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

**JANUARY-FEBRUARY 2023**

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

According to the System Operator, power plants of the Republic of Kazakhstan in January -February
2023, 20 720.7 million kWh of electricity, which is 310.5 million kWh or 1.5 % 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 February** | **Δ, million kWh** | **Δ, %** |
| **2022** | **2023** |
|  | **Kazakhstan** | **Total** | **20,410.2** | **20 720.7** | ***310.5*** | ***1.5* %** |
| *TPP* | 16,657.0 | 16 627.0 | *-30.0* | *-0.2* % |
| *GTES* | 2002.4 | 2 022.4 | *20.0* | *1.0* % |
| *HPS* | 1253.9 | 1 241.2 | *-12.7* | *-1.0* % |
| *WES* | 332.9 | 644.3 | *311.4* | *93.5* % |
| *SES* | 164.0 | 185.5 | *21.5* | *13.1* % |
| *BSU* | 0.0 | 0.3 | *0.3* |  |
| 1 | **Northern** | **Total** | **15,235.5** | **15 362.5** | ***127.0*** | ***0.8* %** |
| *TPP* | 13470.0 | 13 529.1 | *59.1* | *0.4* % |
| *GTES* | 547.8 | 539.4 | *-8.4* | *-1.5* % |
| *HPS* | 967.0 | 825.3 | *-141.7* | *-14.7* % |
| *WES* | 190.3 | 403.8 | *213.5* | *112.2* % |
| *SES* | 60.4 | 64.6 | *4.2* | *7.0* % |
| *BSU* | 0.0 | 0.3 | *0.3* |  |
| 2 | **South** | **Total** | **2547.3** | **2 751.5** | ***204.2*** | ***8.0* %** |
| *TPP* | 2010.0 | 1 972.9 | *-37.1* | *-1.8* % |
| *HPS* | 286.9 | 415.9 | *129.0* | *45.0* % |
| *GTES* | 55.5 | 56.8 | *1.3* | *2.3* % |
| *WES* | 91.6 | 185.4 | *93.8* | *102,* *4* % |
| *SES* | 103.3 | 120.5 | *17.2* | *16.7* % |
| 3 | **Western** | **Total** | **2627.4** | **2 606.7** | ***-20.7*** | ***-0.8* %** |
| *TPP* | 1,177.0 | 1 125.0 | *-52.0* | *-4.4* % |
| *GTES* | 1399.1 | 1 426.2 | *27.1* | *1.9* % |
| *WES* | 51.0 | 55.1 | *4.1* | *8.0* % |
| *SES* | 0.3 | 0.4 | *0.1* | *33.3* % |

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

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

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

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.**  | **Region** | **January February** | **Δ, million kWh** | **Δ, %** |
| **2022** | **2023** |
| *1* | Akmola | 1040.3 | 1,124.5 | *84.2* | *8.1* % |
| *2* | Aktobe | 676.5 | 753.0 | *76.5* | *11.3* % |
| *3* | Almaty | 1250.1 | 1272.3 | *22.2* | *1.8* % |
| *4* | Atyrau | 1303.7 | 1237.7 | *-66.0* | *-5.1* % |
| *5* | East Kazakhstan | 1502.1 | 1,143.9 | *-358.2* | *-23.8* % |
| *6* | Zhambyl | 898.0 | 910.6 | *12.6* | *1.4* % |
| *7* | West Kazakhstan | 445.5 | 406.0 | *-39.5* | *-8.9* % |
| *8* | Karaganda | 2563.5 | 2,139.9 | *-423.6* | *-16.5* % |
| *9* | Kostanay | 239.4 | 204.7 | *-34.7* | *-14.5* % |
| *10* | Kyzylorda | 118.8 | 120.0 | *1.2* | *1.0* % |
| *11* | Mangistau | 878.2 | 963.0 | *84.8* | *9.7* % |
| *12* | Pavlodar | 8,810.9 | 8949.9 | *139.0* | *1.6* % |
| *13* | North Kazakhstan | 402.8 | 386.6 | *-16.2* | *-4.0* % |
| 14 | Turkestan | 280.4 | 402.4 | *122.0* | *43.5* % |
| *15* | Abai |  | 279.0 |  |  |
| *16* | Zhetysuskaya |  | 46.2 |  |  |
| 17 | Ulytauskaya |  | 381.0 |  |  |
|  | **Total for Kazakhstan** | **20,410.2** | **20,720.7** | ***310.5*** | ***1.5* %** |

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

In January-February 2022, electricity generation by energy holdings and large energy-producing organizations amounted to 9,071.1 million kWh , which is 289.5 million kWh less than the same period in 2022 (9,360.6 million kWh ), and their total share of total production amounted to 43.8 %.

