Overview of the electricity and coal market in Kazakhstan

The power industry of the Republic of Kazakhstan operates under the conditions of the Unified Electric Power System (UES), which is a set of power plants, power transmission lines and substations providing reliable and quality power supply to consumers in the Republic.

The energy sector is regulated by an authorized state body represented by the Ministry of Energy of the Republic of Kazakhstan[7], including in the field of RES[8]. The state policy in the sphere of natural monopolies in the part of regulated services for transmission of electric energy, production, transmission, distribution and supply of heat energy is implemented by the Committee for Regulation of Natural Monopolies under the Ministry of National Economy of the Republic of Kazakhstan[9]. The Ministry of Industry and Infrastructure Development of the Republic of Kazakhstan manages the coal industry[10].

In 2023, electricity generation in the UES was predominantly from coal-fired thermal power plants (TPPs)

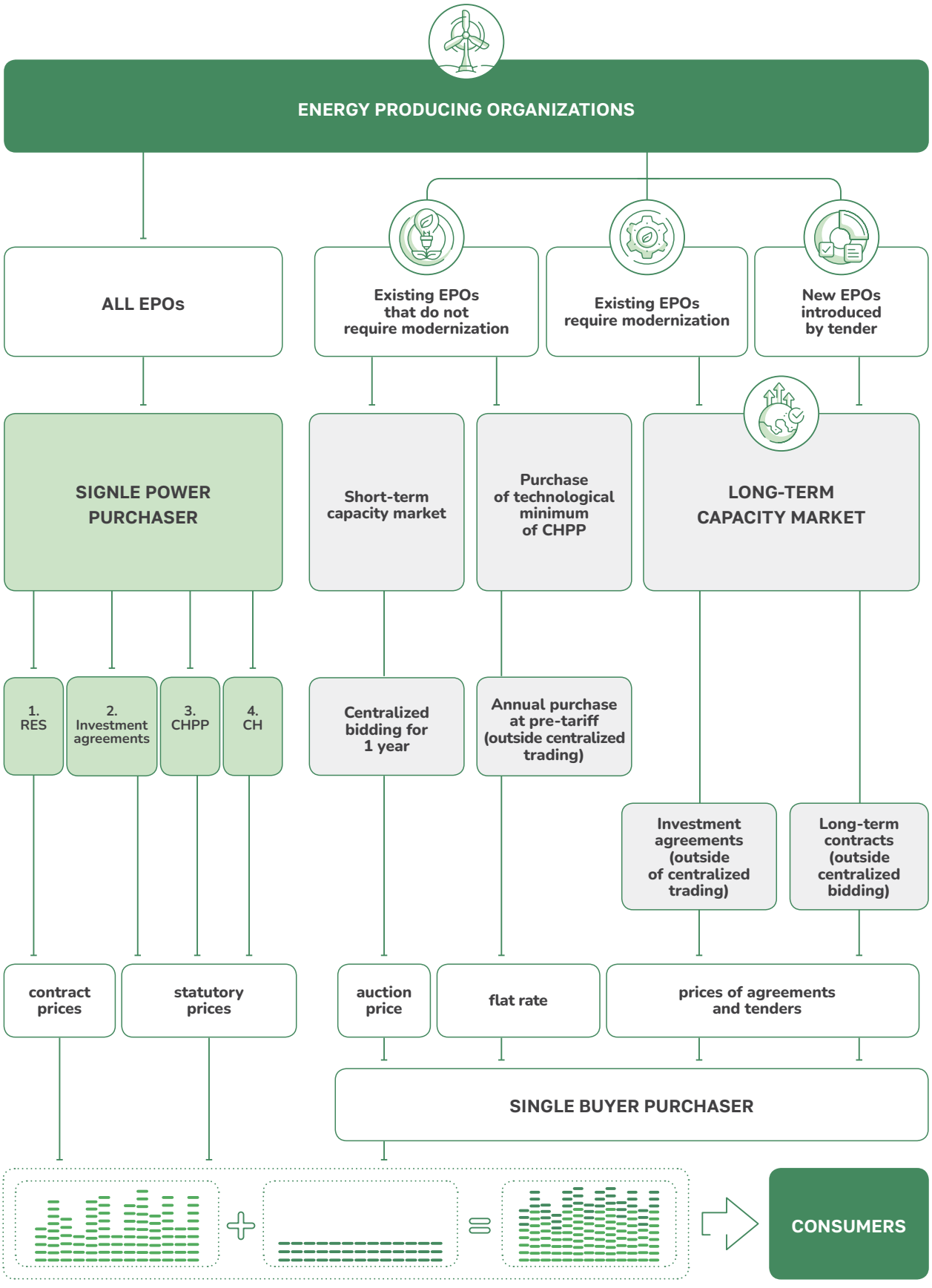
71.2%

Electricity consumption in the Republic of Kazakhstan

115,068
billion kWh

[7] Law of the Republic of Kazakhstan 'On Electric Power Industry' No. 588-II dated July 9, 2004.
[8] Law of the Republic of Kazakhstan "On Supporting the Use of Renewable Energy Sources" No. 165-IV dated July 4, 2009.
[9] Law of the Republic of Kazakhstan "On Natural Monopolies" No. 204-VI dated December 27, 2018.
[10] The Code of the Republic of Kazakhstan "On Subsoil and Subsoil Use" No. 125-VI dated December 27, 2017.

Electricity and capacity market of Kazakhstan



Electricity balance

In 2023, electricity generation in the UES was predominantly from coal-fired thermal power plants (TPPs) — 71.2%.

As of January 1, 2024, the installed capacity of power plants in the Republic of Kazakhstan was 24,641.9 MW, and the available capacity was 20,428.4 MW.

