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**MARKET ANALYSIS OF THE POWER INDUSTRY OF KAZAKHSTAN**

**JANUARY 2023**

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# **Electricity generation in the UES of Kazakhstan**

According to the System Operator, the power plants of the Republic of Kazakhstan in January 2023 generated 10,845.8 million kWh of electricity, which is 264.4 million kWh or 2.5 % more than the same period in 2022. The increase in generation was observed in the Northern and Southern zones of the UES of Kazakhstan.

*million kWh*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Zone** | **Generation type** | **January** | | **Δ, million kWh** | **Δ, %** |
| **2022** | **2023** |
|  | **Kazakhstan** | **Total** | **10 581.4** | **10 845.8** | **264.4** | **2.5 %** |
| *TPP* | *8 622.1* | *8 675.3* | *53.2* | *0.6 %* |
| *GTES* | *1 054.4* | *1 050.2* | *-4.2* | *-0.4 %* |
| *HPS* | *683.9* | *695.6* | *11.7* | *1.7 %* |
| *WES* | *165.7* | *334.9* | *169.2* | *102.1 %* |
| *SES* | *55.3* | *89.8* | *34.5* | *62.4 %* |
| *BSU* | *0* | *0.0* | *0.0* |  |
| 1 | **Northern** | **Total** | **7 914.7** | **8 051.1** | **136.4** | **1.7 %** |
| *TPP* | *6 989* | *7 069.0* | *80.0* | *1.1 %* |
| *GTES* | *287.5* | *284.1* | *-3.4* | *-1.2 %* |
| *HPS* | *521.3* | *462.8* | *-58.5* | *-11.2 %* |
| *WES* | *96.1* | *205.2* | *109.1* | *113.5 %* |
| *SES* | *20.8* | *30.0* | *9.2* | *44.2 %* |
| *BSU* | *0* | *0.0* | *0.0* |  |
| 2 | **South** | **Total** | **1 278.1** | **1 437.6** | **159.5** | **12.5 %** |
| *TPP* | *1 011.3* | *1 015.0* | *3.7* | *0.4 %* |
| *GTES* | *29* | *232.8* | *203.8* | *702.8 %* |
| *HPS* | *162.6* | *29.4* | *-133.2* | *-81.9 %* |
| *WES* | *40.8* | *100.8* | *60.0* | *147.1 %* |
| *SES* | *34.4* | *59.6* | *25.2* | *73.3 %* |
| 3 | **Western** | **Total** | **1 388.6** | **1 357.1** | **-31.5** | **-2.3 %** |
| *TPP* | *621.8* | *591.3* | *-30.5* | *-4.9 %* |
| *GTES* | *737.9* | *736.7* | *-1.2* | *-0.2 %* |
| *WES* | *28.8* | *28.9* | *0.1* | *0.3 %* |
| *SES* | *0.1* | *0.2* | *0.1* | *100 %* |

# *1.1 Electricity generation by regions of the Republic of Kazakhstan*

In January 2023, compared to the same period in 2022, electricity generation increased significantly in Akmola, Aktobe, Almaty, Zhambyl, Kyzylorda, Mangistau, Pavlodar, Karaganda and Turkestan regions.

At the same time, a decrease in electricity generation was observed in Atyrau, East Kazakhstan, West Kazakhstan, Kostanay and North Kazakhstan regions.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Region** | **January** | | **Δ, million kWh** | **Δ, %** |
| **2022** | **2023** |
| *1* | Akmola | 552.4 | 597.3 | *44.9* | *8.1* % |
| *2* | Aktobe | 353.2 | 393.6 | *40.4* | *11.4* % |
| *3* | Almaty | 655.1 | 670.6 | *15.5* | *2.4* % |
| *4* | Atyrau | 699.3 | 666.2 | *-33.1* | *-4.7* % |
| *5* | East Kazakhstan | 805.4 | 626.6 | *-178.8* | *-22.2* % |
| *6* | Zhambyl | 422.4 | 477.5 | *55.1* | *13.0* % |
| *7* | West Kazakhstan | 232.4 | 186.8 | *-45.6* | *-19.6* % |
| *8* | Karaganda | 1319.2 | 1,127.0 | *-192.2* | *-14.6* % |
| *9* | Kostanay | 126 | 108.2 | *-17.8* | *-14.1* % |
| *10* | Kyzylorda | 59.5 | 63.0 | *3.5* | *5.9* % |
| *11* | Mangistau | 456.9 | 504.1 | *47.2* | *10.3* % |
| *12* | Pavlodar | 4552.5 | 4672.1 | *119.6* | *2.6* % |
| *13* | North Kazakhstan | 206 | 202.3 | *-3.7* | *-1.8* % |
| 14 | Turkestan | 141.1 | 202.2 | *61.1* | *43.3* % |
| *15* | Abai |  | 131.6 |  |  |
| *16* | Zhetysuskaya |  | 24.3 |  |  |
| 17 | Ulytauskaya |  | 192.4 |  |  |
|  | **Total for Kazakhstan** | **10,581.4** | **10,845.8** | **264.4** | **2.5** % |

# *1.2* *Electricity generation by energy holdings and large energy producing organizations.*

In January 2022, electricity generation by energy holdings and large energy producing organizations amounted to 4,745.2 million kWh, which is 237.7 million kWh less than the same period in 2022 ( 4,982.9 million kWh ), and their combined share of the total production amounted to 43.8 %.