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.**  | **Name** | **2022** | **2023** | **Δ 2023/2022** |
| **January - February** | **share in Kazakhstan, %** | **January February** | **share in Kazakhstan, %** | **million kWh** | **%** |
|  | **Total** | **9360.6** | **45.9%** | **9,071.1** | **43.8%** | **-289.5** | **-3.1%** |
| **1.** | ERG | 3,580.3 | 17.5% | 3,501.4 | 16.9% | -78.9 | -2.2% |
| **2.** | “Kazakhmys Energy” LLP | 1010.8 | 5.0% | 1,069.0 | 5.2% | 58.2 | 5.8% |
| **3.** | “Kazzinc” LLP  | 464.7 | 2.3% | 384.0 | 1.9% | -80.7 | -17.4% |
| **4.** | “Arcellor Mittal” JSC  | 447.8 | 2.2% | 320.8 | 1.5% | -127.0 | -28.4% |
| **5.** | “KKS” LLP | 1,161.7 | 5.7% | 1202.0 | 5.8% | 40.3 | 3.5% |
| **6.** | CAEPCO | 1,078.5 | 5.3% | 996.7 | 4.8% | -81.8 | -7.6% |
| **7.** | “Zhambylskaya GRES” JSC  | 752.6 | 3.7% | 721.4 | 3.5% | -31.2 | -4.1% |
| **8.** | Oil and gas enterprises | 864.2 | 4.2% | 875.8 | 4.2% | 11.6 | 1.3% |

*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-February 2023 amounted to 6,753.9million kWh. The increase in electricity generation compared to the same period in 2022 amounted to 409.8 million kWh or 6.5 %. The decrease is observed at AlES JSC .

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.**  | **Name** | **2022** | **2023** | **Δ 2023/2022** |
| **January February** | **share in Kazakhstan, %** | **January** | **share in Kazakhstan, %** | **million kWh** | **%** |
|  | **"Samruk-Energy" JSC** | **6344.1** | **31.1%** | **6,753.9** | **32.6%** | **409.8** | **6.5%** |
| *1* | *“AlES” JSC* | *1056.7* | *5.2%* | *1056.0* | *5.1%* | *-0.7* | *-0.1%* |
| *2* | *"Ekibastuz GRES-1" LLP* | *3934.0* | *19.3%* | *4081.7* | *19.7%* | *147.7* | *3.8%* |
| *3* | *"Ekibastuz GRES-2" JSC* | *1188.0* | *5.8%* | *1275.0* | *6.2%* | *87.0* | *7.3%* |
| *4* | *"Shardara HPP" JSC* | *41.5* | *0.2%* | *172.0* | *0.8%* | *130.5* | *314.5%* |
| *5* | *“Moynakskaya HPP” JSC* | *92.5* | *0.5%* | *96.4* | *0.5%* | *3.9* | *4.2%* |
| *6* | *“Samruk-Green Energy” LLP* | *2.8* | *0.0%* | *3.0* | *0.0%* | *0.20* | *7.1%* |
| *7* | *WPP Shelek by “Energy Semirechye” LLP*  |  |  | *35.7* | *0.2%* |  |  |
| *8* | *"First wind power plant" LLP* | *28.6* | *0.1%* | *34.1* | *0.2%* | *5.5* | *19.2%* |

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

*in power generation in Kazakhstan*

“Samruk-Energy” JSC in the electricity market of Kazakhstan remains the leader and amounts to 32.6%.

**Kazakhstan**

**20 720,7 mln.kWh**

**Others**

* 1. *Electricity generation by types of energy producing organizations Samruk-Energy JSC, million kWh*
1. **Electricity consumption in the UES of Kazakhstan**

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

The index of industrial production (hereinafter - IIP) in January-February 2023 in Kazakhstan amounted to 101.6%.

Growth in production is observed in the mining and quarrying industry by 0.5%, manufacturing - by 2.5%, supply of electricity, gas, steam, hot water and air conditioning - by 4.6%, water supply; collection, processing and disposal of waste, activities for the elimination of pollution - by 3.2%.

Among the regions, the largest growth was recorded in the North Kazakhstan, Abay, Ulytau, Almaty regions and Almaty.

