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

**JANUARY 2022**

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Table of contents

[**1.**](#_Toc97216455)  [**Production of electricity in the UES of Kazakhstan**](#_Toc97216455)  [3](#_Toc97216455)

[*1.1 Electricity generation by regions of the Republic of Kazakhstan*](#_Toc97216456)  [4](#_Toc97216456)

[*1.2 Electricity generation by energy producing organizations*](#_Toc97216457)  [5](#_Toc97216457)

[*Samruk-Energy JSC*](#_Toc97216458)  [5](#_Toc97216458)

[*1.3 Shares of energy holdings and large energy producing organizations*](#_Toc97216459)  [5](#_Toc97216459)

[**2.**](#_Toc97216460)  [**Consumption of electric energy in the UES of Kazakhstan**](#_Toc97216460)  [6](#_Toc97216460)

[*2.1 Electricity consumption by zones and regions*](#_Toc97216461)  [7](#_Toc97216461)

[*2.2 Electricity consumption by consumers of energy holdings and large energy producing organizations*](#_Toc97216462)  [8](#_Toc97216462)

[*2.3 Electricity consumption by large consumers in Kazakhstan*](#_Toc97216463)  [9](#_Toc97216463)

[*2.4*](#_Toc97216464)  [*Export-import of electrical energy*](#_Toc97216464)  [10](#_Toc97216464)

[**3.**](#_Toc97216465)  [**Coal**](#_Toc97216465)  [11](#_Toc97216465)

[**4 . Renewable energy sources**](#_Toc97216466)  [12](#_Toc97216466)

[*4.1*](#_Toc97216467)  [*RES indicators in Kazakhstan*](#_Toc97216467)  [12](#_Toc97216467)

[*4.2*](#_Toc97216468)  [*The role of Samruk-Energy JSC in the production of clean electricity*](#_Toc97216468)  [12](#_Toc97216468)

[**5.**](#_Toc97216469)  [**International relations**](#_Toc97216469)  [14](#_Toc97216469)

[*5. 1 Status of formation of the Common Electricity Market of the Eurasian Economic Union*](#_Toc97216470)  [14](#_Toc97216470)

[*5. 2 Overview of the media in the CIS countries*](#_Toc97216471)  [15](#_Toc97216471)

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

According to the System Operator, the power plants of the Republic of Kazakhstan in January 2022 generated 10,581.4 million kWh of electricity, which is 315.2 million kWh or 2.9% less than in the same period in 2021. A decrease in generation was observed in the Northern zone of the UES of Kazakhstan. The main reason for the decline in electricity production in January 2022 was the high accident rate of power plants.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Zone** | **Generation type** | **January** | | **Δ, million kWh** | **Δ, %** |
| **2021** | **2022** |
| **Kazakhstan** | **Total** | **10896.6** | **10581.4** | **-315.2** | **-2.9%** |
| *TPP* | *9037.2* | *8622.1* | *-415.1* | *-4.6%* |
| *GTES* | *953.4* | *1054.4* | *101.0* | *10.6%* |
| *HPS* | *695.2* | *683.9* | *-11.3* | *-1.6%* |
| *WES* | *138.2* | *165.7* | *27.5* | *20%* |
| *SES* | *72.2* | *55.3* | *-16.9* | *-23.4%* |
| *BSU* | *0.4* | *0.0* | *-0.4* | *0* |
| **Northern** | **Total** | **8366.4** | **7914.7** | **-451.7** | **-5.4%** |
| *TPP* | *7482.1* | *6989.0* | *-493.1* | *-6.6%* |
| *GTES* | *304.1* | *287.5* | *-16.6* | *-5.4%* |
| *HPS* | *488.5* | *521.3* | *32.8* | *6.7%* |
| *WES* | *70.4* | *96.1* | *25.7* | *36.5%* |
| *SES* | *20.9* | *20.8* | *-0.1* | *-0.5%* |
| *BSU* | *0.4* | *0.0* | *-0.4* | *0* |
| **South** | **Total** | **1250.6** | **1278.1** | **27.5** | **2.2%** |
| *TPP* | *924.6* | *1011.3* | *86.7* | *9.4%* |
| *GTES* | *28.6* | *29.0* | *0.4* | *1.4%* |
| *HPS* | *206.7* | *162.6* | *-44.1* | *-21.3%* |
| *WES* | *39.6* | *40.8* | *1.2* | *3.03%* |
| *SES* | *51.1* | *34.4* | *-16.7* | *-32.6%* |
| **Western** | **Total** | **1279.6** | **1388.6** | **109.0** | **8.5%** |
| *TPP* | *630.5* | *621.8* | *-8.7* | *-1.4%* |
| *GTES* | *620.7* | *737.9* | *117.2* | *18.8%* |
| *WES* | *28.2* | *28.8* | *0.6* | *2.1%* |
| *SES* | *0.2* | *0.1* | *-0.1* | *-50%* |

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

In January 2022, compared to the same period in 2021, electricity generation decreased significantly in Aktobe, Almaty, Kyzylorda, Karaganda, Pavlodar, North Kazakhstan and Turkestan regions.