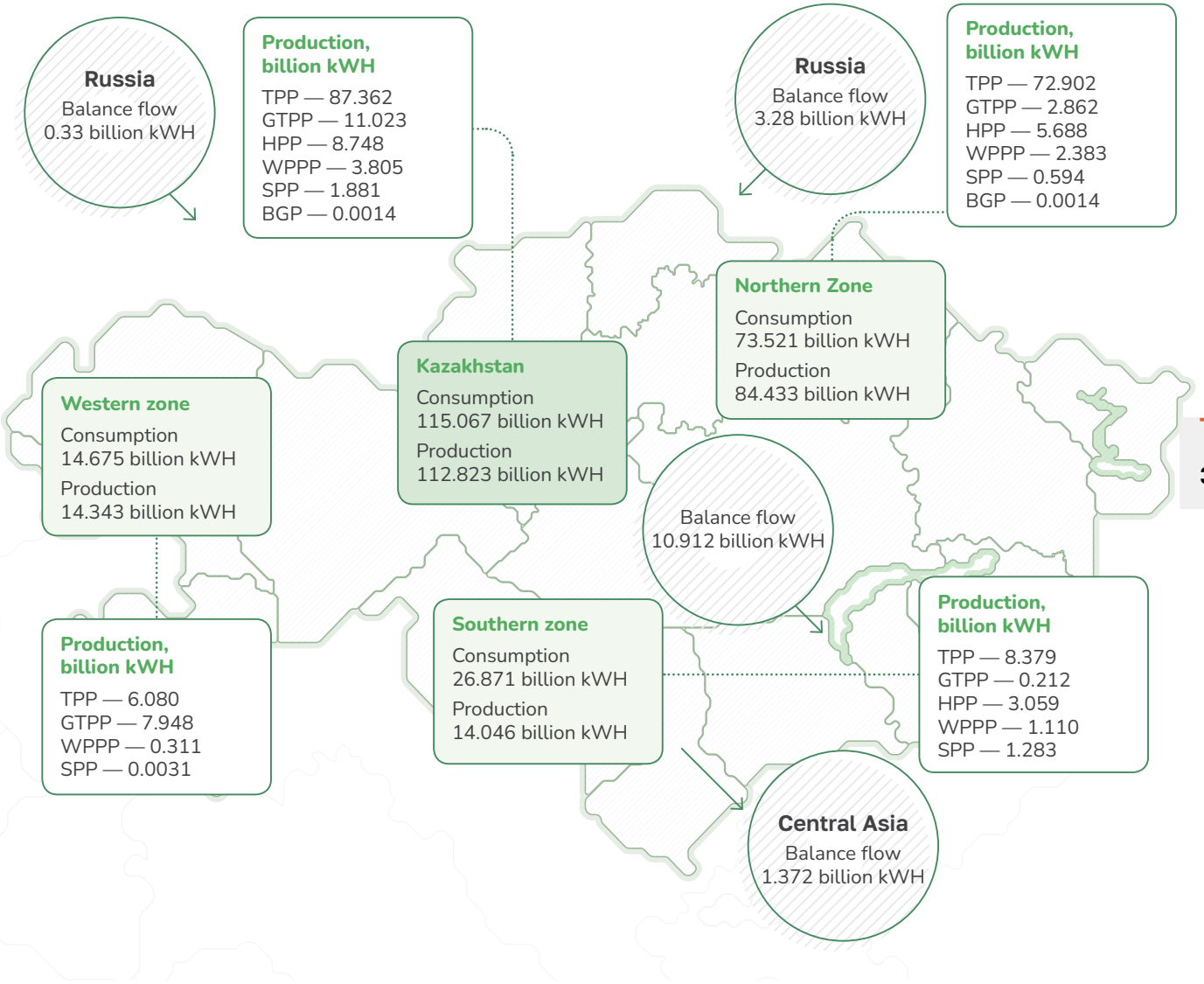
According to the data of the System Operator, from January to December 2023, Kazakhstan's power plants generated 112.82 billion kWh of electricity, which is 0.04% (42.8 thousand kWh) less than in 2022.

Electricity generation/consumption balance, billion kWh

Electricity indicators	2021	2022	2023	Δ 2023/2022, %
Electricity generation, including:	**114.45**	**112.86**	**112.82**	**-0.04**
Thermal power plants (TPPs)	91.16	88.62	**87.36**	-1.4
Gas turbine power plants (GTPP)	10.70	10.94	**11.02**	0.73
Hydropower plants (HPP)	9.18	9.19	**8.75**	-4.78
Wind power plants (WPP)	1.76	2.36	**3.80**	61
Solar Power Plants (SPP)	1.64	1.75	**1.89**	108
Biogas plants (BGP)	0.3	0.04	**0.01**	25
Electricity consumption	**113.89**	**112.94**	**115.07**	**1.9**
Balance-flow "+" deficit, "-" surplus, including:	**-0.56**	**0.79**	**2.24**	**283.5**
Russia	0.46	0.47	**3.62**	770
Central Asia	-1.02	-0.40	**-1.37**	342.5

The UES of the Republic of Kazakhstan is conditionally divided into three zones — Northern, Southern and Western zones.

Unified electric power system of the Republic of Kazakhstan



In the Northern Zone, the location of the main coal deposits and hydropower resources, 74.8% (84.4 billion kWh) of the total electricity generated in the country in 2023 was produced. The Northern Surplus Zone covers electricity deficits in the Southern Zone and also provides Kazakhstan's export potential.

In 2023, electricity production in the Southern Zone amounted to 12.4% (14 billion kWh) of the total volume. Electricity deficit in the Southern Zone was covered by supplies from the Northern Zone.

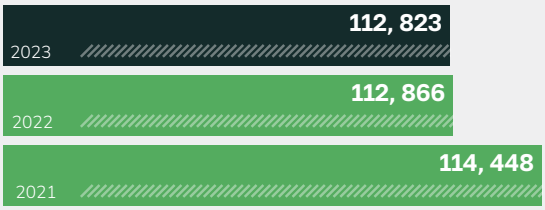
In the reporting period, the Western Zone produced — 12.6% (14,3 billion kWh) of the total share of electricity produced. The peculiarity of this zone is the absence of connections between its power grids and those of the Northern and Southern zones of the UES of Kazakhstan.

According to the data of the System Operator, in January-December 2023, the power plants of the Republic of Kazakhstan generated 112,823.1 million kWh of electricity, which is 42.8 thousand kWh or 0.04% less than the same period in 2022. A decrease in generation was observed in the western and southern zones of UES of Kazakhstan.

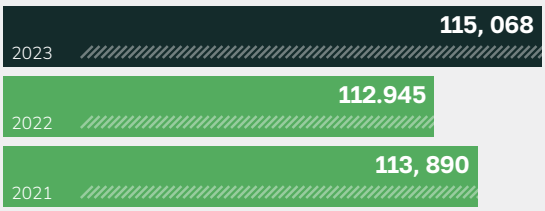
From January to December 2023, electricity generation in Aktobe, Almaty, Abay, Zhetysu, Karaganda, Kostanay, Mangistau, North Kazakhstan and Turkestan regions increased significantly compared to the same period of 2022.

At the same time, a decrease in electricity production was observed in Akmola, Atyrau, East Kazakhstan, Zhambyl, West Kazakhstan, Pavlodar, Ulytau and Kyzylorda regions.

Electricity production in the Republic of Kazakhstan, billion kWh



Electricity consumption in the Republic of Kazakhstan, billion kWh



According to the data of the System Operator, from January to December 2023, there was an increase in electricity consumption in the Republic compared to the same period in 2022 by 2,123.07 million kWh or 1.88%. Thus, in the Northern and Southern zones of the Republic, consumption increased by 1.23% and 4.23%, respectively.

From January to December 2023, there was a decrease in electricity consumption by consumers of energy holdings and large energy producing organizations by 1,532 million kWh or 4%. At the same time, from January to December 2023, there was an increase in electricity consumption by companies of Samruk-Energy JSC by 306.1 million kWh or by 4% compared to the same period in 2022.

From January to December 2023, electricity consumption by large consumers decreased by 437.4 million kWh or 1.2% compared to the same period in 2022.

Export and import of electricity

In 2023, electricity exports to Russia increased by 5.5% compared to 2022, while electricity imports from Russia also increased by 37.3%.