*million kWh*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2022** | | **2023** | | **Δ 2023/2022** | |
| **January** | **share in Kazakhstan, %** | **January** | **share in Kazakhstan, %** | **million kWh** | **%** |
|  | **Total** | **4982.9** | **47.1%** | **4,745.2** | **43.8%** | **-237.7** | **-4.8%** |
| **1.** | ERG | 1,888.7 | 17.8% | 1,794.4 | 16.5% | -94.3 | -5.0% |
| **2.** | “Kazakhmys Energy” LLP | 532.4 | 5.0% | 563.6 | 5.2% | 31.2 | 5.9% |
| **3.** | “Kazzinc” LLP | 248.2 | 2.3% | 220.9 | 2.0% | -27.3 | -11.0% |
| **4.** | “Arcellor Mittal” JSC | 233.3 | 2.2% | 166.0 | 1.5% | -67.3 | -28.8% |
| **5.** | “KKS” LLP | 597.4 | 5.6% | 625.8 | 5.8% | 28.4 | 4.8% |
| **6.** | CAEPCO | 557.7 | 5.3% | 520.2 | 4.8% | -37.5 | -6.7% |
| **7.** | “Zhambylskaya GRES” JSC | 355.6 | 3.4% | 375.8 | 3.5% | 20.2 | 5.7% |
| **8.** | Oil and gas enterprises | 569.6 | 5.4% | 478.5 | 4.4% | -91.1 | -16.0% |

# *1.3 Electricity generation by energy producing organizations* *of "Samruk-Energy" JSC*

The volume of electricity production by energy producing organizations of “Samruk-Energy” JSC for January 2023 amounted to 3,563.8million kWh . The increase in electricity generation compared to the same period in 2022 amounted to 297.6 million kWh or 9.1 %. The decrease is observed at AlES JSC.

*million kWh*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2022** | | **2023** | | **Δ 2023/2022** | |
| **January** | **share in Kazakhstan, %** | **January** | **share in Kazakhstan, %** | **million kWh** | **%** |
|  | **"Samruk-Energy" JSC** | **3266.2** | **30.9%** | **3,563.8** | **32.9%** | **297.6** | **9.1%** |
| *1* | *“AlES” JSC* | *551.9* | *5.2%* | *544.6* | *5.0%* | *-7.3* | *-1.3%* |
| *2* | *"Ekibastuz GRES-1" LLP* | *2026.5* | *19.2%* | *2183.8* | *20.1%* | *157.3* | *7.8%* |
| *3* | *"Ekibastuz GRES-2" JSC* | *592.4* | *5.6%* | *643.3* | *5.9%* | *50.9* | *8.6%* |
| *4* | *"Shardara HPP" JSC* | *20.6* | *0.2%* | *87.9* | *0.8%* | *67.3* | *326.7%* |
| *5* | *“Moynakskaya HPP” JSC* | *57.7* | *0.5%* | *64.1* | *0.6%* | *6.4* | *11.1%* |
| *6* | *“Samruk-Green Energy” LLP* | *1.3* | *0.0%* | *1.5* | *0.0%* | *0.20* | *15.4%* |
| *7* | *WPP Shelek by “Energy Semirechye” LLP* |  |  | *18.5* | *0.2%* |  |  |
| *8* | *"First wind power plant" LLP* | *15.8* | *0.1%* | *20.1* | *0.2%* | *4.3* | *27.2%* |

# 

# *1.4 Shares of energy holdings and large energy producing organizations*

*in power generation in Kazakhstan*

As can be seen from the chart below, the share of “Samruk-Energy” JSC in the electricity market of Kazakhstan remains the leader and amounts to 32.9%.

**Kazakhstan**

**10 845 mln.kWh**

**Others**



* 1. *Electricity generation by types from “Samruk-Energy”JSC energy producing organizations, million kWh*