At the same time, an increase in electricity generation was observed in Akmola, Atyrau, East Kazakhstan, Zhambyl and Kostanay regions. A sharp increase in electricity production in the Zhambyl region by 128.4 million kWh or 43.6% is associated with the inclusion of an additional two units in order to cover the shortage of electricity in the Southern zone.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No. p / p** | **Region** | **January** | | **Δ, million kWh** | **Δ, %** |
| **2021** | **2022** |
| 1 | Akmola | 491.7 | 552.4 | 60.7 | 12.3% |
| 2 | Aktobe | 375.2 | 353.2 | -22 | -5.8% |
| 3 | Almaty | 712.0 | 655.1 | -56.9 | -8% |
| 4 | Atyrau | 572.7 | 699.3 | 126.6 | 22.1% |
| 5 | East Kazakhstan | 757.5 | 805.4 | 47.9 | 6.3% |
| 6 | Zhambyl | 294.0 | 422.4 | 128.4 | 43.6% |
| 7 | West Kazakhstan | 227.7 | 232.4 | 4.7 | 2% |
| 8 | Karaganda | 1439.1 | 1319.2 | -119.9 | -8.3% |
| 9 | Kostanay | 117.9 | 126 | 8.1 | 6.8% |
| 10 | Kyzylorda | 63.8 | 59.5 | -4.3 | -6.7% |
| 11 | Mangistau | 479.2 | 456.9 | -22.3 | -4.6% |
| 12 | Pavlodar | 4,856.0 | 4552.5 | -303.5 | -6.25% |
| 13 | North Kazakhstan | 329.0 | 206 | -123 | -37.3% |
| 14 | Turkestan | 180.8 | 141.1 | -39.7 | -22% |
|  | **Total for Kazakhstan** | **10,896.6** | **10,581.4** | **-315.2** | **-2.9%** |

# *1.2 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 2022 amounted to 3,266.2million kWh. The decrease in electricity generation compared to the same period in 2021 amounted to 443.3 million kWh or 12%. The decrease is observed at all power plants, with the exception of the Moinak HPP.

*million kWh*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2021** | | **2022** | | **Δ 2022/2021** | |
| **January** | **share in Kazakhstan, %** | **January** | **share in Kazakhstan, %** | **million kWh** | **%** |
|  | **"Samruk-Energy" JSC** | **3,709.5** | **34.0%** | **3266.2** | **30.9%** | **-443.3** | **-12.0%** |
| *1* | *AlES JSC* | *609.9* | *5.6%* | *551.9* | *5.2%* | *-58.0* | *-9.5%* |
| *2* | *"Ekibastuz GRES-1" LLP* | *2327.1* | *21.4%* | *2026.5* | *19.2%* | *-300.6* | *-12.9%* |
| *3* | *"Ekibastuz GRES-2" JSC* | *637.8* | *5.9%* | *592.4* | *5.6%* | *-45.4* | *-7.1%* |
| *4* | *"Shardara HPP" JSC* | *71.6* | *0.7%* | *20.6* | *0.2%* | *-51.0* | *-71.2%* |
| *5* | *"Moinak HPP" JSC* | *45.3* | *0.4%* | *57.7* | *0.5%* | *12.4* | *27.4%* |
| *6* | *Samruk-Green Energy» LLP* | *1.4* | *0.0%* | *1.3* | *0.0%* | *-0.10* | *-7.1%* |
| *7* | *"First wind power plant" LLP* | *16.4* | *0.2%* | *15.8* | *0.1%* | *-0.6* | *-3.7%* |

# 

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

*in power generation in Kazakhstan*

As can be seen from the graph below, the share of Samruk-Energy JSC in the electricity market of Kazakhstan remains leading and amounts to 30.9%.