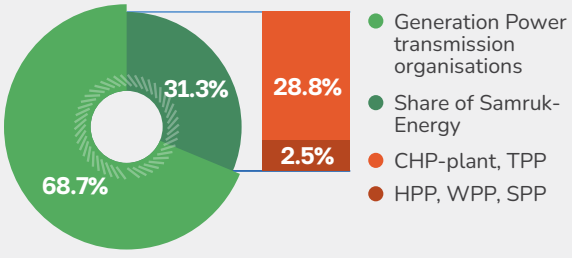
Electricity export/import of the Republic of Kazakhstan, billion kWh

Regions	2022	2023	Δ 2023/2022, %
Exports of Kazakhstan:	**-1.64**	**-1.73**	**5.5%**
to Russia	-1.41	**-1.15**	**-18.4%**
Central Asian countries	-0.22	**-0.57**	**159.1%**
Kazakhstan's imports:	**1.66**	**2.28**	**37.3%**
from Russia	1.36	**2.21**	62.5%
Balance-flow '+' deficit, '-' surplus	**0.02**	**0.55**	**2,650%**

Position of Samruk-Energy JSC in the electricity market of Kazakhstan

Electricity production

Share of Samruk-Energy JSC in total electricity generation in the Republic of Kazakhstan for 2023



In 2023, the share of Samruk-Energy JSC in total electricity generation in the country decreased by 0.5% compared to 2022 and amounted to

31.3%

Share of producer companies in the electricity market in 2023, %

Electricity producers in the Republic of Kazakhstan	Indicator
Samruk-Energy JSC	**31.3**
ERG	17.0
Central Asian Electric Power Corporation JSC	5.0
Kazzinc LLP	2.1
Kazakhmys Energy LLP	5.1
KKS LLP	5.4
Zhambyl SDPP JSC	2.7
Others	31.4

Electricity generation volumes in Kazakhstan, billion kWh

Electricity producers in the Republic of Kazakhstan	2021	2022	2023
Samruk-Energy JSC	35.61	35.88	35.33
ERG	19.91	19.23	19.16
Central Asian Electric Power Corporation JSC	6.24	5.09	5.59
Kazzinc LLP	2.97	2.69	2.33
Kazakhmys Energy LLP	6.60	4.22	5.8
KKS LLP	6.60	6.14	6.1
Zhambyl GRES JSC	2.14	3.65	3.07

Electricity generation at TPPs, CHPPs, million kWh

Indicator	2022	2023
EGRES-1	23,048	22,870
EGRES-2	6,002	5,659
APP (CHPP-1,-2,-3)	4,039	3,955

Electricity generation for 2023 amounted to 35,330 million kWh, down 1.5% or 554 million kWh year-on-year. The main decrease occurred at EGRES-2 JSC by 344 million kWh (by 6%) due to a decrease in operating capacity due to failure of the circulation pump, at EGRES-1 LLP by 178 million kWh (by 1%) due to forced downtime of power unit No. 4, and at Moynak HPP JSC by 140 million kWh (by 14%) due to a decrease in water availability in the Charyn River basin.

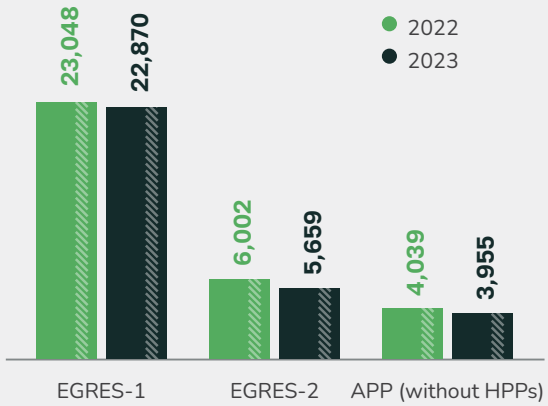
Competitive advantages of Samruk-Energy JSC in the power market of the Republic of Kazakhstan in 2023:

- significant reserves of thermal coal with low production costs;
- sufficient energy capacities with a relative level of wear and tear across the country;
- state support, as well as support from Samruk-Kazyna JSC.

Challenges for Samruk-Energy JSC:

- high level of depreciation of facilities;
- insufficient return on investment in the implementation of social projects;
- high level of debt burden;
- regulatory environment in the area of tariff setting;
- limited opportunities for price supply management;
- limitations on export supplies of steam coal due to substitution of Ekibastuz coal in traditional markets, as well as non-competitiveness in other markets due to low coal parameters;
- lack of exploration activities to increase coal production.

Electricity generation volumes (million kWh) at TPPs, CHPPs

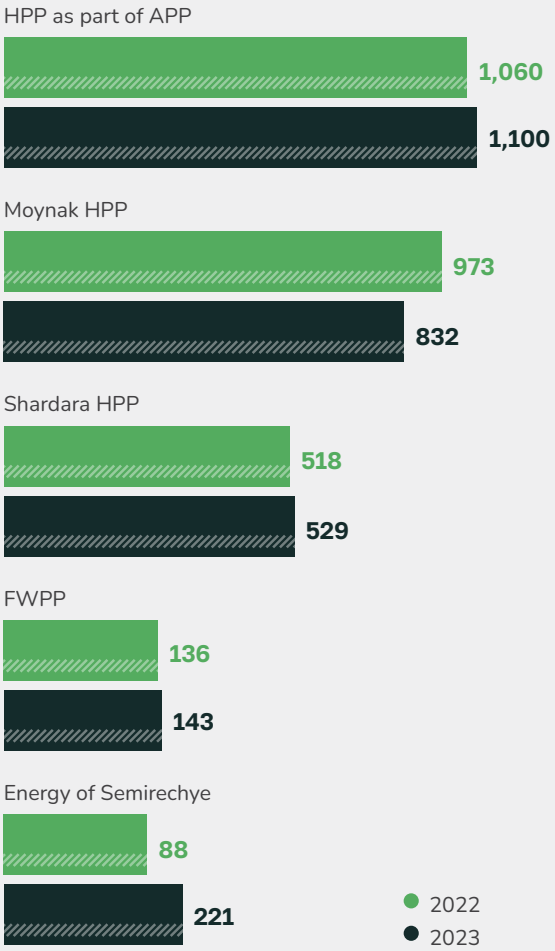


Forecast for the future period:

Electricity production volumes for 2024 are forecast to gradually increase in relation to the figures of 2023. The forecast increase of 3,990 million kWh in electricity generation volumes for 2024 is mainly due to the inclusion of Ust-Kamenogorsk HPP LLP and Shulbinsk HPP LLP within the Company's consolidation perimeter.

The forecast increase in electricity production volumes for 2025 relative to 2024 is due to the growth in production volumes at EGRES-1 LLP.

