an efficient electricity market and attraction of foreign investors, there is a need to introduce elements of competition in the power market.

However, because of the distinct character of the energy sector natural monopoly may not be avoided. International experience has shown that through careful preparations there is a possibility of introducing some elements of competition in the different branches of the energy sector. Although according to the opinion of most experts in the power sector, it would be economically efficient to leave monopoly powers in the hands of one of the power system's main branches, i.e. transmission. The presence of competitors will increase total expenditure levels, which in the end, is not advantageous to the consumers.

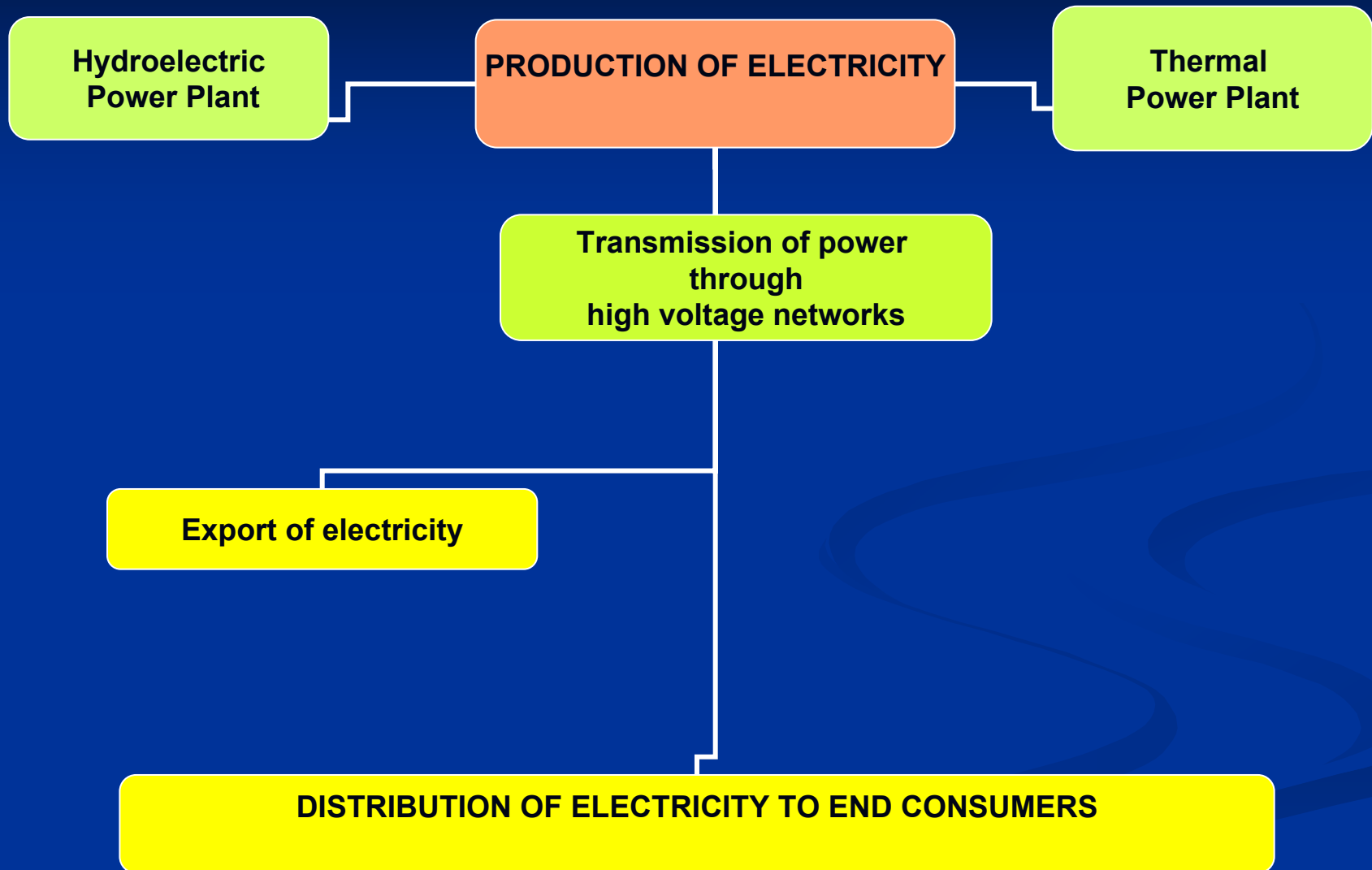
After gaining independence, the Kyrgyz Republic has embarked on building a market economy. This argument and the establishment of the State Energy Agency serve as the first step towards restructuring, knowing that a market economy has its own methods of regulation.