**Kazakhstan**

**10 581,4**

**mln.kWh**

**Others**

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

According to the Bureau of National Statistics of the Republic of Kazakhstan, in January 2022, compared to January 2021, the industrial production index (hereinafter referred to as IPI) amounted to 102.9%. An increase in production volumes was recorded in 11 regions of the republic, a decrease is observed in Aktobe, Kyzylorda, Pavlodar, East Kazakhstan regions, the cities of Almaty and Shymkent.

**Changes in industrial output by region**

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

In the Atyrau region, the IPI amounted to 116.2% due to an increase in the production of crude oil, the production of gasoline, kerosene, hydrocarbon liquefied gases, and nitrogen.

In the Karaganda region, the growth of IPI amounted to 106.3% due to an increase in the production of zinc concentrates, the production of pig iron, blister copper, flat and sheet products, unalloyed steel, and electrical wires.

In the Zhambyl region, due to the growth in the extraction of copper ores, finely ground phosphate raw materials, limestone and gypsum, the production of phosphorus, phosphoric acid, Portland cement, heating oil, diesel fuel, the IPI amounted to 105.4%.

In the Turkestan region, due to the growth in the extraction of uranium and thorium ores, the production of sausages, Portland cement, plastic pipes, transformers, and furniture, the IPI amounted to 105.2%.

In the Almaty region, the IPI amounted to 104.8% due to an increase in the production of soft drinks, pasta, chocolate, cigarettes, glass containers, medicines.

In the North Kazakhstan region, due to the growth in the production of confectionery, butter, flour, cheese, an increase in the production of freight cars, the IPI amounted to 102.9%.

In the Kostanay region, the IPI amounted to 102.7% due to an increase in the extraction of aluminum ores, iron ore pellets, asbestos, the production of hot-rolled bars and rods from steel, tractors, combines, cars and trucks.

In West Kazakhstan IPI amounted to 101.6% due to the growth in gas condensate production, production of transformers, tiles, cement and concrete bricks.

In the Akmola region, due to the increase in the extraction of gold-bearing ores, the production of chilled poultry meat, flour, ready-made animal feed, slag wool, gold in doré, diesel fuel, the IPI amounted to 101.1%.

In the Mangistau region, the IPI amounted to 100.6% due to an increase in crude oil production, the production of Portland cement, nitric acid, and ammonia.

In the city of Nur-Sultan, the IPI amounted to 100.2% due to the growth in the production of soft drinks, ready-mixed concrete, building prefabricated structures made of cement and concrete.

In the city of Shymkent, due to the reduction in the production of flour, cotton and sunflower oil, Portland cement, motor oil, transformers, the IPI amounted to 98.2%.

In the East Kazakhstan region, the IPI amounted to 95.8% due to a decrease in the extraction of copper and lead-zinc ores, gold concentrates, and the production of sunflower oil, raw zinc, refined gold and silver.

In the city of Almaty, due to a decrease in the growth in the production of chocolate, sunflower oil, plastic bags and packages, ready-mixed concrete, buses, IPI amounted to 93.9%.

In the Pavlodar region, the IPI amounted to 93.5% due to a decrease in the production of chromium concentrates, copper ores, and the production of ferrochromium, propylene polymers, and gasoline.

In the Kyzylorda region, the IPI amounted to 88.5% due to a reduction in the production of crude oil from the production of Portland cement, hydrocarbon liquefied gases, building prefabricated structures made of concrete.

In the Aktobe region, the IPI amounted to 86.3% due to a decrease in copper, zinc, chromium concentrates, copper-zinc ores, the production of ferrochrome, building prefabricated metal structures.

