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

**AUGUST 2022**

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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-August 2022 generated 73,698.2 million kWh of electricity, which is   
1,375.1 million kWh or 1.8% less than the same period in 2021. A decrease in generation was observed in the Northern zone of the UES of Kazakhstan.

*million kWh*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Zone** | **Generation type** | **January-August** | | **Δ, million kWh** | **Δ, %** |
| **2021** | **2022** |
|  | **Kazakhstan** | **Total** | **75073 .3** | **73698.2** | **-1375.1** | **-1.8 %** |
| *TPP* | *59396.2* | *57382.9* | *-2013.3* | *-3.4%* |
| *GTES* | *6970.4* | *7370.6* | *400.2* | *5.7%* |
| *HPS* | *6448* | *6276.9* | *-171.1* | *-2.7%* |
| *WES* | *1047.8* | *1373.1* | *325.3* | *31.0%* |
| *SES* | *1208.5* | *1294.7* | *86.2* | *7.1%* |
| *BSU* | *2.4* | *0.0* | *-2.4* | *-100%* |
| 1 | **Northern** | **Total** | **57436.8** | **54190.5** | **-3246.3** | **-5.7 %** |
| *TPP* | *50192.1* | *47127.7* | *-3064.4* | *-6.1%* |
| *GTES* | *1972.4* | *1935.2* | *-37.2* | *-1.9%* |
| *HPS* | *4402.1* | *3998.1* | *-404.0* | *-9.2%* |
| *WES* | *468.7* | *718.3* | *249.6* | *53.3%* |
| *SES* | *399.1* | *411.2* | *12.1* | *3.0%* |
| *BSU* | *2.4* | *0.0* | *-2.4* | *-100%* |
| 2 | **South** | **Total** | **8123.9** | **9685.6** | **1561.7** | **19.2 %** |
| *TPP* | *4714.6* | *5871.9* | *1157.3* | *24.5%* |
| *GTES* | *2045.9* | *2278.8* | *232.9* | *11.4%* |
| *HPS* | *179.7* | *195.2* | *15.5* | *8.6%* |
| *WES* | *376.6* | *458.6* | *82.0* | *21.8%* |
| *SES* | *807.1* | *881.1* | *74.0* | *9.2%* |
| 3 | **Western** | **Total** | **9512.6 \_** | **9822.1** | **309.5** | **3.3 %** |
| *TPP* | *4489.5* | *4383.3* | *-106.2* | *-2.4%* |
| *GTES* | *4818.3* | *5240.2* | *421.9* | *8.8%* |
| *WES* | *202.5* | *196.2* | *-6.3* | *-3.1%* |
| *SES* | *2.3* | *2.4* | *0.1* | *4.3%* |

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

In January-August 2022, compared to the same period in 2021, electricity generation increased significantly in Atyrau, Zhambyl, West Kazakhstan, Kostanay, Turkestan and Mangystau regions. A sharp increase in electricity production in the Zhambyl region by 1,180.1 million kWh or 65.9% due to the inclusion of an additional two blocks at the Zhambyl GRES in order to cover the shortage of electricity in the Southern zone.

At the same time, a decrease in electricity generation was observed in Akmola , Aktobe, Almaty, East Kazakhstan, Karaganda, Kyzylorda, Pavlodar and North Kazakhstan regions.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Region** | **January-August** | | **Δ, million kWh** | **Δ, %** |
| **2021** | **2022** |
| *1* | *Akmola* | *3413.3* | *3 387* | *-26.3* | *-0.8%* |
| *2* | *Aktobe* | *2476.1* | *2376.7* | *-99.4* | *-4.0%* |
| *3* | *Almaty* | *4,693.3* | *4516.4* | *-176.9* | *-3.8%* |
| *4* | *Atyrau* | *4627.9* | *4,809.3* | *181.4* | *3.9%* |
| *5* | *East Kazakhstan* | *6,131.4* | *5,752.7* | *-378.7* | *-6.2%* |
| *6* | *Zhambyl* | *1,790.1* | *2970.2* | *1180.1* | *65.9%* |
| *7* | *West Kazakhstan* | *1568.6* | *1684.9* | *116.3* | *7.4%* |
| *8* | *Karaganda* | *10,347.2* | *6974.4* | *-3,372.8* | *-32.6%* |
| *9* | *Kostanay* | *665.4* | *752.2* | *86.8* | *13.0%* |
| *10* | *Kyzylorda* | *424.5* | *423.5* | *-1.0* | *-0.2%* |
| *11* | *Mangistau* | *3316.1* | *3327.9* | *11.8* | *0.4%* |
| *12* | *Pavlodar* | *32,518.7* | *31,291.8* | *-1,226.9* | *-3.8%* |
| *13* | *North Kazakhstan* | *1,884.7* | *962.5* | *-922.2* | *-48.9%* |
| 14 | *Turkestan* | *1216.0* | *1260.2* | *44.2* | *3.6%* |
| *15* | *Abai* | *-* | *130.4* | *-* | *-* |
| *16* | *Zhetysuskaya* | *-* | *515.3* | *-* | *-* |
| 17 | *Ulytauskaya* | *-* | *2562.8* | *-* | *-* |
|  | **Total for Kazakhstan** | ***75,073.30*** | ***73,698.2*** | ***-1,375.1*** | ***-1.8%*** |

*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-August 2022 amounted to 22,731.5million kWh . The decrease in electricity generation compared to the same period in 2021 amounted to 745.7 million kWh or 3.2%. The decrease is observed at Ekibastuz GRES-2 LLP and Samruk-Green LLP Energy.