**Change in industrial production indices**

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

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# *2.2 Electricity consumption by zones and regions*

According to the System Operator, in January-February In 2023, there was an increase in the dynamics of electricity consumption in the republic in comparison with the same indicators in 2022 by 468.8 million kWh or 2.3%. Thus, in the southern zone of the republic, consumption increased by 7.9%, respectively.

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.**  | **Name** | **January February** | **Δ, million kWh** | **Δ, %** |
| **2022** | **2023** |
|  | **Kazakhstan** | **20,279.4** | **20,748.2** | ***468.8*** | ***2.3* %** |
| *1* | Northern zone | 13,113.5 | 13,213.6 | *100.1* | *0.8* % |
| *2* | Western zone | 2620.0 | 2630.2 | *10.2* | *0.4* % |
| *3* | Southern zone | 4,545.9 | 4904.4 | *358.5* | *7.9* % |
|  | **incl. by regions** |  |  |  |  |
| *1* | East Kazakhstan | 1,899.8 | 1327.9 | *-571.9* | *-30.1* % |
| *2* | Karaganda | 3242.2 | 2780.0 | *-462.2* | *-14.3* % |
| *3* | Akmola  | 2049.8 | 2173.9 | *124.1* | *6.1* % |
| *4* | North Kazakhstan | 323.1 | 322.7 | *-0.4* | *-0.1* % |
| *5* | Kostanay  | 891.0 | 838.2 | *-52.8* | *-5.9* % |
| *6* | Pavlodar | 3,396.7 | 3,369.7 | *-27.0* | *-0.8* % |
| *7* | Atyrau  | 1,193.9 | 1238.0 | *44.1* | *3.7* % |
| *8* | Mangistau  | 922.1 | 966.4 | *44.3* | *4.8* % |
| *9* | Aktobe | 1,129.0 | 1,077.1 | *-51.9* | *-4.6* % |
| *10* | West Kazakhstan | 504.1 | 425.9 | *-78.2* | *-15.5* % |
| *11* | Almaty  | 2299.4 | 2245.6 | *-53.8* | *-2.3* % |
| *12* | Turkestan | 1014.8 | 1,105.2 | *90.4* | *8.9* % |
| *13* | Zhambyl  | 877.4 | 885.0 | *7.6* | *0.9* % |
| *14* | Kyzylorda | 354.3 | 376.9 | *22.6* | *6.4* % |
| *15* | Ulytau |  | 732.4 |  |  |
| *16* | Abai |  | 591.7 |  |  |
| *17* | Zhetysusky |  | 291.8 |  |  |

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

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

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.**  | **Name** | **January- February** | **Δ, million kWh** | **Δ, %** |
| **2022** | **2023** |
|  | **Total** | **7,817.5** | **7592.0** | **-225.5** | -3% |
| *1.* | ERG | *2440.8* | *2318.9* | *-121.9* | -5% |
| *2.* | “Kazakhmys Energy” LLP | *701.2* | *762.0* | *60.8* | 9% |
| *3.* | “Kazzinc” LLP  | *501.8* | *256.7* | *-245.1* | -49% |
| *4.* | “Arcellor Mittal” JSC  | *657.7* | *643.1* | *-14.7* | -2% |
| *5.* | “KKS” LLP | *1,157.3* | *1211.7* | *54.4* | 5% |
| *6.* | CAEPCO | *1,068.1* | *1101.3* | *33.2* | 3% |
| *7.* | “Zhambylskaya GRES” JSC  | *472.8* | *479.5* | *6.7* | 1% |
| *8.* | Oil and gas enterprises | *817.8* | *818.9* | *1.1* | 0% |

In January-February 2023, there is an increase in electricity consumption by “Samruk-Energy” JSC companies by 120.9 million kWh or 8% compared to the same indicators for 2022.

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  **No.**  | **Name** | **January February** | **Δ, million kWh** | **Δ, %** |
| **2022** | **2023** |
|  | **"Samruk-Energy" JSC** | **1474.2** | **1595.1** | **120.9** | **8%** |
| *1.* | *“Bogatyr- Komir” LLP* | *55.4* | *60.4* | *5.0* | *9%* |
| *2.* | *“Alatau Zharyk Company” JSC* | *219.4* | *230.4* | *11.0* | *5%* |
| *3.* | *"AlmatyEnergoSbyt" LLP* | *1,199.4* | *1304.3* | *104.9* | *9%* |

*2.4 Electricity consumption by large consumers in Kazakhstan*

In January-February 2023, compared to the same period in 2022, electricity consumption by large consumers decreased by 142.8 million kWh or 2.3%.