# *2.1 Electricity consumption by zones and regions*

According to the System Operator, in January 2022 there was a decrease in the dynamics of electricity consumption in the republic compared to January 2021 by 63 million kWh or 0.6%. Thus, in the northern zone of the republic, consumption decreased by 162.3 million kWh or 2.3%.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **January** | | **Δ,  million kWh** | **Δ, %** |
| **2021** | **2022** |
|  | **Kazakhstan** | **10,672.9** | **10,609.9** | **-63.0** | **-0.6%** |
| 1 | Northern zone | 7,031.5 | 6869.2 | -162.3 | -2.3% |
| 2 | Western zone | 1 280 | 1384.9 | 104.9 | 8.2% |
| 3 | Southern zone | 2361.4 | 2355.8 | -5.6 | 0.2% |
|  | ***incl . by regions*** |  |  |  |  |
| 1 | Akmola | 1,049.80 | 1070.7 | 20.9 | 2.0% |
| 2 | Aktobe | 646.4 | 583.6 | -62.8 | -9.7% |
| 3 | Almaty | 1224.70 | 1173.5 | -51.2 | -4.2% |
| 4 | Atyrau | 569.8 | 629.9 | 60.1 | 10.6% |
| 5 | East Kazakhstan | 903.4 | 979.4 | 76.0 | 8.4% |
| 6 | Zhambyl | 440.6 | 470.1 | 29.5 | 6.7% |
| 7 | West Kazakhstan | 232.4 | 264.2 | 31.8 | 13.7% |
| 8 | Karaganda | 1,818.80 | 1793.5 | -25.3 | -1.4% |
| 9 | Kostanay | 454.7 | 468.1 | 13.4 | 3.0% |
| 10 | Kyzylorda | 189.8 | 185.9 | -4.0 | -2.1% |
| 11 | Mangistau | 477.8 | 490.8 | 13.0 | 2.7% |
| 12 | Pavlodar | 1 980 | 1802.8 | -177.2 | -9.0% |
| 13 | North Kazakhstan | 178.5 | 171.1 | -7.4 | -4.1% |
| 14 | Turkestan | 506.3 | 526.3 | 20.0 | 3.9% |

# 

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

In January 2022, there is a decrease in electricity consumption by consumers energy holdings and large energy-producing organizations.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Name** | **January** | | **Δ, million kWh** | **Δ, %** |
| **2021** | **2022** |
|  | **Total** | **4432.8** | **4075.2** | **-357.6** | **-8.1%** |
| 1. | ERG | 1412.3 | 1263.3 | -148.9 | -10.5% |
| 2. | Kazakhmys Corporation LLP | 414.6 | 352.1 | -62.5 | -15.1% |
| 3. | Kazzinc LLP | 266.8 | 258.7 | -8.1 | -3.0% |  |  |
| 4. | Arcelor Mittal Temirtau" JSC | 333.6 | 344.4 | 10.9 | 3.3% |
| 5. | KKS LLP | 615.7 | 593.6 | -22.1 | -3.6% |
| 6. | CAEPCO JSC | 592.4 | 562.2 | -30.2 | -5.1% |
| 7. | Zhambyl GRES | 242.8 | 246.6 | 3.8 | 1.6% |
| 8. | Oil and gas enterprises | 554.5 | 454.2 \_ | -100.4 | -18.1% |

Also, in 2022, there is a decrease in electricity consumption by the companies of Samruk-Energy JSC by about 5.7% compared to 2021.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Name** | **January** | | **Δ, million kWh** | **Δ, %** |
| **2021** | **2022** |
| **I** | **"Samruk-Energy" JSC** | **794.2 \_** | **748.8** | **-45.4** | **-5.7%** |
| 1. | "Bogatyr-Komir" LLP | 29.4 | 29.2 | -0.2 | -0.7% |
| 2. | Alatau Zharyk Companies » JSC | 108.8 | 119.6 | 10.8 | 9.9% |
| 3. | AlmatyEnergoSbyt LLP | 655.9 | 599.9 | -56.0 | -8.5% |

# 

*2.3 Electricity consumption by large consumers in Kazakhstan*

In January 2022, compared to the same period in 2021, electricity consumption by large consumers decreased by 100.6 million kWh or 3.2%.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Consumer** | **January** | | **Δ, million kWh** | **Δ, %** |
| **2021** | **2022** |
| 1 | Arcelor Mittal Temirtau" JSC | 333.6 | 344.4 | 10.9 | 3.3% |
| 2 | AZF ( Aksuysky ) "TNK Kazchrome " JSC | 500.3 | 414.2 | -86.0 | -17.2% |
| 3 | Kazakhmys Smelting LLP | 107.2 | 109.6 | 2.4 | 2.2% |
| 4 | Kazzinc LLP | 251.8 | 244.5 | -7.3 | -2.9% |
| 5 | "Sokolovsko-Sarbayskoye GPO" JSC | 154.0 | 150.1 | -3.9 | -2.5% |
| 6 | Kazakhmys Corporation LLP | 115.4 | 115.7 | 0.3 | 0.2% |
| 7 | AZF (Aktobe) "TNK Kazchrome" JSC | 293.3 | 232.9 | -60.4 | -20.6% |
| 8 | “Channel them. Satpaev" RSE | 14.0 | 24.3 | 10.3 | 73.2% |
| 9 | Kazphosphate LLP | 154.0 | 208.2 | 54.2 | 35.2% |
| 10 | NDFZ  (part of the structure of Kazphosphate LLP) JSC | 126.1 | 177.4 | 51.3 | 40.6% |
| 11 | "Taraz Metallurgical Plant" LLP | 37.1 | 14.7 | -22.4 | -60.3% |
| 12 | "Ust-Kamenogorsk titanium -magnesium plant" JSC | 35.2 | 63.5 | 28.3 | 80.4% |
| 13 | Tengizchevroil LLP | 157.5 | 167.1 | 9.6 | 6.1% |
| 14 | PAS (Pavlodar Aluminum Smelter) JSC | 81.5 | 81.6 | 0.0 | 0.0% |
| 15 | "KEZ" (Kazakhstan electrolysis plant) JSC | 328.9 | 326.0 | -2.9 | -0.9% |
| 16 | "KEGOC" JSC | 568.9 | 535.2 | -33.6 | -5.9% |
| **Total** | | **3,132.7** | **3,032.1** | **-100.6** | **-3.2%** |