Electricity generation volumes (million kWh) at HPPs, WPPs, SPPs



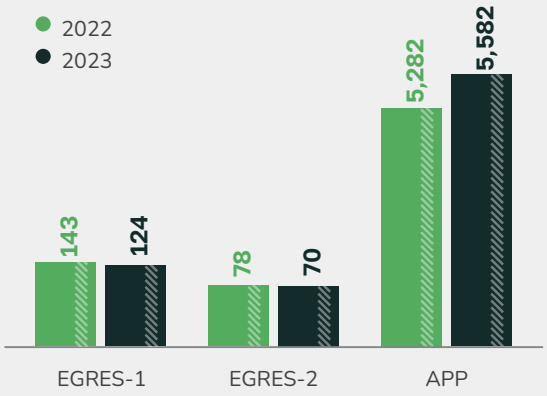
Heat production

The volume of heat production in 2023 amounted to 5,776 thousand Gcal. Compared to the same period last year, the increase is 5%, which is due to lower average monthly temperature during the heating period.

Forecast for the future period:

Heat production volumes in the plan for 2024 are projected to decrease by 3% compared to 2023, mainly due to reduced heat production by Almaty Power Plants JSC.

Dynamics of changes in heat production, thousand Gcal



Electricity transmission

In 2023, the volume of electricity transmission through Alatau Zharyk Company's grids amounted to 8,686 million kWh, which is an increase of 7% or 533 million kWh compared to 2022.

Electricity transmission dynamics

Forecast for the future period:

An increase of 1% in electricity transmission and distribution volumes is expected in 2024 compared to the 2023 actual figure, due to a projected increase in consumption in the Almaty region.

Electricity Sales

The total volume of electricity sales by the energy supplying organization AlmatyEnergoSbyt LLP for the reporting period amounted to 7,086 million kWh, which is 3% more than in the same period of 2023, due to increased electricity consumption in the Partnership's service area.

Name	Fact 2022	Fact 2023	Disconnected	Δ 2023/2022, %
AlmatyEnergoSbyt LLP				
Number of consumers, incl:	929,929	**952,216**	22,287	2%
Population	891,214	**911,097**	19,883	2%
Legal entities	38,715	**41,119**	2,404	6%
Sales volume, million kWh	6,847	**7,086**	239	3%

Forecast for the future period:

Electricity sales are expected to increase by 3% in 2024 compared to the 2023 figures, due to a projected increase in electricity consumption in the Partnership's service area.

Development of RES in the Republic of Kazakhstan

Renewable energy is one of the most promising areas of investment. Despite the fact that in recent years this market has shown significant growth results — since 2014, the installed capacity of RES facilities in the Republic of Kazakhstan has increased more than 14 times — the share of solar and wind generation in Kazakhstan, both in quantitative and share terms, is still far behind other developed and developing countries.

According to the Ministry of Energy of the Republic of Kazakhstan, as of January 1, 2024, 130 RES facilities with a total capacity of about 2,881 MW are in operation in Kazakhstan, producing 8.1% of the total volume of electricity. During reporting period, there was an increase in electricity generation by SPP, WPP and small HPPs. In total, in 2023, RES facilities (SPP, WPP, BGP, small HPPs) generated 6.7 billion kWh of electricity, which is 33.9% more than in 2022.

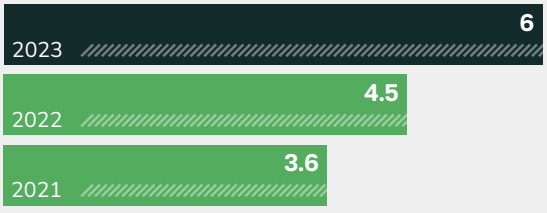
In 2023, 16 new RES facilities, with a capacity of 495.6 MW, were commissioned in Kazakhstan. In 2014, the installed capacity of RES facilities in operation in the country amounted to 177.52 MW, and in 2023 it exceeded 2,881 MW.

Electricity generation by RES facilities of Samruk-Energy JSC (SPP, WPP and small HPPs) for January-December 2023 amounted to 554.4 million kWh representing 8.1% of the total RES-generated electricity in Kazakhstan.

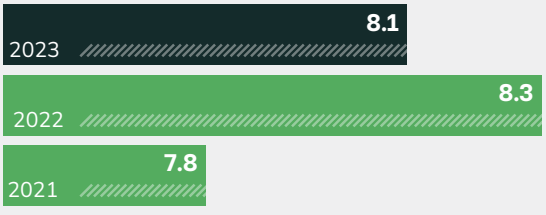
Electricity production by RES facilities at the enterprises of the Group of companies of Samruk-Energy JSC in 2023 increased by

32.8%

Share of RES generation in the electricity market of Kazakhstan, %



Share of RES power generation by Samruk-Energy JSC in Kazakhstan, %



Electricity generation by RES facilities of Samruk-Energy JSC, million kWh

Group of companies of Samruk-Energy JSC	Installed capacity, MW	2022	2023
APP JSC, cascade of small HPPs	43.7	173.6	**169.5**
Samruk-Green Energy LLP, SPP	3.04	5.3	**5.4**
Samruk-Green Energy LLP, Shelek Wind Power Plant	5	14.6	**16.1**
First Wind Power Plant LLP, WPP	45	135.7	**142.6**
Energy of Semirechye LLP, Shelek WPP	60	88.3	**220.8**
Total		**417.5**	**554.4**

Electricity generation at HPPs, WPPs, SPP, million kWh

Indicator	2022	2023
Moynak HPP	973	**832**
Kapchagay HPP	886	**930.2**
Almaty HPP Cascade	173	**170**
Shardara HPP	518	**529**
FWPP	136	**142**
Samruk-Green Energy	20	**22**
Energy of Semirechye LLP	88	**220**

Energy market

Along with the electricity market, Kazakhstan has a capacity market, introduced in 2019, whose main purpose is to attract investment to maintain existing facilities and create new capacity, as well as to ensure a balance between supply and demand for electricity in the country. The capacity market also incentivizes the use of renewable energy sources and improves the efficiency of the energy system.

In 2023, we participated in electric capacity auctions held on the trading platform of KOREM JSC.

Based on the results of centralized bidding held on November 21, 2023, the power plants of Samruk-Energy JSC sold 2,707 MW of capacity at a price of KZT 590 thousand/MW*month, including:

- EGRES-1 LLP — 1,436 MW;
- EGRES-2 JSC — 820 MW;
- APP JSC — 450.8 MW.

In accordance with the legislation , individual capacity tariffs were set for Moynak HPP JSC, Shardara HPP JSC and APP JSC in 2022. For Shardara HPP JSC, the volume of capacity amounted to 61 MW, for Moynak HPP JSC, 298 MW. These tariffs will allow enterprises to ensure repayment of borrowed funds used for the construction of the power plant (Moynak HPP JSC), modernization of equipment (Shardara HPP JSC), as well as for refinancing of previously obtained target loans for investment programs (APP JSC).

Samruk-Energy JSC carried out export of electric power to the Kyrgyz Republic in the amount of

576.8

million kWh

Also during reporting period, in order to balance electricity production-consumption, Samruk-Energy JSC exported 576.8 million kWh of electricity to the Kyrgyz Republic.

[11] Law of the Republic of Kazakhstan "On Amendments and Additions to Certain Legislative Acts of the Republic of Kazakhstan on Special Economic and Industrial Zones, Attraction of Investments, Development and Promotion of Exports, and Social Security" No. 243-VI dated April 3, 2019.