1. **Electricity consumption in the UES of Kazakhstan**

# *2.1. The results of the industry in January 2023*

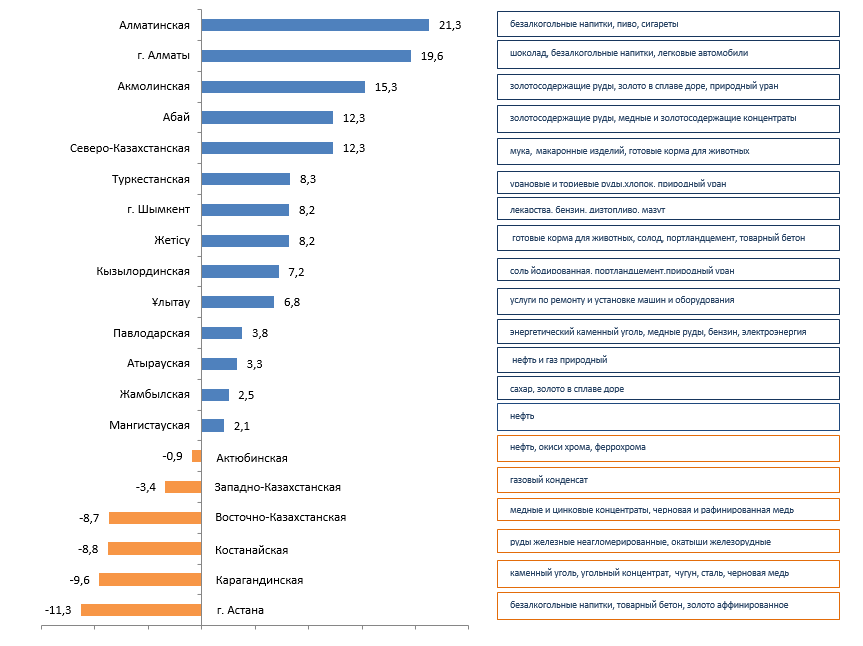
The index of industrial production (hereinafter - IIP) in Kazakhstan in January 2023 amounted to 101.4%.

Among the main branches of industry, significant growth was noted in the supply of electricity, gas, steam, hot water and air conditioning (104.5%). Compared with January last year, an increase in volumes was recorded in the production of basic pharmaceutical products and pharmaceuticals, beverages, tobacco products, engineering, light industry, petroleum products, chemical industry, and food products.

Among the regions, the largest growth was observed in Almaty, Akmola, Abay, North Kazakhstan regions and Almaty city.

**Change in industrial production indices**

*in % to the corresponding period of the previous year, increase +, decrease -*

****

# *2.2 Electricity consumption by zones and regions*

According to the System Operator, in January 2023, there was an increase in the dynamics of electricity consumption in the republic in comparison with the same indicators in 2022 by 240.2 million kWh or 2.3%. Thus, in the southern zone of the republic, consumption increased by 11.2%, respectively.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **January** | | **Δ,  million kWh** | **Δ, %** |
| **2022** | **2023** |
|  | **Kazakhstan** | **10,609.9** | **10850.1** | ***240.2*** | ***2.3* %** |
| *1* | Northern zone | 6869.2 | 6839.5 | *-29.7* | *-0.4* % |
| *2* | Western zone | 1384.9 | 1391.6 | *6.7* | *0.5* % |
| *3* | Southern zone | 2355.8 | 2619.1 | *263.3* | *11.2* % |
|  | **incl .by regions** |  |  |  |  |
| *1* | East Kazakhstan | 979.4 | 689.7 | *-289.6* | *-29.6* % |
| *2* | Karaganda | 1793.5 | 1457.6 | *-335.9* | *-18.7* % |
| *3* | Akmola | 1070.7 | 1134.8 | *64.1* | *6.0* % |
| *4* | North Kazakhstan | 171.1 | 168.2 | *-2.8* | *-1.7* % |
| *5* | Kostanay | 468.1 | 436.9 | *-31.2* | *-6.7* % |
| *6* | Pavlodar | 1802.8 | 1710.6 | *-92.2* | *-5.1* % |
| *7* | Atyrau | 629.9 | 661.1 | *31.2* | *5.0* % |
| *8* | Mangistau | 490.8 | 511.2 | *20.3* | *4.1* % |
| *9* | Aktobe | 583.6 | 558.3 | *-25.3* | *-4.3* % |
| *10* | West Kazakhstan | 264.2 | 219.3 | *-44.9* | *-17.0* % |
| *eleven* | Almaty | 1173.5 | 1205.1 | *31.6* | *2.7* % |
| *12* | Turkestan | 526.3 | 592.1 | *65.8* | *12.5* % |
| *13* | Zhambyl | 470.1 | 466.6 | *-3.5* | *-0.7* % |
| *14* | Kyzylorda | 185.9 | 200.2 | *14.3* | *7.7* % |
| *15* | Ulytau |  | 375.8 |  |  |
| *16* | Abai |  | 307.6 |  |  |
| *17* | Zhetysusky |  | 155.1 |  |  |

# *2.3 Electricity consumption by consumers of energy holdings and large energy producing organizations*

In January 2023, there is a decrease in electricity consumption by consumers energy holdings and large energy-producing organizations.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **January** | | **Δ, million kWh** | **Δ, %** |
| **2022** | **2023** |
|  | **Total** | **4,073.2** | **4,110.2** | **-27549.3** | **0.9%** |
| *1.* | *ERG* | *1263.3* | *1,198.5* | *-64.9* | *-5.1%* |
| *2.* | *“Kazakhmys Corporation” LLP* | *352.1* | *392.4* | *40.3* | *11.4%* |
| *3.* | *“Kazzinc” LLP* | *258.7* | *243.1* | *-15.6* | *-6.0%* |
| *4.* | *“Arcelor Mittal Temirtau" JSC* | *344.4* | *339.9* | *-4.5* | *-1.3%* |
| *5.* | *“KKS” LLP* | *593.6* | *647.5* | *53.9* | *9.1%* |
| *6.* | *CAEPCO* | *562.2* | *575.2* | *13.0* | *2.3%* |
| *7.* | *“Zhambyl” GRES* | *246.6* | *260.4* | *13.8* | *5.6%* |
| *8.* | *Oil and gas enterprises* | *452.20* | *453.3* | *1.1* | *0.2%* |