# *Export-import of electrical energy*

In order to balance the production and consumption of electricity in January 2022, exports to the Russian Federation amounted to 84 million kWh , imports from the Russian Federation 168.5 million kWh .

Including export of "KEGOC" JSC to the Russian Federation 79.8 million kWh, import of electricity for the reporting period in the amount of 151.7 million kWh.

As part of foreign trade commodity exchange, the volume of electricity exports to the Kyrgyz Republic in January 2022 amounted to 52.3 million kWh.

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **January** | | **Δ, million kWh** | **Δ, %** |
| **2021** | **2022** |
| **Export of Kazakhstan** | **-340.8** | **-136.3** | **204.5** | **-60.0%** |
| **in Russia** | **-107.9** | **-84.0** | **23.8** | **-22.1%** |
| **in the IPS of Central Asia** | **-232.9** | **-52.3** | 180.6 | -78% |
| **Import of Kazakhstan** | **116.7** | **168.5** | **51.8** | **44.4%** |
| **From Russia** | **116.7** | **168.5** | **51.8** | **44.4%** |
| **from IPS Central Asia** | **0** | **0** | **0** | **0%** |
| **Balance- flow "+" deficit, "- " surplus** | **-224.1** | **32.1** | **256.3** | **-114.3%** |

# **Coal**

According to the Bureau of National Statistics, Kazakhstan   
produced 9,768 thousand tons of hard coal in January 2022, which is 4% less than in the same period in 2021 (10,178 thousand tons).

*thousand tons*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Region** | **January** | | **Δ, thousand tons** | **Δ, %** |
| **2021** | **2022** |
| 1 | Pavlodar | 6468 | 6 278 | -190 | - 3 % |
| 2 | Karaganda | 2823 | 2576 | -247 | -8.7 % |
| 3 | East Kazakhstan | 885 | 854 | -31 | -3.4 % |
|  | **Total for the Republic of Kazakhstan** | **10 178** | **9 768** | **-410** | **-4 %** |

In January 2022, Bogatyr Komir LLP produced 4,141 thousand tons, which is 2.9% less than in the corresponding period of 2021 (4,264 thousand tons).

sold in January 2022 amounted to 4,197 thousand tons, of which 3,342 thousand tons went to the domestic market of the Republic of Kazakhstan, which is 15.6% less than in the same period in 2021 (3,958 thousand tons) and exports (RF) - 854 thousand tons, which is 385% more than in the corresponding period of 2021 (176 thousand tons).

According to the indicators for January 2022, compared to January 2021,   
Bogatyr Komir LLP has an increase in coal sales by 62.8 thousand tons or 1.5%.

*thousand tons*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Region** | **January** | | **Δ,** **thousand tons** | **Δ, %**  **2022/2021** |
| **2021** | **2022** |
| **Total to the domestic market of the Republic of Kazakhstan** | | **3 958** | **3 342** | **-615.5** | **-15.6** |
| **Total for export to Russia** | | **176** | **854** | **678.2** | **385.2** |

# **4 . Renewable energy sources**

# *RES indicators in Kazakhstan*

According to the System Operator, the volume of electricity production by renewable energy facilities (SPP, WPP, BGS, small HPPs) of the Republic of Kazakhstan in January 2022 amounted to 261 million kWh . Compared to January 2021 (246.4 million kWh), the increase was 14.6 million kWh or 5.9%.

In january 2022 there is an increase in the production of electricity from wind farms and hydroelectric power plants compared to the same period in 2021.