Tariff policy

Operating activities of the subsidiaries of the Samruk-Energy JSC Group of Companies and its joint ventures, being natural monopoly subjects, subjects of competitive and publicly important markets, are regulated by the laws of the RK "On Electric Power Industry", "On Natural Monopolies" and the Entrepreneurial Code of the RK. Tariff regulation, depending on the type of activity of energy companies, falls within the competence of the Committee for Regulation of Natural Monopolies and Protection of Competition of the Ministry of National Economy of the Republic of Kazakhstan (the Committee) or a sectoral ministry — the Ministry of Energy (MOE).

The order of the Minister of Energy of the Republic of Kazakhstan No. 205 dated May 22, 2020 approved a new "Methodology for determining the fixed profit taken into account when approving the marginal tariffs for electricity, as well as fixed profit for balancing, taken into account when approving the marginal tariffs for balancing electricity".

Based on the Concept of Development of the Fuel and Energy Complex (FEC) of Kazakhstan until 2030 adopted in 2014, starting from 2019, the Capacity Market was introduced as an effective mechanism to provide the industry with a sufficient level of investment, which will favorably affect the market in the long term.

Starting from 2019, with the introduction of the capacity market for energy producing organizations, the following were established:

- marginal tariffs for capacity, including costs of investment projects and repayment of principal debt (for loan funds raised for investment projects);
- marginal tariffs for electricity, including the cost of electricity generation and the rate of profit. The order No. 76 of the Minister of Energy of the Republic of Kazakhstan dated March 11, 2021 amended Order No. 205 dated May 22, 2020 on approval of the "Methodology for determining the rate of profit taken into account when approving marginal tariffs for electricity, as well as fixed balancing profit taken into account when approving marginal tariffs for balancing electricity".

Starting from July 1, 2021, in accordance with the Law of the RK "On support of RES use", a mechanism of through surcharge was introduced as part of the sales tariff for electricity of EPO in order to recover the costs of purchased electricity of EPO. The pass-through surcharge is calculated by FSC for RES support LLP on the basis of the costs of RES support in the RK and volumes of electricity supply to EPOs, which are conditional consumers. Taking into account the introduction of the RES pass-through surcharge, the electricity tariffs of the country's energy producing organizations were revised.

Since July 1, 2023, the RK has launched the Single Purchaser model, which provides for centralized purchase of electricity and introduced a balancing electricity market in real time (until July 1, 2023, it functioned in simulation mode).

Electricity transmission and distribution tariffs for energy transmission companies, heat generation and energy supply tariffs (ESOs) are regulated by the Committee for Regulation of Natural Monopolies and Protection of Competition of the Ministry of Economy. Regulation and control by the Committee is carried out in strict compliance with legislative and regulatory acts.

Tariff decisions are significantly influenced by social and political issues. Economic, social and other policies of the Government of the Republic of Kazakhstan may have a significant impact on the operating activities of the Group of Companies of Samruk-Energy JSC.

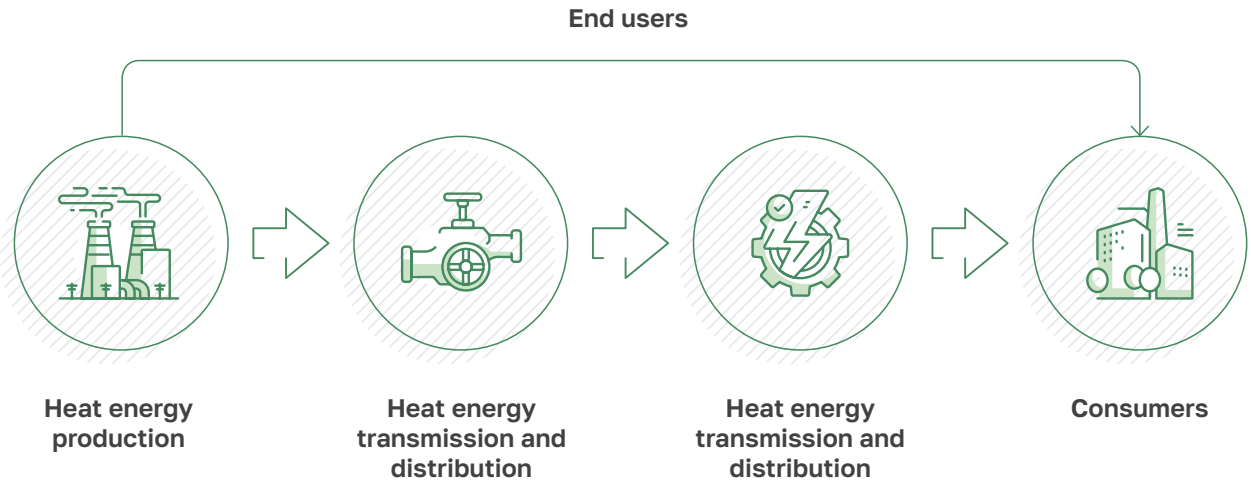
The transition to a new model of the electricity market based on the mechanism of a single purchaser of electricity and the balancing electricity market is carried out in real time. With the introduction of the balancing electricity market, the entire volume of electricity purchases is made from a Single purchaser.

In 2023, the electricity tariff for end consumers was formed taking into account:

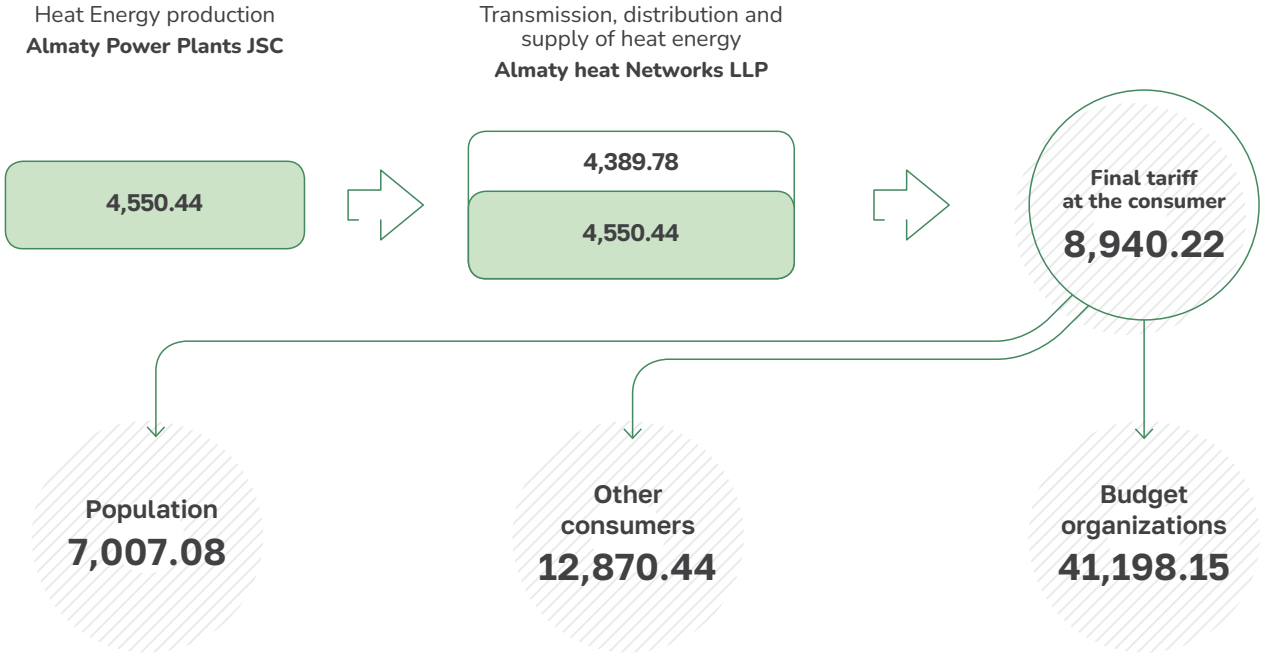
- purchase of electricity from a single purchaser;
- prices for transmission/use of electricity through the National Grid;
- the price for transmission and distribution on the REC grid;
- the cost of regulation, balancing and dispatch services;
- the cost of electric capacity availability services.