In January 2023, there is an increase in electricity consumption by the companies of Samruk-Energy JSC by 113.5 million kWh or by 15.2% compared to the same indicators for 2022.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **January** | | **Δ, million kWh** | **Δ, %** |
| **2022** | **2023** |
|  | **"Samruk-Energy" JSC** | **748.76** | **862.2** | **113.5** | **15.2%** |
| *1.* | *"Bogatyr-Komir" LLP* | *29.2* | *30.8* | *1.6* | *5.3%* |
| *2.* | *“Alatau Zharyk Companies” JSC* | *119.6* | *138.9* | *19.3* | *16.1%* |
| *3.* | *“AlmatyEnergoSbyt” LLP* | *599.9* | *692.6* | *92.7* | *15.4%* |

*2.4 Electricity consumption by large consumers in Kazakhstan*

In January 2023, compared to the same period in 2022, electricity consumption by large consumers decreased by 123.7 million kWh or 3.8%.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Consumer** | **January** | | **Δ, million kWh** | **Δ, %** |
| **2022** | **2023** |
| *1* | *“Arcelor Mittal Temirtau" JSC* | *344.4* | *339.9* | *-4.5* | *-1.3* |
| *2* | *AZF ( Aksuysky ) "TNK Kazchrome" JSC* | *414.2* | *413.8* | *-0.4* | *-0.1* |
| *3* | *“Kazakhmys Smelting” LLP* | *109.6* | *46.6* | *-63.1* | *-57.5* |
| *4* | *“Kazzinc” LLP* | *244.5* | *228.0* | *-16.5* | *-6.8* |
| *5* | *"Sokolovsko-Sarbayskoye GPO" JSC* | *150.1* | *117.3* | *-32.8* | *-21.9* |
| *6* | *“Kazakhmys Corporation” LLP* | *115.7* | *103.5* | *-12.2* | *-10.6* |
| *7* | *AZF (Aktobe) "TNK Kazchrome" JSC* | *232.9* | *204.1* | *-28.8* | *-12.3* |
| *8* | *RSE “Channel them. Satpaev"* | *24.3* | *10.2* | *-14.1* | *-3.6* |
| *9* | *"YDD Corporation" LLP* | *73.3* | *89.3* | *16.0* | *21.8* |
| *10* | *"Ust-Kamenogorsk titanium -magnesium plant" JSC* | *63.5* | *56.1* | *-7.4* | *-11.6* |
| *11* | *"Atyrau Oil Refinery" LLP* | *67.0* | *76.5* | *9.5* | *14.2* |
| *12* | *“Tengizchevroil”LLP* | *167.1* | *179.8* | *12.7* | *7.6* |
| *13* | *PAZ (Pavlodar Aluminum Smelter) JSC* | *81.6* | *80.9* | *-0.6* | *-0.7* |
| *14* | *"KEZ" (Kazakhstan electrolysis plant) JSC* | *326.0* | *321.0* | *-5.0* | *-1.5* |
| *15* | *"NC Kazakhstan Temir Zholy" JSC* | *336.7* | *346.8* | *10.1* | *3.0* |
| *16* | *"KEGOC" JSC* | *535.2* | *548.6* | *13.3* | *2.5* |
| **Total** | | ***3,286.2*** | ***3,162.5*** | ***-123.7*** | ***-3.8*** |

# *Export-import of electrical energy*

In order to balance the production and consumption of electricity in January, exports to the Russian Federation amounted to 247 million kWh, imports from the Russian Federation 260.7 million kWh.

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **January** | | **Δ, million kWh** | **Δ, %** |
| **2022 \_** | **2023 \_** |
| **Export of Kazakhstan** | **-151.2** | **-247.0** | **-95.7** | **63.3%** |
| *in Russia* | *-98.9* | *-108.3* | *-9.4* | *9.5%* |
| *in the IPS of Central Asia* | *-52.3* | *-138.7* | *-86.3* | *165.0%* |
| **Import of Kazakhstan** | **161.3** | **260.7** | **99.4** | **61.6%** |
| *From Russia* | *161.3* | *260.7* | *99.4* | *61.6%* |
| **Balance- flow "+" deficit, "-" excess** | **10.1** | **13.8** | **3.7** | **36.7%** |

# **Coal**

According to the Bureau of National Statistics, Kazakhstan produced 10,119.9 thousand tons of hard coal in January 2023, which is 3.6% more than in the same period in 2022 (9,767.6 thousand tons).