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.**  | **Consumer** | **January February** | **Δ, million kWh** | **Δ, %** |
| **2022** | **2023** |
| *1* | *“Arcelor Mittal Temirtau" JSC* | *657.7* | *643.1* | *-14.6* | *-2.2* |
| *2* | *AZF ( Aksuysky ) "TNK Kazchrome" JSC* | *814.4* | *820.9* | *6.5* | *0.8* |
| *3* | *“Kazakhmys Smelting” LLP* | *214.5* | *94.1* | *-120.3* | *-56.1* |
| *4* | *“Kazzinc” LLP*  | *472.7* | *447.7* | *-25.0* | *-5.3* |
| *5* | *"Sokolovsko-Sarbayskoye GPO" JSC* | *285.6* | *216.8* | *-68.7* | *-24.1* |
| *6* | *“Kazakhmys Corporation” LLP* | *222.6* | *195.5* | *-27.2* | *-12.2* |
| *7* | *AZF (Aktobe) "TNK Kazchrome" JSC* | *453.8* | *397.9* | *-55.9* | *-12.3* |
| *8* | *RSE “Channel them. Satpaev"* | *42.9* | *21.9* | *-21.0* | *-48.9* |
| *9* | *"YDD Corporation" LLP* | *150.2* | *183.6* | *33.5* | *22.3* |
| *10* | *"Ust-Kamenogorsk titanium -magnesium plant" JSC* | *122.8* | *107.7* | *-15.1* | *-12.3* |
| *11* | *"Atyrau Oil Refinery" LLP* | *137.1* | *131.8* | *-5.3* | *-3.9* |
| *12* | *“Tengizchevroil”LLP*  | *317.2* | *335.2* | *18.0* | *5.7* |
| *13* | *PAZ (Pavlodar Aluminum Smelter) JSC* | *157.1* | *155.3* | *-1.9* | *-1.2* |
| *14* | *"KEZ" (Kazakhstan electrolysis plant) JSC* | *619.5* | *612.3* | *-7.2* | *-1.2* |
| *15* | *"NC Kazakhstan Temir Zholy" JSC* | *637.6* | *668.0* | *30.3* | *4.8* |
| *16* | *"KEGOC" JSC* | *1016.8* | *1,147.8* | *131.1* | *12.9* |
| **Total** | **6322.4** | **6,179.6** | **-142.8** | **-2.3** |

# *Export-import of electrical energy*

In order to balance the production and consumption of electricity in January-February 2023, exports to the Russian Federation amounted to 248.5 million kWh, imports from the Russian Federation 476.1 million kWh .

*million kWh*

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **January February** | **Δ, million kWh** | **Δ, %** |
| **2022 \_** | **2023 \_** |
| **Export of Kazakhstan** | **-424.1** | **-472.9** | **-48.9** | **11.5%** |
| *in Russia* | *-204.3* | *-248.5* | *-44.2* | *21.6%* |
| *in the IPS of Central Asia* | *-219.7* | *-224.5* | *-4.7* | *2.1%* |
| **Import of Kazakhstan** | **299.6** | **476.1** | ***176.5*** | ***58.9%*** |
| *From Russia* | **299.6** | **476.1** | ***176.5*** | ***58.9%*** |
| **Balance- flow "+" deficit, "-" excess** | **-124.5** | **3.2** | **127.6** | **-102.5%** |

# **Coal**

According to the Bureau of National Statistics, in Kazakhstan in January-February 2023 it was mined 19,979.8 thousand tons of hard coal, which is 2.2% more than in the same period in 2022 (19,551.3 thousand tons).

*thousand tons*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.**  | **Region** | **January February** | **Δ, thousand tons** | **Δ, %** |
| **2022** | **2023** |
| 1 | *Pavlodar* | *12,262.6* | *12,927.3* | *664.7* | *5.4%* |
| 2 | *Karaganda* | *5601.2* | *5,155.7* | *- 445.5* | *-8%* |
| 3 | *East Kazakhstan* | *1542.7* | *1635* | *92.3* | *6%* |
|  | **Total for the Republic of Kazakhstan** | **19,551.3** | **19,979.8** | **428.5** | **2.2%** |

In January-February 2023, Bogatyr Komir LLP produced 7,928.8 thousand tons, which is 0.2% less than in the corresponding period of 2022 (7,945.4 thousand tons).

The volume of coal sold in January-February 2023 amounted to 8,041.3 thousand tons, of which 6,358.3 thousand tons were delivered to the domestic market of the Republic of Kazakhstan, which is 0.2% less than in the same period in 2022 (6,368, 1 thousand tons) and for export (RF) - 1,683 thousand tons, which is 0.1% less than in the corresponding period of 2022 (1,684.6 thousand tons).