The structure of heat supply systems consists of three sectors: production, transmission (including distribution and sales of heat energy) and consumption of heat energy. The heat market of Kazakhstan is actually a retail sector, where the retail consumer has no practical opportunity to choose a heat supplier.

Due to the social significance of heat energy prices, the CRNM implements the state policy of restraining the growth of heat energy tariffs.



Example tariff for heat supply services for consumers of Almaty city for 2023, tenge/Gcal excluding VAT



Weighted average tariffs for electricity generation

Name of subsidiaries and affiliates	2021 Fact	2022 Fact	2023 Fact	2024 Forecast	2025 Forecast
Ekibastuz GRES-1 LLP	**7.31**	**8.06**	**8.00**	**9.02**	**9.82**
electricity tariff, tenge/kWh	6.82	7.44	**7.59**	7.68	8.20
RK tariff	6.76	7.44	**7.59**	7.68	8.20
export tariff, tenge/kWh	10.31	-	**-**	-	-
capacity tariff, tenge/MW*month	590	590	**590**	1,065	1,215
individual capacity tariff, tenge/MW*month	-	-	**-**	1,199	1,199
Ekibastuzskaya GRES-2 Station JSC	**10.38**	**11.39**	**11.46**	**13.19**	**13.47**
export tariff, tenge/kWh	11.65	13.76	**13.76**	-	-
tariff for electric power, tenge/kWh	9.74	10.17	**10.27**	11.20	11.20
capacity tariff, tenge/MW*month	590	590	**590**	1,065	1,215
Almaty Power Stations JSC	**13.12**	**14.05**	**15.52**	**18.22**	**20.45**
electricity tariff, tenge/kWh	11.16	12.27	**13.79**	15.33	17.49
weighted average capacity tariff, tenge/MW*month	899	796	**809**	1,181	1,215
capacity tariff, tenge/MW*month	590	590	**590**	1,065	1,215
individual capacity tariff, tenge/MW*month	4,169	3,139	**3,139**	2,479	—
Moynak HPP JSC	**23.74**	**21.69**	**23.51**	**23.03**	**23.03**
tariff for electric power, tenge/kWh	12.26	12.92	**13.65**	12.77	12.77
capacity tariff, thousand tenge/MW*month	2,564	2,564	**2,564**	2,564	2,564
Shardara HPP JSC	**15.32**	**16.03**	**16.33**	**15.86**	**15.19**
tariff for el.energy, tenge/kWh	9.27	10.79	**11.17**	9.82	9.82
capacity tariff, tenge/MW*month	3,868	3,868	**3,868**	3,868	3,868
AES Ust-Kamenogorsk HPP LLP	**-**	**-**	**-**	**6.12**	**6.51**
incl. tariff for el.energy, tenge/kWh	-	-	**-**	3.32	3.53
incl. tariff for capacity, th. tenge/MW*month	-	-	**-**	1,065	1,215
AES Shulbinsk HPP LLP	**-**	**-**	**-**	**9.05**	**10.16**
incl. tariff for el.energy, tenge/kWh	-	-	**-**	4.02	4.43
incl. tariff for capacity, tenge/MW*month	-	-	**-**	1,065	1,215
Samruk-Green Energy LLP, tenge/kWh	**19.74**	**20.94**	**23.54**	**24.42**	**25.96**
First Wind Power Plant LLP, tenge/kWh	**33.83**	**36.84**	**43.36**	**46.40**	**48.71**
Energy of Semirechye LLP — share of 25%		**22.68**	**24.65**	**30.94**	**32.78**

On January 1, 2019, an electricity capacity market started operating in the Republic of Kazakhstan. With the introduction of the capacity market in 2020, weighted average electricity tariffs increased due to changes in marginal tariffs and the introduction of individual capacity tariffs from July 1. As requested by the EPOs, the DOE approved ceiling tariffs effective July 1, 2020, effective through March 31, 2021. From April 1, 2021, the marginal tariffs include a profit margin approved by the Minister of Energy of the Republic of Kazakhstan.

Starting from July 1, 2021, the tariff includes the RES support surcharge of 1.57 KZT/kWh, calculated by SFCS of RES LLP. New marginal tariffs with RES surcharge were approved by the Order of the Minister of Energy №211 dated 24.06.2021. In 2022 the surcharge amounted to 1.58 KZT/kWh, and for the first half of 2023 — 1.97 KZT/kWh for the northern and southern zones of the Republic of Kazakhstan.

On April 19, 2023, the President of the Republic of Kazakhstan signed the law "On Introducing Amendments and Additions to Some Legislative Acts of the Republic of Kazakhstan on Issues of Administrative Reform in the Republic of Kazakhstan", within this framework, amendments were made to the Law of the Republic of Kazakhstan "On Electric Power Industry" to introduce the Single Purchaser model from July 1, 2023, which provides for the centralized purchase of electricity and a balancing electricity market in real time (until July 1, 2023, it functioned in simulation mode).

Due to the expected growth in production costs (such as increased payroll for production personnel and rising fuel costs) and financing costs, applications for adjustment of the marginal tariff were submitted by September 1, 2022, to achieve a break-even level of tariffs from 2023. This was done in accordance with item 11 of the Rules for Approval of the Marginal Tariff for Electricity №147 (Order of the Minister of Energy of the Republic of Kazakhstan dated February 27, 2015). As a result, Order No. 192 of the Ministry of Energy of the Republic of Kazakhstan, dated May 26, 2023, approved new marginal tariffs for electricity, which came into force on June 1, 2023. The tariff increase was 24% for "EGRES-1" LLP, 24% for "EGRES-2" JSC, 25% for "APP" JSC, and 9% for "Moynak HPP" JSC.