*thousand tons*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Region** | **January** | | **Δ, thousand tons** | **Δ, %** |
| **2022** | **2023** |
| 1 | *Pavlodar* | *6,276.7* | *6611.4* | *334.7* | *5.3%* |
| 2 | *Karaganda* | *2576* | *2547.8* | *- 28.2* | *-1.1%* |
| 3 | *East Kazakhstan* | *854.2* | *877.8* | *23.6* | *2.8%* |
|  | **Total for the Republic of Kazakhstan** | **9,767.6** | **10,119.9** | **352.3** | **3.6%** |

In January 2023, Bogatyr Komir LLP produced 4,172.2 thousand tons, which is 1% more than in the corresponding period of 2022 (4,141 thousand tons).

The volume of coal sold in January 2023 amounted to 4,239.7 thousand tons, of which 3,366.1 thousand tons went to the domestic market of the Republic of Kazakhstan, which is 1% more than in the same period in 2022 (3,342 thousand tons) and for export (RF) - 873.3 thousand tons, which is 2.3% more than in the corresponding period of 2022 (854 thousand tons).

According to the indicators for January 2023, in comparison with similar indicators in 2022, Bogatyr Komir LLP has an increase in coal sales by 43 thousand tons or 1%.

*thousand tons*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Region** | **January** | | **Δ,** **thousand tons** | **Δ, %**  **2023/2022** |
| **2022** | **2023** |
| **Total to the domestic market of the Republic of Kazakhstan** | | **3366.1** | **3 342** | **24.1** | **1%** |
| **Total for export to Russia** | | **854** | **873.3** | **19.3** | **2.3%** |
| **TOTAL** | | **4 141** | **4,172.2** | **31.2** | **1%** |

# **Renewable energy sources**

# *RES indicators in Kazakhstan*

Since the adoption by Kazakhstan of the vector for the transition to a "green economy", the electric power industry has gone through a serious path of reform.

The state has created the necessary measures to support the development of the renewable energy sources (hereinafter referred to as RES) sector in order to achieve the established target indicators.

- 3% share of RES in total electricity generation by 2020 (achieved);

- 15% share of RES in total electricity generation by 2030;

- 50% share of alternative and RES in total electricity generation by 2050.

Given the large resource potential of RES in Kazakhstan, as well as due to the created conditions for supporting the development of RES, over the past 7 years, the installed capacity of RES facilities has increased by almost 11 times.

In 2023, 15 facilities with a total capacity of 276 MW will be commissioned.

At the RES auctions in 2022, 15 RES projects with a total capacity of 440 MW were selected, of which 400 MW are wind farms, and 40 MW solar power plants. The historically minimum price for wind farms was received - 12.49 tenge, less than 3 cents per 1 kWh, which is close to the world record.

# *RES indicators in Kazakhstan*

According to The Ministry of Energy of the Republic of Kazakhstan has 130 renewable energy facilities with an installed capacity of 2400 MW.

(46 WPPs - 958 MW; 44 SPPs - 1148 MW; 37 HPPs - 280 MW; 3 BioPPs - 1.77 MW).

According to the System Operator, the volume of electricity supply in the EU of the Republic of Kazakhstan by objects using renewable energy sources (SPP, WPP, BGS, small hydropower plants) of the Republic of Kazakhstan for January 2023 amounted to 462.6 million kWh. Compared to January   
2022 (261.0 million kWh ), the increase was 201.6 million kWh or 77.2 %.

*million kWh*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2022** | | **2023** | | | **Δ, million kWh** | **Δ, %** |
| **January** | **share in Kazakhstan, %** | **January** | | **share in Kazakhstan, %** |
| **1** | **Production in the Republic of Kazakhstan** | **10581.4** | **100%** | **10845.8** | | **100%** | **264.4** | **2.5%** |
| **2** | **RES generation in Kazakhstan** | **261.0** | **2.5%** | **462.6** | | **4.3%** | **201.6** | **77.2%** |
| **3** | **RES generation, incl. by zones** | ***share in the respective zone*** | | | | | | |
|  | *Northern zone* | *125.3* | *1.6%* | *243.6* | *3.0%* | | *118.3* | *94.4%* |
|  | *Southern zone* | *106.8* | *8.4%* | *189.2* | *13.2%* | | *82.4* | *77.2%* |
|  | *Western zone* | *28.9* | *2.1%* | *29.1* | *2.1%* | | *0.2* | *0.7%* |
| **4** | **RES generation, incl. by zones** | ***share in RES of the Republic of Kazakhstan, %*** | | | | | | |
|  | *Northern zone* | *125.3* | *48.0%* | *243.6* | *52.7%* | | *118.3* | *94.4%* |
|  | *Southern zone* | *106.8* | *40.9%* | *189.2* | *40.9%* | | *82.4* | *77.2%* |
|  | *Western zone* | *28.9* | *11.1%* | *29.1* | *6.3%* | | *0.2* | *0.7%* |
| **5** | **RES generation, incl. by type** | ***share in RES of the Republic of Kazakhstan, %*** | | | | | | |
|  | *SES* | *55.3* | *21.2%* | *89.8* | *19.4%* | | *34.5* | *62.4%* |
|  | *WES* | *165.7* | *63.5%* | *334.9* | *72.4%* | | *169.2* | *102.1%* |
|  | *Small HPPs* | *40.0* | *15.3%* | *37.9* | *8.2%* | | *-2.1* | *-5.2%* |
|  | *BSU* | *0.0* | *0.0%* | *0.0* | *0.0%* | | *0.0* | *-* |

# 

# *RES support tariff*

As part of the support for the development of RES, "Financial Center for Supporting the Development of RES" LLP (hereinafter referred to as RFC LLP) carries out a centralized purchase of electricity produced by RES facilities.