According to the indicators for January-February 2023, in comparison with similar indicators in 2022, Bogatyr Komir LLP observed a decrease in coal sales by 11.3 thousand tons or 0.1%.

*thousand tons*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.**  | **Region** | **January February** | **Δ,** **thousand tons** | **Δ, %****2023/2022** |
| **2022** | **2023** |
| **Total to the domestic market of the Republic of Kazakhstan** | **6368.1** | **6358.3** | **-9.7** | **-0.2%** |
| **Total for export to Russia** | **1684.6** | **1 683** | **-1.6** | **-0.1%** |
| **TOTAL** | **8,052.7** | **8041.3** | **-11.3** | **-0.1%** |

# **Renewable energy sources**

# *RES targets*

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.

# *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** | **20410.2** | **100%** | **20720.7** | **100%** | **310.5** | **1.5%** |
| **2** | **RES generation in Kazakhstan** | **566.0** | **2.8%** | **898.5** | **4.3%** | **332.5** | **58.7%** |
| **3** | **RES generation, incl . by zones** | ***share in the respective zone*** |
|  | *Northern zone* | *264.1* | *1.7%* | *482.4* | *3.1%* | *218.3* | *82.7%* |
|  | *Southern zone* | *250.6* | *9.8%* | *359.9* | *13.1%* | *109.3* | *43.6%* |
|  | *Western zone* | *51.3* | *2.0%* | *55.5* | *2.1%* | *4.2* | *8.2%* |
| **4** | **RES generation, incl . by zones** | ***share in RES of the Republic of Kazakhstan, %*** |
|  | *Northern zone* | *264.1* | *46.7%* | *482.4* | *53.7%* | *218.3* | *82.7%* |
|  | *Southern zone* | *250.6* | *44.3%* | *359.9* | *40.1%* | *109.3* | *43.6%* |
|  | *Western zone* | *51.3* | *9.1%* | *55.5* | *6.2%* | *4.2* | *8.2%* |
| **5** | **RES generation, incl . by type** | ***share in RES of the Republic of Kazakhstan, %*** |
|  | *SES* | *164.0* | *29.0%* | *185.5* | *20.6%* | *21.5* | *13.1%* |
|  | *WES* | *332.9* | *58.8%* | *644.3* | *71.7%* | *311.4* | *93.5%* |
|  | *Small HPPs* | *69.1* | *12.2%* | *68.4* | *7.6%* | *-0.7* | *-1.0%* |
|  | *BSU* | *0.0* | *0.0%* | *0.3* | *0.0%* | *0.3* | *-* |

# *RES support tariff*

As part of the support for the development of RES, "Settlement and 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 "GRES Topar" LLP in the amount of 0.87 tenge / kWh without VAT.

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

“Samruk-Energy” JSC (SPP, WPP and small HPPs) in January-February 2023 amounted to 91.7 million kWh, which is 79.5% higher compared to the same period in 2022 (51.0 million kWh).

The share of RES electricity of “Samruk-Energy” JSC in January-February 2023 amounted to 10.2% of the volume of electricity generated by RES facilities in the Republic of Kazakhstan, while in 2022 this figure was 9%.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.**  | **Name** | **2022** | **2023** | **Δ, million kWh** | **Δ, %** |
| **January February** | **share in Kazakhstan, %** | **January February** | **share in Kazakhstan, %** |
|  | **RES S-E, including:** | **51.0** | **9.0%** | **91.7** | **10.2%** | **40.7** | **79.8%** |
| 1 | *Cascade of small HPPs of AlES JSC 43.7 MW* | *19.6* | *3.5%* | *18.9* | *2.1%* | *-0.7* | *-3.6%* |
| 2 | *Samruk - Green LLP Energy » SPP 2MW + SPP 1MW + SPP 0.4MW* | *2.8* | *0.5%* | *0.6* | *0.1%* | *-2.2* | *-78.6%* |
| 3 | *Samruk - Green Energy LLP WPP Shelek 5 MW* | *0.0* |  | *2.4* | *0.3%* |  |  |
| 4 | *First Wind Power Plant LLP WPP 45 MW* | *28.6* | *5.1%* | *34.1* | *3.8%* | *5.5* | *19.2%* |
| 5 | *Energy Semirechye LLP WPP Shelek 60 MW* | *-* | *-* | *35.7* | *-* | *-* | *-* |

# **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**

**JSC "KEGOC" is implementing a project to strengthen the network of Western Kazakhstan**

Chairman of the Board of KEGOC JSC Kanysh Moldabayev got acquainted with the construction of power grid facilities in the western region of the country.