Total according to as of January 2022, there are 134 renewable energy facilities operating in Kazakhstan as a system operator with a total installed capacity of 2,010 MW. In January 2022, no new renewable energy facilities were introduced in the Republic of Kazakhstan.

million kWh

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2021** | | **2022** | | **Δ, million kWh** | **Δ, %** |
| **January** | **share in Kazakhstan, %** | **January** | **share in Kazakhstan, %** |
| **I** | **Production in the Republic of Kazakhstan** | **10896.6** | **100%** | **10581.4** | **100%** | **-315.2** | **-2.9** |
| **II** | **Generation of RES in the Republic of Kazakhstan,** | **246.4** | **2.3%** | **261.0** | **2.5%** | **14.6** | **5.9** |
|  | ***including by type*** |  |  |  |  |  |  |
| *1.* | *SES* | *72.2* | *0.7%* | *55.3* | *0.5%* | *-16.9* | *-23.4* |
| *2.* | *WES* | *138.2* | *1.3%* | *165.7* | *1.6%* | *27.5* | *19.9* |
| *3.* | *Small HPPs* | *35.6* | *0.3%* | *40.0* | *0.4%* | *4.4* | *12.4* |
| *4.* | *BiogasInstallations* | *0.4* | *0.0%* | *0.0* | *0.0%* | *-0.4* | *-100.0* |
|  | ***Including by zones :*** |  |  |  |  |  |  |
| *1.* | *Northern zone* | *98.5* | *40.0%* | *125.3* | *48.0%* | *26.8* | *27.2* |
| *2.* | *Southern zone* | *119.5* | *48.5%* | *106.8* | *40.9%* | *-12.7* | *-10.6* |
| *3.* | *Western zone* | *28.4* | *11.5%* | *28.9* | *11.1%* | *0.5* | *1.8* |

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

Electricity generation by RES facilities of Samruk-Energy JSC (SPP, WPP, small HPPs) in January 2022 amounted to 27.9 million kWh , which is 0.5% higher compared to the same period in 2021 (for January 2021, RES generation Samruk-Energy JSC amounted to 27.5 million kWh .

The share of RES electricity of Samruk-Energy JSC amounted to 10.7% of the volume of electricity generated by RES facilities in the Republic of Kazakhstan (in January 2021, the share of RES of Samruk-Energy JSC in the volume of RES in the Republic of Kazakhstan amounted to 11.2%).

The decrease in the share of renewable energy sources of Samruk-Energy JSC in the generation of renewable energy sources in the Republic of Kazakhstan is associated with an increase in the generation of electricity from renewable energy sources in the Republic of Kazakhstan.

*million kWh*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2021** | | **2022** | | **Δ, million kWh** | **Δ, %** |
| **January** | **share in Kazakhstan, %** | **January** | **share in Kazakhstan, %** |
| **I** | **RES of Samruk-Energy, *including :*** | **27.5** | **11.2%** | **27.9** | **10.7%** | **0.4** | **0.5** |
| *1* | *Cascade of small HPPs of AlES JSC 43.7 MW* | *9.7* | *3.9%* | *10.8* | *4.1%* | *1.1* | *0.2* |
| *2* | *Samruk - Green LLP Energy SPP 2MW + SPP 1MW* | *0.2* | *0.1%* | *0.2* | *0.1%* | *0.0* | *0.0* |
| *3* | *Samruk - Green Energy LLP WPP Shelek 5 MW* | *1.2* | *0.5%* | *1.1* | *0.4%* | *-0.1* | *-0.1* |
| *4* | *First Wind Power Plant LLP WPP 45 MW* | *16.4* | *6.7%* | *15.8* | *6.1%* | *-0.6* | *- 0.6* |

# **International relationships**

# *5.1 Status of formation* *of the Common Electricity Market of the Eurasian Economic Union*

The common electricity market of the Eurasian Economic Union is planned to be formed by integrating the national electricity markets of **Armenia, Belarus, Kazakhstan, Kyrgyzstan and Russia.** The EAEU Member States are gradually forming a common electric power market of the Union on the basis of parallel operating electric power systems, taking into account the priority provision of electric energy to domestic consumers of the Member States .

At the same time, the balance of economic interests of producers and consumers of electric energy, as well as other subjects of the EAEU OER, will be observed.