In turn, RFC LLP distributes the total amount of electricity received from RES facilities to conditional consumers and qualified conditional consumers (traditional power plants) at the tariff for supporting RES.

# *Through RES allowance*

In accordance with subparagraphs 4-5) of paragraph 3 of Article 7-1 of the Law on RES Support, from July 1, 2021, a surcharge for supporting the use of renewable energy sources applied by conditional consumers to the ceiling tariff is applied.

Surcharge for supporting the use of renewable energy sources - the price determined by the settlement and financial center in accordance with the zone of consumption of electrical energy for energy-producing organizations that are conditional consumers or qualified conditional consumers.

The amounts of the allowance for supporting the use of renewable energy sources for 2023:

1. for conditional consumers in the first zone of electricity consumption in the amount of 1.97 tenge/ kWh without VAT;

2. for conditional consumers in the second zone of electricity consumption in the amount of 0.56 tenge/ kWh without VAT;

3. for a qualified conditional consumer LLP "GRES Topar " in the amount of 0.87 tenge / kWh without VAT.

# *The role of “Samruk-Energy” JSC in the production of clean electricity*

Electricity generation by renewable energy facilities of “Samruk-Energy” JSC (SPP, WPP and small HPPs) in January 2023 amounted to 50.7 million kWh, which is 81.7% higher compared to the same period in 2022 (27.9 million kWh ).

The share of RES electricity of “Samruk-Energy” JSC in January 2023 amounted to 11% of the volume of electricity generated by RES facilities in the Republic of Kazakhstan, while in 2022 this figure was 10.7%.

*million kWh*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2022** | | **2023** | | **Δ, million kWh** | **Δ, %** |
| **January** | **share in Kazakhstan, %** | **January** | **share in Kazakhstan, %** |
|  | **RES S-E, including:** | **27.9** | **10.7%** | **50.7** | **11.0%** | **22.8** | **81.7%** |
| 1 | *Cascade of small HPPs of AlES JSC 43.7 MW* | *10.8* | *4.1%* | *10.6* | *2.3%* | *-0.2* | *-1.9%* |
| 2 | *Samruk - Green LLP Energy » SPP 2MW + SPP 1MW + SPP 0.4MW* | *1.3* | *0.5%* | *0.3* | *0.1%* | *-1.0* | *-76.9%* |
| 3 | *Samruk - Green Energy LLP WPP Shelek 5 MW* | *0.0* |  | *1.2* | *0.3%* |  |  |
| 4 | *First Wind Power Plant LLP WPP 45 MW* | *15.8* | *6.1%* | *20.1* | *4.3%* | *4.3* | *27.2%* |
| 5 | *Energy Semirechye LLP WPP Shelek 60 MW* | *-* | *-* | *18.5* | *-* | *-* | *-* |

# **International relations**

# *5.1 Overview of the media in the CIS countries*

*(according to information from the website of the CIS EES Executive Committee)*

**Kazakhstan**

**In 2022, the volume of services for the transmission of electricity through the networks of KEGOC increased**

The volume of electricity transmission services through the networks of KEGOC increased by 7.2% compared to 2021 and amounted to 58,570.3 million kWh . At the same time, in December 2022, a record figure for electricity consumption was recorded in Kazakhstan.

On December 7, 2022, the maximum consumption was 16,459 MW, while the total generation of the country's power plants was 15,203 MW. Under such high loads, the National Electric Grid (NPG) operated by KEGOC worked reliably, in the normal mode.

Services of the System Operator for technical dispatching of supply to the grid and consumption of electric energy were rendered in the amount of 104,263.9 million kWh, services for organizing balancing the production and consumption of electric energy in the amount of 203,232.9 million kWh.

**Kyrgyzstan**

**Four documents were signed between the ministers of energy of Kyrgyzstan and Uzbekistan**

January 27, 2023 Minister of Energy of the Kyrgyz Republic Taalaibek Ibraev and Minister of Energy of the Republic of Uzbekistan Zhurabek Mirzamakhmudov signed an agreement and a memorandum on the development of the energy sector of the two countries, assistance in the implementation of joint projects.

According to the information, among the signed documents are the following;

1. Agreement between the Ministry of Energy of the Republic of Uzbekistan and the Ministry of Energy of the Kyrgyz Republic on cooperation in the field of gas and oil.

2. Agreement on the development of cooperation in the coal industry between the Ministry of Energy of the Republic of Uzbekistan and the Ministry of Energy of the Kyrgyz Republic.