During a trip to Atyrau, the head of the company visited the expanding substation " Inder " and the distribution substation " Karabatan " under construction. The construction of these facilities is carried out within the framework of the project “Strengthening the electrical network of the Western zone of the UES of Kazakhstan. Construction of power grid facilities”. The project with a total cost of 54.138 billion tenge is being implemented at the expense of the company's own funds.

The project involves the construction of power grid facilities of the second chain of the existing transit of 220 kilovolts "Uralskaya - Pravoberezhnaya - Inder - Karabatan - Kulsary - Tengiz" with a length of 779.7 kilometers with connection to existing substations and to the new distribution substation " Karabatan ".

Currently, construction and installation work is being carried out at all five sections of the 220 kV overhead line Uralskaya - Pravoberezhnaya - Inder - Karabatan - Kulsary - Tengiz and at five substations 220 kV Uralskaya, Pravoberezhnaya, Kulsary , Inder , Tengiz, as well as at the Karabatan distribution substation . Works on the installation of supports were completed by 71.5%, installation of wires - 42.9% of the total length of the lines under construction.

The work is scheduled to be completed in 2023. The implementation of the project will increase the capacity of the existing transit and the reliability of power supply to consumers in the Western zone of the UES of Kazakhstan by strengthening the 220 kilovolt electrical networks between the western regions of the republic.

The project has a social significance - 205 workers were involved during the construction period
, and after commissioning, 23 people will be hired for permanent work. In addition, domestically produced materials and equipment are widely used in the implementation of the project.

**Electricity generation by renewable energy facilities increased by 21% over the year, but so far this is only 4.5% of the total electricity generation in the Republic of Kazakhstan**

At the end of 2022, the installed capacity of energy producing organizations using renewable energy sources (RES) in Kazakhstan reached 2.4 thousand MW, which is 18.8% more than a year earlier. For reference: a year earlier, the figure was 2,000 MW. Compared to 2017, the figure increased by 7 times at once.

Most of the installed capacity came from solar power plants: 1.1 thousand MW, plus 10.6% per year. Next come wind farms: 958 MW, plus 40.1%. The capacity of small HPPs was 280 MW, the capacity of bioelectric power plants was 1.8 MW.

Electricity generation by renewable energy facilities in January-December 2022 already amounted to 5.1 billion kWh , an increase over the year by 21.1% at once .

At the same time, the share of electricity generated by renewable energy facilities in the total volume of electricity generation is still only 4.5% (however, compared to the previous year, when the indicator reached only 3.7%, this is progress). By 2026, the indicator [should reach](https://adilet.zan.kz/rus/docs/P1400000724#z1) 7%, and by 2030 - 10% ( [the share of WPP and SPP](https://adilet.zan.kz/rus/docs/U1300000577) ).

Most of the electricity generation among renewable energy facilities came from wind farms: 2.4 billion kWh , an annual growth of 35.7%. On the second line were solar power plants: 1.8 billion kWh . Small HPPs generated 934 million kWh ( plus 16.8%), bioelectric power plants - 2 million kWh ( minus 34.9%).

In 2021, electricity generation by renewable energy facilities in the world reached 3.7 trillion kWh , which is 16.2% more than a year earlier. Most of the renewable electricity was generated in the Asia-Pacific region: 1.7 trillion kWh . Next come Europe (946.5 billion kWh ) and North America ( 714.1 billion kWh ) . Least of all electricity was produced in the CIS countries: only 9.6 billion kWh , although it was immediately 41.2% more than a year earlier .

the leader among the CIS countries in terms of electricity generation: 5.4 billion kWh - 54.1% more than a year earlier . The second and third lines are occupied by Kazakhstan (3 billion kWh ) and Belarus (0.7 billion kWh ) .

**41 renewable energy projects are planned to be launched in Kazakhstan by 2025**

First Deputy Prime Minister of the Republic of Kazakhstan Roman Sklyar spoke about the ongoing work on the introduction of new technologies in the field of power generation.

Measures are being taken in the country to increase the capacity of energy sources . Last year, for the first time, auctions were held for the construction of new stations.

By 2026, flexible generation sources with a total capacity of 1700 MW will appear in Almaty , Kyzylorda , Turkestan and Ulytau regions. Investment agreements have been launched to modernize existing power plants with an additional capacity of more than 1,300 MW .