The creation of a power market requires the observance of the following principles:

- **Efficiency and low expenditures**
- **Long-term planning**
- **Provision of safe and continuous supply**
- **Energy saving measures**
- **Attracting private investments**
- **Transparency**

- First, the power market must be economically efficient.
- Second, long-term planning must be undertaken.
- Third, ensure the stability and continuity of electricity supply for all consumers.
- Fourth, the power market should be able to stimulate energy saving measures and activities aimed at preserving the natural environment. To address issues concerning economic efficiency and sound regulation, the power market must be as transparent as possible.
- This way, there can be more confidence in making forecasts and system planning, and analyzing expenditures, resources, and on-going expenses. The actual and final task of the power market in Kyrgyzstan is to attract private investments. Power sector equipment, especially in the distribution system, is in extremely bad shape. Significant investments are needed to replace obsolete equipment and to install new and more accurate meters.

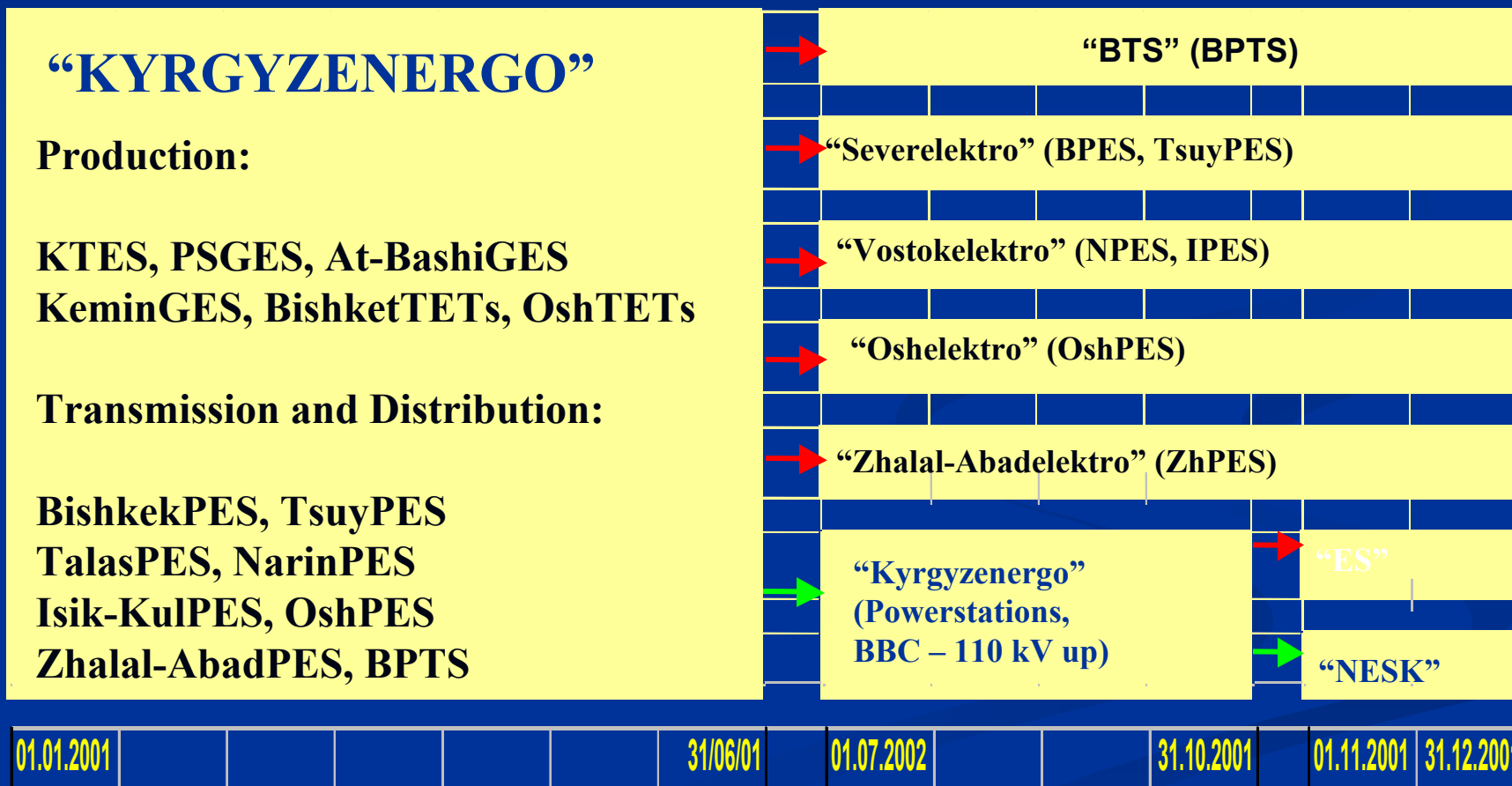
Structure of the Vertically Integrated Monopoly “Kyrgyzenergo” up to the middle of June 2001