Its main goal is to implement joint projects for the development of coal mines in the territory of the Kyrgyz Republic. Organization of coal export from Kyrgyzstan to Uzbekistan. On the part of Uzbekistan, the supply of equipment to Kyrgyzstan. Establishment of a coal quality analysis laboratory.

3. Memorandum between the Ministry of Energy of the Republic of Uzbekistan and the Ministry of Energy of the Kyrgyz Republic on the joint study of the possibilities of implementing the construction of the Chatkal HPP cascade. Its capacity is 1800 MW. Barkrau HPP - 700 MW, Nizhne- Chatkal HPP - 110 MW.

4. Memorandum of Understanding and Cooperation between TNK Dastan OJSC of the Kyrgyz Republic and Toshelektroapparat LLC of the Republic of Uzbekistan on organizing the assembly of electrical measuring instruments in the Kyrgyz Republic. The main goal is to organize the production of electrical equipment at the plant of JSC "Dastan" in Kyrgyzstan. (Transformer, assembly of ASKUE meters).

Next, Minister of Energy Taalaibek Ibraev said that the agreements signed will contribute to the development of the energy sector of both countries and the elimination of electricity shortages. In addition, the minister stressed that in the future many projects will be implemented to increase the energy potential of Kyrgyzstan, including the construction of the Kambar-Ata-1 hydroelectric power station, the construction of small hydropower plants, and the development of green energy.

**Kyrgyzstan estimates possible energy deficit in 2023 at 1.9 billion kWh**

Kyrgyzstan this year may face a significant shortage of electricity. This was stated by Deputy Head of the Cabinet of Ministers of the Republic of Bakyt Torobaev .

“In the heating period of 2022, electricity consumption in the republic amounted to 15.9 billion kWh , in 2023 it will amount to 16.6 billion kWh . The deficit could be 1.9 billion kWh ,” he said. In this connection, continued Torobaev , the republic signed contracts for the import of 2 billion kWh of electricity from Kazakhstan and Turkmenistan.

As the deputy chairman of the Cabinet noted , in recent days, due to a sharp cooling in the republic, a record electricity consumption of 76 million kWh per day has been recorded. Against this background, the water consumption in the Toktogul reservoir, whose hydroelectric power station generates a significant part of the electricity in the country, has also increased. Kyrgyz power engineers fear that before the next autumn-winter period, it may not be possible to replenish the water reserves in the reservoir.

“Electrical equipment of substations works with overloads, I urge consumers of electric energy to observe the consumption regime and use electricity rationally,” Torobaev emphasized .

Since January 11, the average daily air temperature has dropped sharply on the territory of Kyrgyzstan, in the capital the thermometer at night dropped to minus 20 degrees, and in a number of high-mountainous regions - to minus 40 degrees. According to weather forecasts, temperatures throughout the country will begin to rise from January 17. Despite the frosts, no serious emergencies have been recorded in the republic these days.

**Russia**

**The Government of the Russian Federation, Rosatom and Gazprom signed an agreement on cooperation in the field of hydrogen energy**

The agreement of intent for the development of the high-tech direction "Development of hydrogen energy" was signed by Deputy Prime Minister of the Russian Federation Alexander Novak , Director General of the state corporation " Rosatom " Alexei Likhachev and Deputy Chairman of the Board of PJSC "Gazprom" Oleg Aksyutin.

Under the agreement, by 2030 the state corporation Rosatom will implement a program to create domestic technologies in the field of production and handling of hydrogen, organize serial production of Russian electrolysis plants of various capacities, and work will also be carried out on a project to create a nuclear power plant with high-temperature gas- cooled reactors and chemical-technological part (AETS with HTGR and HTS).

The Government of the Russian Federation intends to provide comprehensive support for all stages of the life cycle of new products in the hydrogen energy industry, using both financial and regulatory mechanisms, while Rosatom will continue R&D in this area and implement projects for the production of hydrogen with a low carbon footprint.

“Russia has a huge backlog in the implementation of projects for the development of hydrogen energy, the creation of mobile, powerful, modern energy storage systems. Gazprom, Rosatom , and InEnergy have them . Hydrogen is already actively used in oil refining and petrochemicals, in the future it will be used in energy, housing and communal services, and transport. On behalf of the President, the "road map" for the development of hydrogen energy until 2030 was updated, which is a large set of tasks. It contains activities for more than 20 projects in the field of production, transportation and storage of hydrogen. As for the energy storage system, about 40 public and private companies, as well as leading educational organizations, including the Russian Academy of Sciences, are involved in the implementation of such projects. The implementation of these measures will result in the availability of domestic technologies in these areas, the growth of the export potential of the industry and the strengthening of Russia's role as a world leader in areas,” said Alexander Novak .

“The importance of hydrogen energy is recognized at the state level, and, of course, as a high-tech leader, Rosatom is actively developing this area. I am convinced that the agreement we signed today will become an additional driver for the implementation of hydrogen projects, ensuring technological sovereignty and increasing the competitiveness of domestic solutions,” commented Alexey Likhachev

**Electricity consumption in 2022 in the UES of the Russian Federation increased by 1.5%, to 1.11 trillion kWh - SO UES**

Electricity consumption in the Unified Energy System (UES) of Russia in 2022 increased by 1.5% - up to 1.11 trillion kWh , generation amounted to 1.12 trillion kWh , follows from the materials of the System Operator of the Unified Energy System (SO UES).