Thus, during 2023 the following marginal tariffs for electricity (tenge/kWh) were in effect for EPO:

Name	Approved tariff 01.01.2023-31.05.2023	Approved tariff 01.06.2023-31.12.2023	Disconnected, %	Approved tariff from 01.01.2024	Disconnected, %
1	2	3	4=3/2	5	6=5/3
EGRES-1 LLP	5.90	7.32	24%	8.05	10%
EGRES-2 JSC	8.59	11.20	24%	13.17	18%
APP JSC	11.19	14.02	25%	17.82	27%
Moynak HPP JSC	11.71	12.77	9%	12.77	-
Shardara HPP JSC	9.82	9.82	-	9.82	-

Also, Order No.479 of the Minister of Energy of the Republic of Kazakhstan, dated December 28, 2023, approved the marginal tariffs for electricity for EPO from January 1, 2024, with the following increases: 10% for "EGRES-1" LLP, 18% for "EGRES-2" JSC, and 27% for "APP" JSC.

Since 2020, the Ministry of Energy of the Republic of Kazakhstan has been working to approve investment tariffs for plants implementing large-scale investment projects, including Moynak HPP JSC, Shardara HPP JSC, Almaty Power Plants JSC, and Ekibastuz GRES-1 LLP.

On December 28, 2021, Ekibastuz GRES-1 LLP entered into an Investment Agreement with the MOE RK for modernization, reconstruction, expansion and renewal under the project of rehabilitation of power unit No.1, with tariff setting at the rate of KZT 1,199 thousand /MW*month for the period of 2025-2031 per service volume of 476.6 MW.

Parameters of concluded investment agreements, thousand tenge/MW*month

Name	Volume	Individual tariff	Period
Almaty Power Plants JSC	69.5 MW	2,478.9	2020–2024
Moynak HPP JSC	298 MW	2,563.67	2020–2026
Shardara HPP JSC	61 MW	3,867.9	2020–2028
EGRES-1 LLP	476.6 MW	1,199	2025–2031
EGRES-2 JSC	576 MW	5,017.77	2027–2036

On January 26, 2021, EGRES-2 JSC submitted an application to the Market Council (CEA) for approval of individual tariff for the implementation of the project "Expansion and reconstruction of EGRES-2 with installation of power unit No. 3". After receiving a positive recommendation from the Market Council dated 29.03.2021, the application was submitted to the Ministry of Energy of the Republic of Kazakhstan for consideration.

Since 2021, the Ministry of Energy of the Republic of Kazakhstan had not made a decision. On January

27, 2022, EGRES-2 JSC submitted a revised application to the Market Council of the Republic of Kazakhstan for an individual capacity tariff for the implementation of the project "Expansion and Reconstruction of EGRES-2 with Installation of Power Unit No. 3."

On March 30, 2022, a meeting of the Presidium of the Market Council of the Republic of Kazakhstan was held, at which it was decided to recommend and admit for consideration by the authorized body (DOE RK) the investment program "Expansion and reconstruction of EGRES-2 JSC with installation of power unit No.3". The decision on this application was not made, and the list of EPOs with which the MOE RK planned to conclude investment agreements in 2022 was not published.

Tariffs for heat generation, tenge/Gcal

Name	2021 fact	2022 fact	2023 fact	2024 forecast	2025 forecast
Almaty Power Plants JSC	3,392	3,782	**4,215**	5,109	5,272
EGRES-2 JSC	772	812	**874**	877	906
EGRES-1 LLP	233	221	**189**	185	196

As a natural monopoly, the legislation provides for the approval of long-term (5+ years) tariff ceilings for organizations producing heat energy, including an investment component and annual cost indexation. The marginal tariffs are approved by the Committee. However, tariff increases are made no more than once a year and there are risks of maintaining tariffs without increase, in cases of growth of plant costs due to objective reasons.

Since the beginning of 2023, the tariff for heat energy at APP JSC has been 4,003.36 tenge/Gcal. As a result of work with DCRNM, new tariffs for heat energy have been approved, taking into account the increase in prices for strategic goods (coal, fuel oil) and the growth in average monthly wages:

- from 01.08.2023 — 4,550.44 tenge/Gcal, an increase from the previous tariff — 13.7%;
- from 01.01.2024 — 5,063.54 tenge/Gcal, an increase from the tariff of 2023 — 26.5%;
- from 01.01.2025. — 5,180.57 tenge/Gcal, an increase from the tariff of 2024 — 2.3%.

The increase in the tariff for heat energy will reduce losses from heat production. In 2024, Almaty Power Plants JSC and the Company plan to further work with DKREM to ensure break-even operations for heat.

Tariffs for electricity transmission services, tenge/kWh

Name	2021 fact	2022 fact	2023 fact	2024 forecast	2025 forecast
Alatau Zharyk Company JSC	6.07	6.58	**7.68**	8.87	9.95

For Alatau Zharyk Company JSC, which is also a subject of natural monopoly, the Order of DCRNM dated 17.05.2021 approved the marginal tariff for the period 2021-2025, with the tariff coming into effect from June 1, 2021. Alatau Zharyk Company JSC submitted an application for change of the approved tariff on 09.06.2023 to DCRNM with the Draft Tariff Estimate.

The Draft Tariff Estimate was based on the following grounds (Article 22 of the Law "On Natural Monopolies"):

- Reduction of the tariff due to the increase in the volume of electricity transmission, adjustment of technologically related cost items, taking into account the increase in the cost of strategic commodity (tariff of APP JSC (item 5, item 1, p. 1);
- Change of the approved investment program in connection with the implementation of the state program "Tariff in exchange for investments" (item 4) para. 1);
- Increase in salary costs due to failure to achieve the average salary in Almaty city by economic activity, according to statistics for the 4th quarter of 2022 (item 9-2) p.1);
- Inclusion of operating costs on maintenance of networks and equipment transferred to the balance sheet from the municipal property by KZT 1.8 million. (item 9-1) p.1);
- Income (profit) is calculated taking into account the regulated base of the involved assets and the profit rate (acceptable profit level — APR) in the tariff.

For 2023, the average tariff for the year

7.69

tenge/kWh

According to the results of the consideration of the application, the authorized body approved the following tariffs for AZhK JSC, excluding VAT:

- from 01.01.2023 — 7.05 tenge/kWh;
- from 01.07.2023 — 8,31 tenge/kWh;
- for 2024 — 8.87 tenge/kWh;
- for 2025 — 9.95 tenge/kWh.

Tariffs for electricity sales to ESO, KZT/kWh

Name	2021 fact	2022 fact	2023 fact	2024 forecast	2025 forecast
AlmatyEnergoSbyt LLP	18.69	20.09	**23.64**	30.86	33.55

The energy supply company AlmatyEnergoSbyt LLP is a subject of the public market and is also subject to regulation by the authorized body. The tariff calculation includes operational, financial and investment components. There are risks of artificial restraint of tariff growth by the Regulator in order to preserve social stability of the population in the regions. For individuals, differentiation by consumption norms is preserved; for legal entities, electricity is supplied at average tariffs.