According to him, a Roadmap for the construction of a new Ekibastuz GRES-3 with the introduction of modern technologies has been developed. Samruk-Energo is implementing a project for the construction of additional power units at the Ekibastuz GRES-2. In addition, it is planned to expand Aksuskaya GRES.

Last year, 12 renewable energy facilities with a capacity of 385 MW were launched. This year, 15 renewable energy facilities with a capacity of 276 MW were put into operation. As a result, the share of renewable energy production will increase to 5%. Until 2025, it is planned to commission 41 renewable energy projects with a capacity of 757 MW.”

**Kyrgyzstan**

**Kyrgyzstan announced the readiness of the Russian Federation to sponsor the development of a feasibility study for the Kambar-Ata 1 hydroelectric power station**

Russia is ready to sponsor the development of a feasibility study (feasibility study) for the construction of the Kambar-Ata 1 hydroelectric power plant, Russian Ambassador to Bishkek Nikolai Udovichenko said at a meeting with Ulan Primov, Chairman of the Committee on International Affairs, Defense, Security and Migration of the Parliament of Kyrgyzstan, about this RIA The news was reported by the press service of the Kyrgyz parliament.

The diplomat expressed the interest of the Russian Federation in deepening economic integration within the EAEU, as well as in facilitating the implementation of investment projects through the Eurasian Development Bank and the Kyrgyz-Russian Development Fund. In particular, he indicated the readiness of the Russian side to finance the development of a feasibility study for the Kambar-Ata-1 HPP.

Primov, in turn, stressed that the relations established between Kyrgyzstan and the Russian Federation “have the character of a strategic partnership and meet the long-term national interests of Kyrgyzstan.

Kambar-Ata HPP-1 should become one of the largest in Asia. The project provides for the construction of a rockfill dam with a height of 256 meters and a hydroelectric power plant with an installed capacity of 1860 MW, with an average annual output of

5.6 billion kWh and a total reservoir volume of 5.4 billion m3 of water. According to the plans, the construction period will be from eight to ten years. Commissioning of the first hydroelectric power plant - four years, subject to the availability of permanent funding.

**Development of renewable energy in Kyrgyzstan, taking into account public hearings**

In accordance with the national legislation of the Kyrgyz Republic, the Ministry of Energy of the Kyrgyz Republic submits for public discussion draft documents prepared in accordance with the requirements of the World Bank on environmental and social principles for the project "Development of Renewable Energy in Kyrgyzstan".

1. Environmental and Social Commitment Plan

2. Stakeholder Engagement Plan

3. Human resources management procedures

4. Policy Framework for Resettlement

5. Environmental and social management framework document

The project "Development of Renewable Energy in Kyrgyzstan" is under preparation and will focus on (i) the development and reconstruction of small hydropower plants; ( ii ) preparation of a pilot project on solar energy, including network strengthening; and ( iii ) technical assistance for the preparation of the Kambarata 1 HPP project.

The Project Development Objective for Phase I is to increase hydropower generation and enhance integration into the renewable energy grid in the Kyrgyz Republic.

Based on the results of the public hearings held on January 30-31, 2023, amendments were made to the Framework Document for the Management of Environmental and Social Measures.

**Kyrgyzstan is reviewing plans to build a nuclear power plant in favor of increasing capacity**

In January 2022, Kyrgyzstan and Russia agreed to build a low-power nuclear power plant based on the RITM-200N reactor plant. The Ministry of Energy of the Kyrgyz Republic and Rosatom signed a cooperation agreement.

However, as the Deputy Minister of Energy of the Kyrgyz Republic Sabyrbek Sultanbekov , it is necessary to build a more powerful nuclear power plant than expected. According to him, due to problems with generation in Uzbekistan and Kazakhstan, they plan to develop nuclear energy there, the situation in the Kyrgyz Republic is similar.

“Kyrgyzstan is also working in this direction. Energy scarcity due to a long period of low water has led the country to import electricity. We must have an alternative that does not depend on natural conditions - nuclear energy. We are currently exploring the possibilities. Let me remind you that a memorandum was signed with Rosatom on studying the possibility of building a low-power nuclear power plant: we are talking about two stations with a capacity of 50 megawatts. But now we think that two nuclear power plants of 50 megawatts will not solve anything. In my opinion, the threshold should be increased. If we build, the capacity should be at least 300 megawatts,” recalls the words of S. Sultanbekov Sputnik Kyrgyzstan.