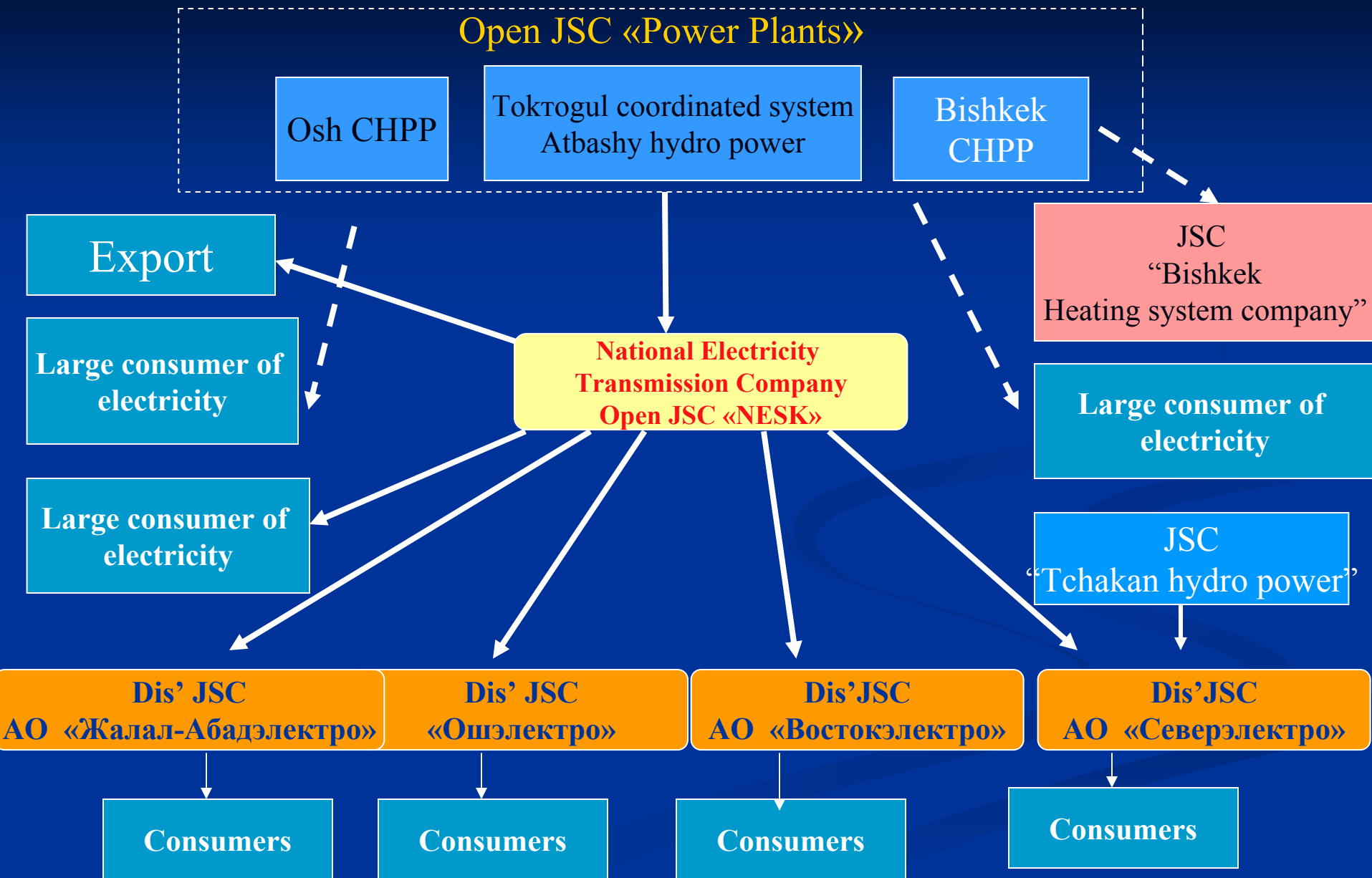
In fulfillment of the tasks mentioned above and having studied international experience, the government of the Kyrgyz Republic has adopted the following resolutions:

- In 1996 a resolution was adopted “On the Transformation of the Ministry of Energy into the State Energy Agency”, for the purpose of creating a power market and introducing elements of competition in said power market
- All issues related to regulatory activities will be handled by the Executive Council of the State Energy Agency. The EC of the SEA is composed of three members, one of which is the Director of the State Energy Agency
- Another resolution was adopted in the middle of 2001, which changed the structure of the power sector.
- The power sector was divided into functional branches: production, transmission, and distribution. The transformation of the energy sector from a vertically integrated monopoly into a re-structured sector was necessary to make the system more efficient, in accordance with the principles of a market economy. It is noteworthy that the positive effects of restructuring are to be expected in the long-term.

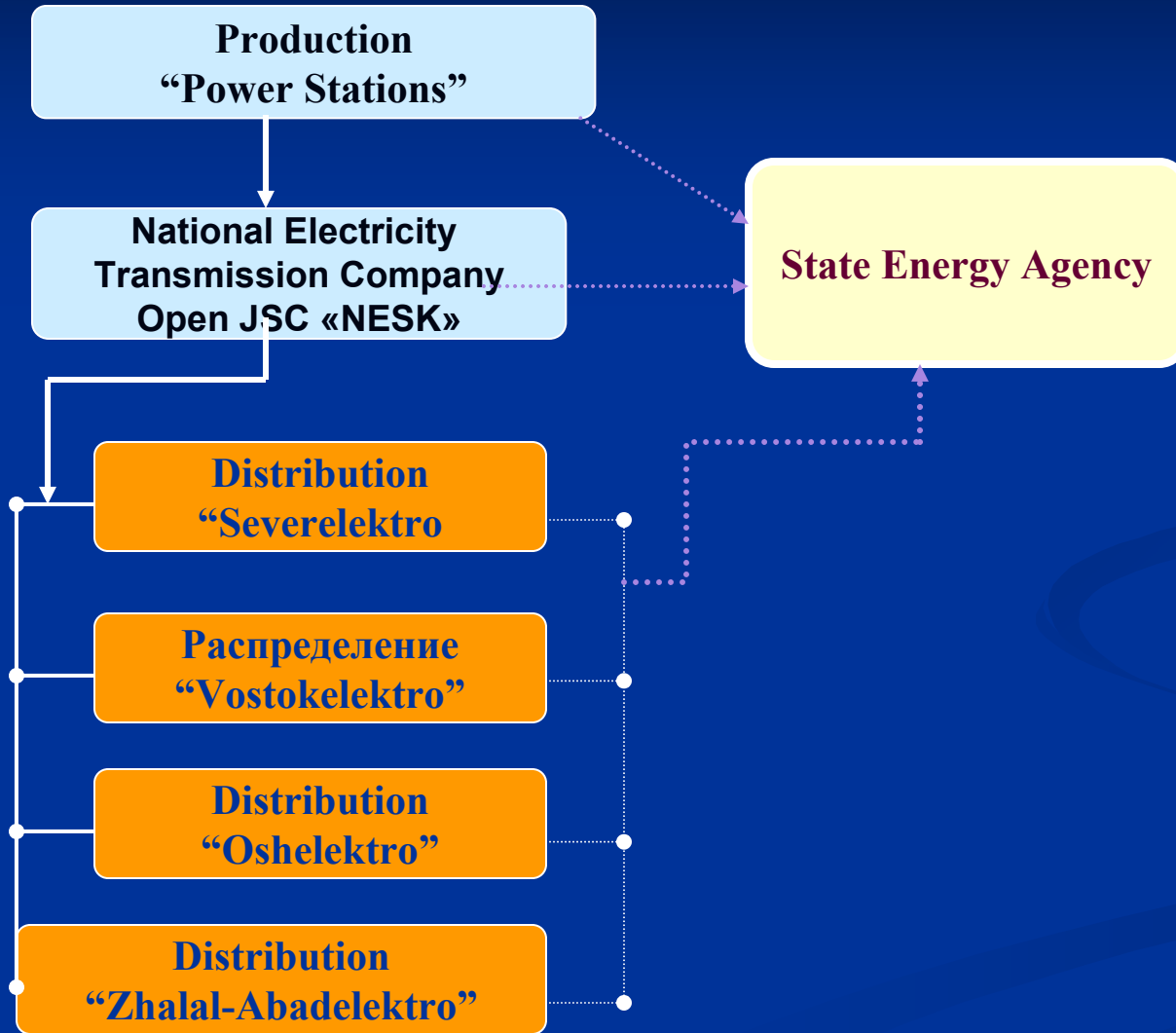
Restructuring of “Kyrgyzenergo”



Structure of the Energy Sector of Kyrgyzstan



Existing Structure of the Country's Power Sector



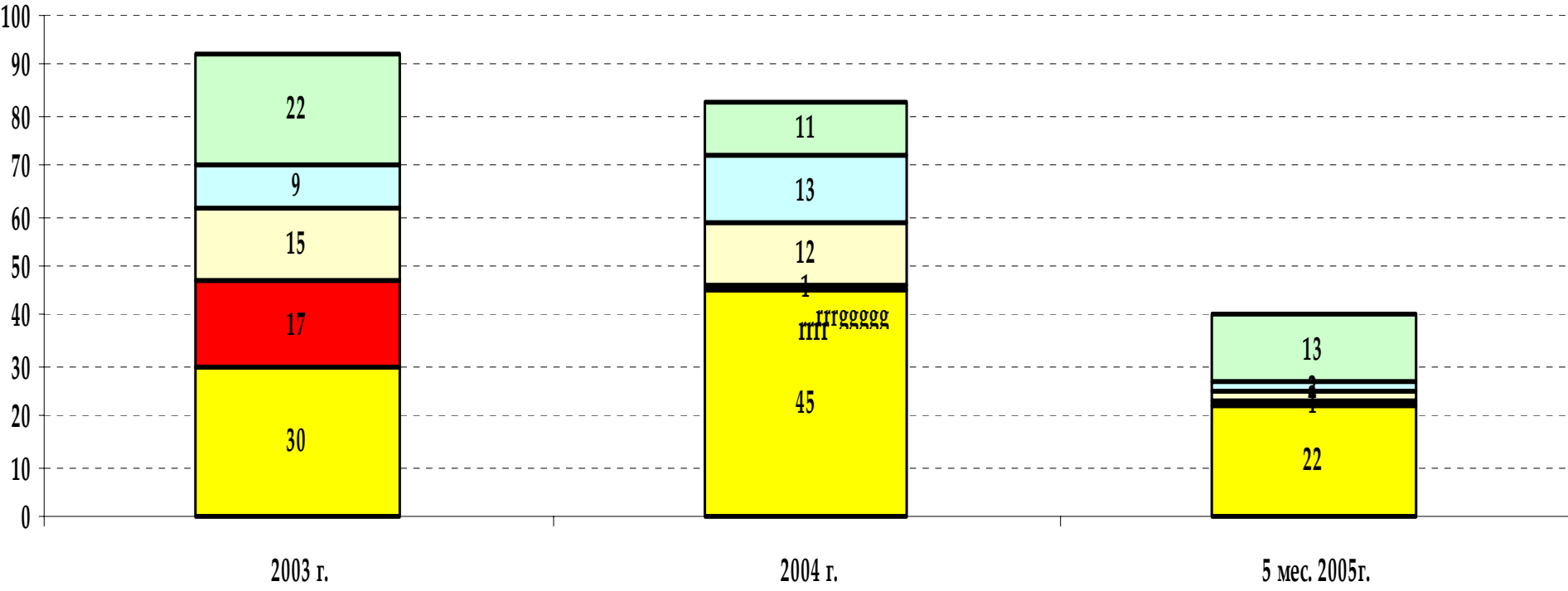
The Distribution Sector has been divided into four companies