On May 29, 2019, as part of the celebration of the fifth anniversary of the signing of the Treaty, the Supreme Council signed an international agreement on the formation of a common electric power market of the Union in the form of a Protocol on amendments to the Treaty on the Eurasian Economic Union dated May 29, 2014 (in terms of the formation of a common electric power market of the Eurasian Economic Union).

In addition, in accordance with paragraph 42 of the above international agreement, on December 20, 2019, the Supreme Council adopted Decision No. 31 “On the plan of measures aimed at the formation of a common electric power market of the Eurasian Economic Union”, which establishes, among other things, the terms for approval and entry into force of the rules for the functioning of a common electric power market of the Union, as well as other acts provided for by the said Protocol.

***Reference:***

*The Protocol defines the legal framework and principles for the formation, functioning and development of the OER, establishes the areas that will be regulated by the rules for the functioning of the OER, and also empowers the Intergovernmental Council and the Council of the Commission to approve acts regulating the OER.*

In 2022, one meeting of the Advisory Committee on the Electricity Industry under the EEC Board was held (17th meeting on January 19), 2 meetings of the Subcommittee on the Formation of the EAEU General Economic Development Committee of the Advisory Committee on the Electricity Industry under the EEC Board (79th meeting on January 13-14, 80th meeting January 26-27).

Work on the formation of a common electricity market of the Eurasian Economic Union continues.

# *5. 2 Overview of the media in the CIS countries*

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

**AZERBAIJAN**

**The Saudi energy company ACWA Power has started construction in Azerbaijan, near Baku, of a wind power plant " Khizi -Absheron" with a capacity of 240 MW.** According to the Ministry of Energy of Azerbaijan, investments in the project will amount to $300 million. These funds will be invested by the Saudi company itself. This is the largest investment ACWA Power will make outside of Saudi Arabia. ACWA Power also announced its intention to build an offshore wind farm with a capacity of 500 MW in Azerbaijan.   
The contract for the construction of a wind farm with a capacity of 240 MW in Azerbaijan was signed between the Ministry of Energy of the Republic and ACWA Power in January 2020. The construction of the station will take two years. The power plant will annually generate 1 billion kWh of electricity. The project will install 40 turbines with a capacity of 6 MW each. Azerbaijan plans to increase the share of renewable energy sources in the country's energy system up to 30% by 2030.

**THE REPUBLIC OF KAZAKHSTAN**

**Kazakhstan approved amendments on the EAEU common electricity market.** Deputies of the Mazhilis (lower house) of the Parliament of Kazakhstan at the plenary session approved the ratification of the protocol on amendments to the Treaty on the Eurasian Economic Union (EAEU), dedicated to the formation of a common electricity market (CEM) of the union.

When creating the OER, the parties agreed to cooperate on the basis of equality, mutual benefit and not causing economic damage to any of the member states. In addition, the parties intend to prioritize the use of mechanisms based on market relations and fair competition. Creation of a mechanism for settling hourly deviations of actual deliveries of electrical energy from planned values, which will increase the responsibility for compliance with the agreed schedules.

approved by the Mazhilis was sent for further consideration to the Senate (upper house) of the Parliament.

**KYRGYZSTAN**

**Information about the construction progress of CASA-1000 in Kyrgyzstan.** As part of the implementation of the CASA-1000 project in Kyrgyzstan, the construction of a 500 kV transmission line is underway. In total, 455 kilometers of transmission lines will be laid in Kyrgyzstan from a 500 kV cell , which will be built specifically for this transmission line at the 500 kV Datka substation , from there the line will stretch through Jalal-Abad , Osh and Batken regions to the border with Tajikistan .

The construction of access roads to the construction sites of supports was completed for 792 supports (64%), digging pits for supports - 718 (58%), reinforcement and pouring of concrete - 639 (52%), installation of supports - 428 (35%). A total of 1241 supports will be built under the project.

Currently, active work is being carried out in Batken , Osh and Jalal-Abad regions. The work involves 84 units of special equipment and special vehicles, 44 units of vehicles and 230 workers, of which almost 70% are local residents.

To mobilize specialists for the construction of infrastructure facilities in these three regions, 6 construction bases have been created.

**UZBEKISTAN**

**In the current 2022, the energy sector of Uzbekistan plans to sign agreements on projects of 10 solar photoelectric power plants (PVPs) and wind power plants (WPPs), with a total capacity of 3,600 MW.** In recent years, the country has been working on the development of green energy, where 10 agreements have been signed over the past 3 years.

In general, a lot of work is planned for 2022 in the field of renewable energy sources.