According to economist Kubat Rakhimov, the countries of the Central Asian region in the future will have to take into account the growth in energy consumption and the importance of water resources against the background of a rapidly increasing population.

“Many people may not like it, but only nuclear power plants can “untie” the water issue from the energy issue,” the expert believes. – For example, Kyrgyzstan needs electricity, Uzbekistan needs both water and electricity. In conditions when it is necessary to drain water in winter to generate electricity and store it in summer, it will be very difficult to maintain the water and energy balance.”

**Russia**

**The total capacity of renewable energy generation facilities in Russia for the 4th quarter of 2022 increased by 4.9% and reached 5.78 GW**

The total capacity of renewable energy generation facilities in Russia at the end of the 4th quarter of 2022 amounted to 5.78 GW (including wholesale, retail markets, isolated energy systems, own generation of industry), which is 4.9% more than at the end of the 3rd quarter of last year , follows from the review of the renewable energy market in Russia prepared by the Association for the Development of Renewable Energy (ARVE) as of January 1, 2023.

As of the beginning of January, within the framework of CSA RES 1.0, 98 RES generation facilities with a total capacity of 4,002 MW (+6.8%) were put into operation in the WECM:

— SPP – 1,788 MW (70 facilities),

— WPP – 2,168 MW (24 facilities),

— sHPP – 46 MW (4 facilities).

The increase in total capacity was due to the commissioning of 2 WPPs (230.3 MW) and one SHPP (25.1 MW).

In the structure of installed RES capacity, wind and solar power plants are leading (they account for 2.3 and 2.1 GW of capacity, respectively) and small hydroelectric power plants with a capacity of up to 50 MW (1.2 GW). In addition, there are biomass, biogas, landfill gas, tidal and geothermal power plants with a total capacity of more than 100 MW.

At the moment, the share of installed capacity of RES generation in the energy system of the Russian Federation is 2.3% (CSA RES - 1.6%). According to the results of the 3rd quarter of last year, the share of renewable energy generation in the installed capacity of the UES of the Russian Federation was 2.2%

kWh in 2022 , an increase of 18.1%.

**rubles for hydrogen energy in the Russian Federation until 2024**

9.3 billion rubles will be allocated for the development of hydrogen energy in Russia until 2024. Funds will be allocated from the federal budget within the framework of the Clean Energy federal project.

As part of the development of low-carbon energy, Russia is developing the hydrogen industry. At the end of last year, the country approved a roadmap for the development of the high-tech direction "Development of Hydrogen Energy", which has become a single document for the development of the industry. In January of this year, the Government of Russia, State Corporation Rosatom and PJSC Gazprom signed an agreement on the implementation of the road map.

As part of the Clean Energy federal project, funds from the federal budget in the amount of 9.3 billion rubles are provided for the development of hydrogen energy. for the period up to 2024

As reported, in January, the Russian government signed agreements with Gazprom and Rosatom on the implementation of the hydrogen road map with a planning horizon up to 2030 (previously it was limited to 2025).

The implementation of the measures of the "road map" "Development of hydrogen energy" will create the necessary technologies and equipment for the production of hydrogen based on natural gas and nuclear energy and its application in the sectors of the economy.

The comprehensive program for the development of the hydrogen energy industry, prepared by the Ministry of Energy of the Russian Federation on February 17, 2022, implied that the export of Russian hydrogen in 2030 could amount to 2.2 million tons, the proceeds from its sale - $ 12.7 billion.

**Uzbekistan**

**Seven new power plants to be launched in Uzbekistan in 2023**

Seven new power plants will be launched in Uzbekistan during the year (of which one is a thermal power plant, a wind power plant, three solar and two hydroelectric power plants). The total capacity will be 2910.6 MW.

In particular :

a modern thermal power plant with a capacity of 1500 MW in the city of Shirin in the Syrdarya region;

a wind power plant with a capacity of 500 MW in the Tamdy district of the Navoi region;

a solar photovoltaic plant with a capacity of 457 MW in the Sherabad district of the Surkhandarya region;

a solar station with a capacity of 220 MW in the Kattakurgan district of the Samarkand region;

a solar station with a capacity of 220 MW in the Gallyaaral district of the Jizzakh region.

The projects are implemented by foreign companies through direct investment.

Two hydroelectric power plants with a total capacity of 13.6 MW will be launched in Samarkand region. The Topalanga HPP is also being modernized , its capacity will increase from 30 MW to 175 MW.

For reference: in 2022, seven new power plants with a total capacity of 1,474 MW began operating in the country.