On October 13, 2023, the DCRNM of Almaty and Almaty region approved the ceiling price of AlmatyEnergoSbyt LLP in the amount of 25.57 tenge/kWh (3.3% increase) effective from November 1, 2023. The increase was due to the increase in supply markup (increase in operating expenses) by 42%, which amounted to 0.68 tenge/kWh.

At the same time, the approved tariff estimate does not consider the growth of price for the purchase of electricity from the Single Buyer, expenses for purchase and sale of electricity on the balancing market, or losses for August-October 2023 on the difference of tariff for electricity transmission by Alatau Zharyk Company JSC.

As a result, the loss of AlmatyEnergoSbyt LLP for 2023 is 3.2 billion tenge. According to the Rules of Pricing on Publicly Important Markets, these losses are subject to compensation at the next price revision.

In December 2023, following the work carried out, AlmatyEnergoSbyt LLP was added to the list of recipients of targeted support for energy supply organizations by Order No. 276 of the Minister of National Economy of the Republic of Kazakhstan, dated December 22, 2023. As a result, the price for the purchase of electricity from the Single Buyer will be 13 tenge/kWh (according to the tariff estimate). This adjustment will enable AlmatyEnergoSbyt LLP to avoid losses in 2024 from discrepancies between the electricity prices stipulated in the tariff estimates and the actual prices set by the Unified Power Purchase Organization.

Coal market of Kazakhstan

The thermal coal market in Kazakhstan is fragmented. The main major players are Bogatyr Komir LLP (Samruk-Energy JSC and UC RUSAL), EEC JSC and Shubarkol Komir JSC (ERG), Kazakhmys Corporation LLP, Karazhyra JSC, and Angrensor Energo LLP.

According to the Bureau of National Statistics, coal mining companies in Kazakhstan produced 112.74 million tons of hard coal from January to December 2023, which is a 1% decrease compared to the same period in 2022.

By the end of the reporting period, Bogatyr Komir LLP produced 42.93 million tons of coal, which is 1.1% increase compared to 2022. The company's share in coal production in 2023 was 38.1% of the total coal production in the Republic of Kazakhstan and 62% of the coal produced in the Ekibastuz coal basin (Pavlodar region).

In 2023 coal mining company Bogatyr Komir LLP produced

42.93

million tons of coal

The volume of coal sold by Bogatyr Komir LLP in 2023 was

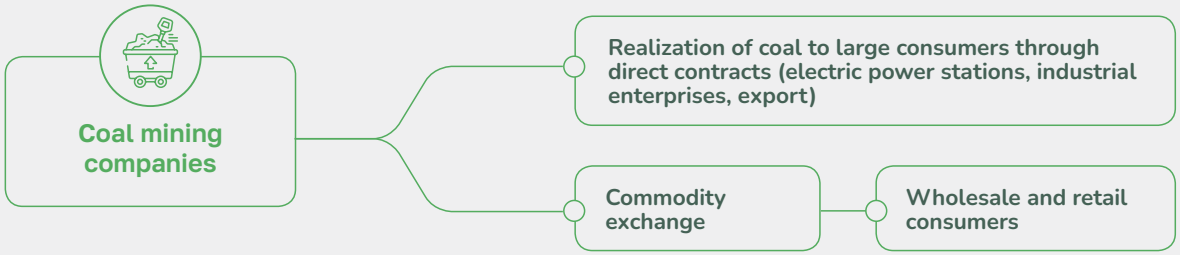
42.49

million tons

Coal production, million tons

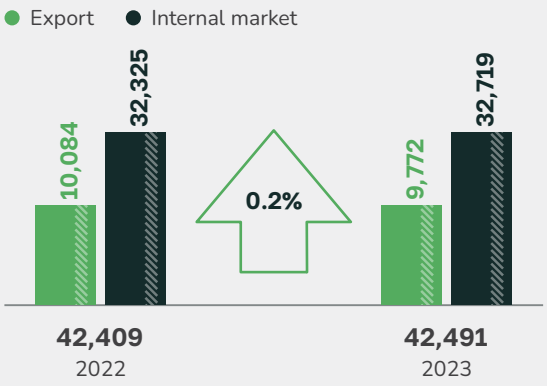
Indicators	2021	2022	2023	Δ, 2023/2022, %
Pavlodar region	66.93	68.39	69.48	1.6 %
Karaganda region	35.36	34.28	33.58	-2.0 %
East Kazakhstan region	8.80	8.83	7.99	0.1 %
Total	**111.74**	**113.93**	**112.74**	**-1 %**

Scheme of coal sales



Stripping ratio for 2023 amounted to 0.84 m³/ton, compared to 0.79 m³/ton in the same period.

Coal sales of Bogatyr Komir LLP, thousand tons



Forecast for the future period:

The forecast for 2024 indicates a 10% increase in coal sales volume, or an additional 4.209 million tons compared to 2023. The increase is due to the growth of demand from energy producing organizations.

Major consumers of coal from Bogatyr Komir LLP include the power systems of Astana, Almaty, Karaganda, Petropavlovsk, Pavlodar, Stepnogorsk, EGRES-1, and EGRES-2. Coal buyers (power plants) independently organize and pay for transportation of coal from the Ekibastuz station (Bogatyr Komir LLP) to their destinations. Transportation contracts are made with freight forwarders, who coordinate with railcar owners (operators).

Ekibastuz coal is a standard fuel for small boiler houses located in rural areas. Shipment of utility coal, according to the results of exchange transactions, is carried out: by rail and road transport.

Volume of coal sales to consumers, million tons

Region	2021	2022	2023
APP JSC	3.00	3.00	**3.16**
Karaganda Energocenter LLP	2.78	2.31	**2.56**
Astana-Energy JSC	4.33	3.96	**3.65**
Pavlodarenergo JSC PCHPP-2, 3	2.86	2.83	**2.90**
Stepnogorskaya CHPP LLP	1.00	0.80	**0.71**
EGRES-1 LLP	13.37	13.10	**13.39**
EGRES-2 JSC	3.68	3.3	**3.59**
Bassel Group LLS LLP	0.42	0.48	**0.46**
SevKazEnergo JSC	2.25	1.44	**2.11**
Ekibastuzteploenergo LLP	0.54	0.52	**0.45**
SCP on PCW 'Koksh. Zhylu'	0.34	0.32	**0.36**
Kombyt	0.39	0.19	**0.17**
Total for the domestic market of the Republic of Kazakhstan	**34.94**	**32.32**	**32.72**
Reftinskaya GRES	9.80	10.08	**9.77**
Total for export to RF	**9.80**	**10.08**	**9.77**

Coal sales price, tenge/tonne

Name	2021 fact	2022 fact	2023 fact	2024 forecast	2025 forecast
Bogatyr Komir LLP	2,292	2,669	**3,084**	3,204	3,753

The price of coal sales by Bogatyr Komir LLP is approved independently by the price list for consumers of the Republic of Kazakhstan for 3 groups of consumers (power engineering at the station of joining of NC KTZh JSC, power engineering at the coal harvesting station, and municipal and household needs). Regulation is carried out on the basis of the Entrepreneurial Code of CRNM CP MNE.