In particular, it is planned to sign project agreements for the construction of 8 solar photovoltaic power plants with a total capacity of 1900 MW in Bukhara, Namangan, Khorezm, Kashkadarya, Fergana and other regions, as well as 2 wind power plants with a total capacity of 1700 MW in the Republic of Karakalpakstan.

At the same time, in 2023, 4 PPPs with a total capacity of 1097 MW in Samarkand, Jizzakh, Navoi and Surkhandarya regions and 4 WPPs with a total capacity of 1600 MW in the Republic of Karakalpakstan, Bukhara and Navoi regions will start producing electricity.

**The President of the Republic of Uzbekistan signed resolutions on the construction of 4 solar photovoltaic stations with a total capacity of about 1100 MW**

[According to the resolutions](https://minenergy.uz/uz/lists/view/24) , by the end of 2023, 4 solar photovoltaic stations with a total capacity of 1096.6 MW will be built and put into operation in four regions of the republic.

In particular :

1. The investor company " Masdar " (UAE) will build by December 2023 and put into operation a solar photovoltaic plant with a capacity of 456.6 MW in the Sherabad district of the Surkhandarya region.

2. On the part of Masdar (UAE), by October 2023, a solar photovoltaic plant with a capacity of 220 MW will be put into operation in the Gallyaaral district of the Jizzakh region.

3. By October 2023, Masdar (UAE) will put into operation a solar photovoltaic plant with a capacity of 220 MW in the Kattakurgan district of Samarkand region.

4. From Phanes Energy Holding III BV" (Netherlands) by November 2023, a solar photovoltaic plant with a capacity of 200 MW will be built and put into operation in the Nurata district of the Navoi region.

**RUSSIAN FEDERATION**

**by 2.2 times compared to the same period last year and reached 25 billion kWh .** Electricity supplies for export in December 2021 increased by 1.8 times in annual terms and amounted to 2.7 billion kWh . According to the CDU TEK, Russia imported 1.9 billion kWh of electricity in 2021 , and 0.3 billion kWh in December . Electricity production in Russia in 2021 increased by 6.4% compared to 2020 and amounted to 1.131 trillion kWh . Energy consumption for 2021 increased by 5.4%, to 1.106 trillion kWh . Electricity generation in the UES of Russia amounted to 1.114 trillion kWh , which is 6.5% more than a year earlier . At the same time, in December, according to the data of the Central Dispatch Department of the Fuel and Energy Complex, the production volume reached 112 billion kWh ( + 5.1 % compared to December 2020), and the consumption volume reached 109.6 billion kWh (+4.4%).

**In 2021, Russia commissioned new solar and wind power plants with a capacity of almost 1.25 GW, the total installed capacity of such generation at the beginning of 2022 was 4 GW, the System Operator of the Unified Energy System (SO UES) said.** In 2021, 1241.79 MW of new renewable energy generation was put into operation: wind farms - 1008.89 MW, solar power plants - 232.9 MW. The installed capacity of renewable energy generation as of 01/01/2022 is 3996 MW: WPP - 2035.4 MW, SPP - 1960.6 MW. In the structure of the installed capacity of the UES of Russia, the share of RES is 1.6%. According to the forecasts of the Ministry of Energy of the Russian Federation, the share of RES in the energy balance of the Russian Federation by 2035 may grow to 4.5%. Isolated energy systems have a great potential for the development of RES.

**Until 2027, it is planned to commission 13.2 GW of generating capacities in the UES of Russia,** of which 3.4 GW of generation will be commissioned in the UES of Siberia and the UES of the East, which is 26% of the total planned commissioning.

The installed capacity of power plants of the UES of Russia as of December 1, 2021 amounted to 247.9 GW

**The share of "green" generation in electricity generation in the Russian Federation by 2050 will increase from 39.3% in 2021 to 56.8%, - SO UES** . In the structure of electricity generation until 2050, the share of "green" generation (includes solar power plants, wind farms, nuclear power plants and hydroelectric power plants) in electricity generation will increase from 39.3% in 2021 to 56.8% by 2050.

The current structure of generating capacities in the UES of Russia reflects the historically established traditional structure of generation: as of January 1, 2022, 66.1% of the installed capacity of the UES of Russia is accounted for by TPPs (including 49.5 % - gas and 16.2% - coal) , 20.3% - HPPs, 12% - NPPs, 1.6% - RES. According to SO UES, with such a generation structure, almost 2/3 of the total electricity generation is carried out at thermal power plants, and only 39.3% fall to the share of "green" generation.