The distribution companies obtain their basic income from selling electricity to end consumers. These companies get their access to electricity through bilateral contracts with power generation companies. Strict state control is being carried out on the volume and price of supply to prevent any market player from using non-market oriented methods or from obtaining a dominant position.

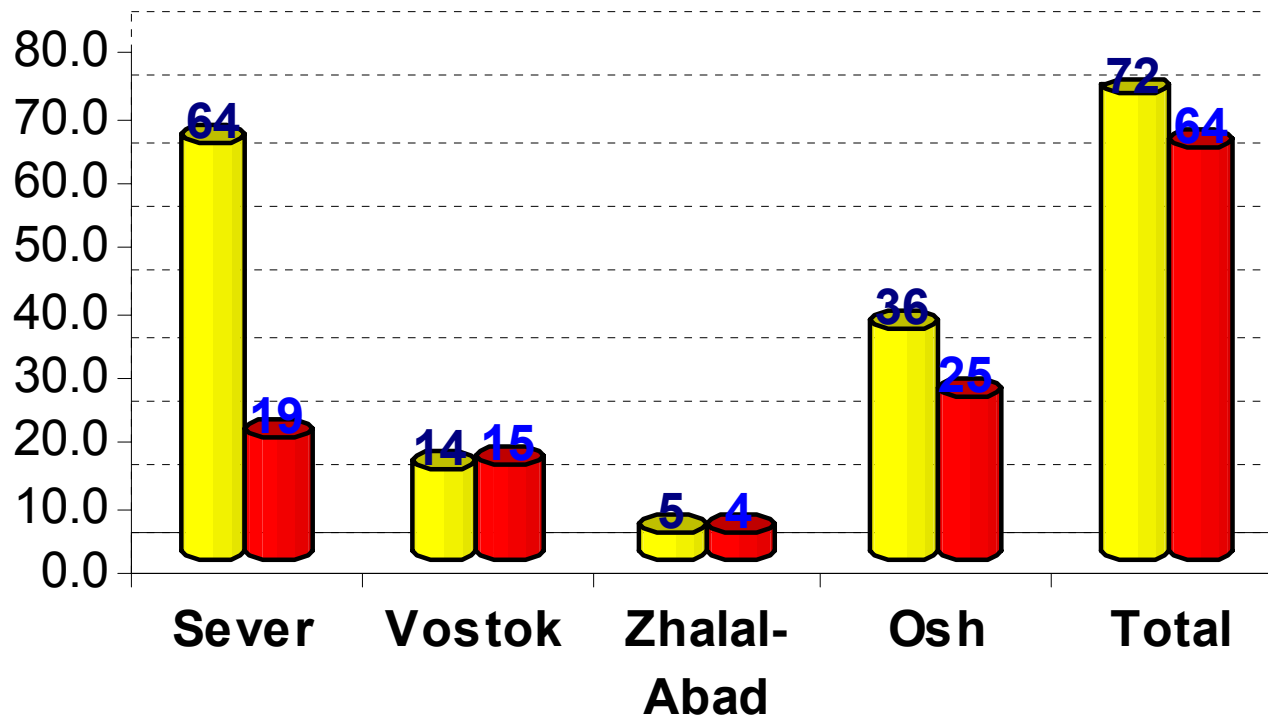
Indicators (Distribution Companies)	Unit m	2003	2004	5 mos 2005
TOTAL VOLUME OF ELECTRICITY ENTERING THE (Distribution Companies) NETWORK	1000 kwh	10 189 759	9 790 401	5 269 257
TOTAL ELECTRICITY LOSSES	1000 kwh	3 708 565	3 722 017	2 379 816
same percentage	%	36,4%	38,0%	45,2%
Technical losses	1000 kwh	1 719 091	1 626 835	1 026 690
same percentage of electricity entering the network	%	16,9%	16,6%	19,5%
Commercial losses	1000 kwh	1 989 474	2 095 182	1 245 868
same percentage of electricity entering the network	%	19,5%	21,4%	25,7%
USEFUL AMOUNT OF ELECTRICITY DELIVERED TO END CONSUMERS	1000 kwh	6 481 194	6 068 384	2 889 441
TOTAL CONSUMPTION	1000 kwh	6 481 194	6 068 384	2 889 441
Industry	1000 kwh	793 408	781 971	337 168
As a percentage of total consumption	%	12%	13%	12%
Budget consumers	1000 kwh	625 087	632 055	294 664
As a percentage of total consumption	%	10%	10%	10%
Agricultural consumers	1000 kwh	104 605	59 211	21 997
As a percentage of total consumption	%	2%	1%	1%
Population	1000 kwh	4 066 919	3 806 357	1 828 250
As a percentage of total consumption	%	63%	63%	63%
Other consumers	1000 kwh	891 176	788 789	407 360
As a percentage of total consumption	%	14%	13%	14%