Electricity generation by power plants of the UES of Russia in 2022 amounted to 1,121.5 billion kWh . Electricity consumption in 2022 amounted to 1106.3 billion kWh .

**Uzbekistan**

**Uzbekistan and Kyrgyzstan signed an investment agreement on the construction of the Kambarata hydroelectric power station**

On the eve of the visit of the President of Uzbekistan to Kyrgyzstan, an investment agreement was signed between the two countries on the construction of the Kambarata HPP-1 in the Jalal-Abad region. The main tripartite agreement on the project is scheduled to be signed in July.

Uzbekistan and Kyrgyzstan signed an investment agreement on the construction of the Kambarata HPP-1 in the Jalal-Abad region of Kyrgyzstan, the press service of the Ministry of Investment, Industry and Trade reported.

According to the document, the agreement on the main tripartite agreement on construction is expected in February and may be signed in July.

It should be noted that during the summer months, the Consultative Meeting of the Heads of State of Central Asian countries is usually held.

The opening of the project office for the Kambarata HPP project is scheduled for September, and the feasibility study is expected to start in July 2024. The exact amount of the project will be determined based on the results of the feasibility study.

Recall that in early January, the ministers of energy of Uzbekistan, Kyrgyzstan and Kazakhstan signed a road map for the joint implementation of the construction project of the Kambarata HPP-1.

The capacity of the future HPP will be 1860 MW. The HPP reservoir will have a volume of 5.4 billion cubic meters. The station will annually produce an average of 5.6 billion kWh of electricity. The project is scheduled to be completed by the end of 2025.

**Uzbekistan has restored the export of electricity to Afghanistan**

Afghanistan's National Electricity Company (DABS) said on Thursday that electricity supplies from Uzbekistan have returned to normal. This is stated in the notice on the company's website.

"Since 7 am, electricity imports from Uzbekistan have returned to normal levels," DABS reported. The company recalled that on Wednesday, the Uzbek side "reduced electricity exports to Afghanistan by 60% without prior notice." This was due to technical problems at the Marjan power plant .

DABS, however, warns that despite the restoration of supplies, the country will still "experience blackouts due to shortages and overloaded networks."

Afghanistan buys most of its electricity from the Central Asian countries, in particular from Uzbekistan and Tajikistan. Due to such an impressive dependence on imports and supply disruptions, power outages regularly occur in the country during peak consumption seasons.

**Tajikistan**

**Tajikistan to connect to Central Asian energy system in April**

Tajikistan plans to connect some transmission lines to the Central Asian power grid in April 2023. This was announced by the Minister of Energy and Water Resources of Tajikistan Daler Juma at a press conference on Monday.

No later than April, during the electricity export season, our main lines - 500 kV and 220 kV - will be connected to the power system of Central Asia. According to the Energy Ministry, Tajikistan has three 500 kV power lines and two 220 kV lines.

kV lines in the north of the country in the Sughd region will require some more time. It is a complex complex process requiring coordination, he said. All work will be completed in 2023, the main part of the system will be connected. Connecting to the interconnected energy system is "of fundamental importance for the sustainable and reliable operation of the Tajik system."

The unified energy system of Central Asia was formed on the territory of modern Uzbekistan, Tajikistan, Turkmenistan, Kyrgyzstan and the five regions of southern Kazakhstan adjacent to them as early as within the framework of the USSR in the 70s. It allowed countries to redistribute excess electricity among themselves. In 2003, Turkmenistan left the energy system, in 2009 - Tajikistan. For some time, the system did not function, but in 2019 its work was resumed on the territory of Kazakhstan, Kyrgyzstan and Uzbekistan.

**Tajikistan in 2022 generated a record amount of electricity over the years of independence**

According to the head of the republic, the volume of electricity production reached 21.4 billion kWh .

The volume of electricity produced in Tajikistan in 2022 amounted to 21.4 billion kWh , which was the highest figure since the country's independence. This was announced on Tuesday by the President of Tajikistan Emomali Rahmon at an expanded government meeting.

In 2022, the volume of electricity production reached 21.4 billion kWh , which is the highest figure since independence and a significant achievement.

In order to eliminate shortcomings in the energy sector, the head of state instructed the leadership of the Ministry of Energy and Water Resources, the energy holding of OJSHC "Barki Tojik " and the joint-stock company "Distribution Electric Networks" to ensure the implementation of the project to reduce electricity losses in the country in a timely manner.

Tajikistan generates 98% of its electricity from hydroelectric power plants. The reserves of its hydropower resources are estimated at 527 billion kWh per year. Over the 30 years of independence of the republic, 287 large and small hydroelectric power stations, 50 substations have been built and modernized, 75% of the energy infrastructure of Tajikistan has been reconstructed.