INDICATORS of Distribution Companies	unit	2003	2004	5 mos 2005
Billing	1000 som	3 786 861	3 402 959	1 653 511
Industry	ТЫС.COM.	572 188	541 922	229 643
As percentage of total consumption	%	15%	16%	14%
Budget consumers	ТЫС.COM.	460 699	462 952	228 167
As percentage of total consumption	%	12%	14%	14%
Agricultural consumers	ТЫС.COM.	52 809	38 519	16 590
As percentage of total consumption	%	1%	1%	1%
Population	ТЫС.COM.	2 049 674	1 757 146	866 138
As percentage of total consumption	%	54%	52%	52%
Other consumers	ТЫС.COM.	651 491	602 420	312 973
As percentage of total consumption	%	17%	18%	19%
TOTAL COLLECTION	ТЫС.COM.	2 874 940,4	2 940 465,6	1 120 161
COLLECTION LEVEL (Total volume of billing)	%	76%	86%	61%
Including: Industry	%	114%	116%	100%
Budget consumers	%	124%	116%	71%
Agricultural consumers	%	191%	302%	103%
Population	%	48%	59%	46%
Other consumers	%	86%	101%	66%

Collection Chart of Distribution Companies for 2003 - 2005 (in million US\$)

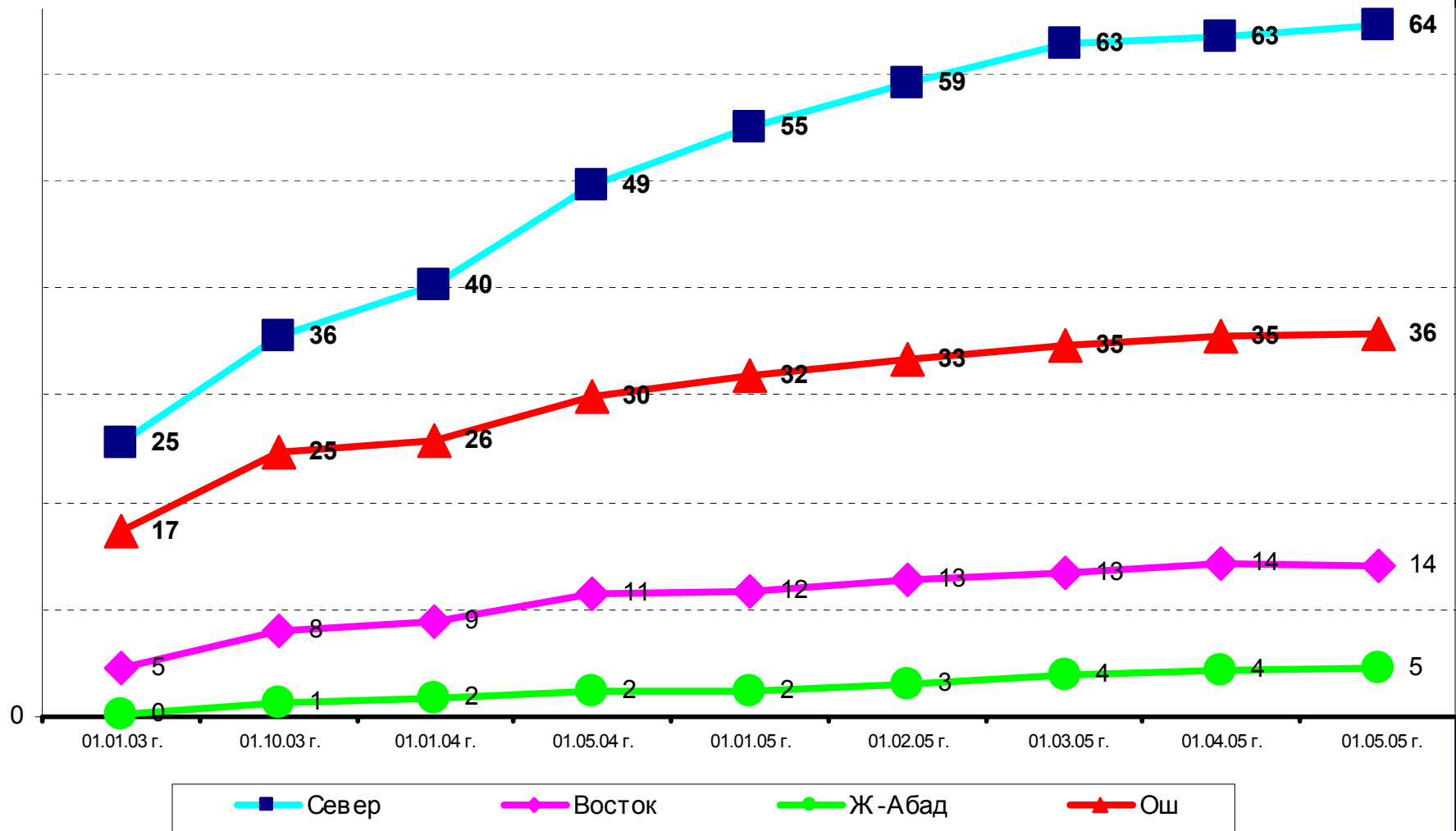


Indebtedness of Distribution Companies to Production and Transmission Companies by 01.05.2005 (million \$)



■ Creditor Indebtedness of Distribution Companies
■ Debtor Indebtedness of Distribution Companies

Creditor Indebtedness of Distribution Companies to Production and Transmission Companies (in millions \$)



Present-day Problems:

- Constant increase in the population's consumption, which in turn, leads to overloading in the distribution networks;
- Depreciation of equipment – resulting to high level of technical losses;
- Accumulation of needed repair and rehabilitation works
- Frequent switching off and deteriorating quality of electricity supply;
- Absence of enough instruments to measure electricity, which is the main reason for rising commercial losses;
- Low collection level;
- Subsidy and export dependence.

Future Perspectives:

- Direction towards increasing energy self-sufficiency;
- Attracting foreign investments;
- Search for and creation of new routes for power transmission;
- Implementation of market-oriented reforms in the energy sector;
- Improvement of international cooperation in the energy sector within the region.