*million kWh*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2021** | | **2022** | | **Δ 2022/2021** | |
| **January- August** | **share in Kazakhstan, %** | **January- August** | **share in Kazakhstan, %** | **million kWh** | **%** |
|  | **JSC " Samruk-Energo "** | **23,477.2** | **31.3%** | **22,731.5** | **30.8%** | **-745.7** | **-3.2%** |
| *1* | *JSC AlES \_* | *3348.9* | *4.5%* | *3494.3* | *4.7%* | *145.4* | *4.3%* |
| *2* | *LLP " Ekibastuz GRES-1"* | *14459.5* | *19.3%* | *14491.8* | *19.7%* | *32.3* | *0.2%* |
| *3* | *JSC " Ekibastuz GRES-2"* | *4629.4* | *6.2%* | *3566.5* | *4.8%* | *-1,062.9* | *-23.0%* |
| *4* | *JSC " Shardara HPP"* | *368.2* | *0.5%* | *378.1* | *0.5%* | *9.9* | *2.7%* |
| *5* | *JSC Moynakskaya HPP* | *572.4* | *0.8%* | *700.2* | *1.0%* | *127.8* | *22.3%* |
| *6* | *Samruk-Green LLP Energy »* | *13.5* | *0.0%* | *13.4* | *0.0%* | *-0.10* | *-0.7%* |
| *7* | *WPP Shelek LLP "Energy Semirechye"* |  |  | *20.5* | *0.0%* |  |  |
| *8* | *LLP "First wind power plant"* | *85.3* | *0.1%* | *87.2* | *0.1%* | *1.9* | *2.2%* |

# *1.3 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 30.8%.

ТОО «KAZAKHMYS ENERGY» (КАЗАХМЫС ЭНЕРДЖИ)

**Kazakhstan**

**73 698,2**

**mln. kWh**

**Others**

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

In January-August 2022 compared to January-August 2021, the industrial production index (hereinafter referred to as IPI) amounted to 102.5%. An increase in production volumes was recorded in 15 regions of the republic, a decrease is observed in Zhetisu, Kostanay, Kyzylorda, Pavlodar and Turkestan regions.

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

In the Zhambyl region, due to the growth in the extraction of copper and gold ores, the production of sugar, sausages , diesel fuel, pharmaceuticals, the IPI amounted to 111.4%.

In the Akmola region, due to an increase in the extraction of gold-bearing ores, copper concentrates, and the production of gold in dore alloy, the IPI amounted to 108.9%.

In the Abai region, the IPI amounted to 108.6% due to the growth in the extraction of copper and gold ores, the production of copper concentrates, and refined copper.

In the city of Almaty, due to the growth in the production of vegetable oil, chocolate, soft drinks, metal structures, cars and trucks, the IPI amounted to 108.5%.

In the city of Shymkent, due to the increase in the production of medicines, fuel oil, diesel fuel, gasoline, kerosene, IPI amounted to 107.1%.

In the East Kazakhstan region, the IPI amounted to 106.9% due to the growth in the production of uranium, refined copper, refined gold and silver.

In the Ulytau region, the IPI amounted to 106.2% due to the growth in the extraction of iron and lead-zinc ores, blister and refined copper, copper wire.

In the Almaty region, the IPI amounted to 106.1% due to an increase in the production of soft drinks, cigarettes and electrical panels.

In West Kazakhstan IPI amounted to 104.2% due to the growth in the production of gas condensate, seamless pipes made of steel, ready-mixed concrete.

In the Aktobe region, the IPI amounted to 102.4% due to an increase in the production of crude oil, copper-zinc and chromium ores, and the production of ferrochromium.

In the city of Nur-Sultan, the IPI amounted to 102% due to the growth in the production of metal structures, mortars, and refined gold.

In the North Kazakhstan region, due to the growth in the extraction of uranium and thorium ores, the production of flour, ready-made animal feed, drinking alcohol, combines, IPI amounted to 101.6%.

In the Mangistau region, the IPI amounted to 101.5% due to an increase in the production of mortars, liquid pumps, and oilfield equipment.

In the Karaganda region, the growth of IPI amounted to 101% due to an increase in the production of ferrosilicon, refined gold, hot-rolled bars and rods from steel, blister and refined copper, and electrical wires.

In the Atyrau region, the IPI amounted to 100.7% due to an increase in the production of crude oil, the production of gasoline, diesel fuel, hydrocarbon liquefied gases.

In the Turkestan region, due to a decrease in the extraction of uranium and thorium ores, the IPI amounted to 99.6%.

In the Kostanay region, the IPI amounted to 97.5% due to a decrease in the production of non-agglomerated iron ores, iron ore pellets and concentrates.

In the Kyzylorda region, the IPI amounted to 97.4% due to a reduction in the production of crude oil and the production of hydrocarbon liquefied gases.

In the Pavlodar region, the IPI amounted to 96.9% due to a decrease in the extraction of copper ores and concentrates, the production of gasoline, raw aluminum, ferrochrome, and electricity.

In the Zhetisu region, the IPI amounted to 95% due to a decrease in the production of metal structures, electric batteries.

# *2.1 Electricity consumption by zones and regions*

According to the System Operator, in January-August 2022, there was a decrease in the dynamics of electricity consumption of the republic in comparison with the same indicators in 2021 by 709.5 million kWh or 1%. Thus, in the western and southern zones of the republic, consumption increased by 2.8% and 0.4%, respectively.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **January- August** | | **Δ,  million kWh** | **Δ, %** |
| **2021** | **2022** |
|  | **Kazakhstan** | **74417.2** | **73707.7** | **-709.5** | **-1.0** |
| *1* | *Northern zone* | **48282.9** | **47238.7** | **-1044.2** | **-2.2** |
| *2* | *Western zone* | **9554.5** | **9825.7** | **271.2** | **2.8** |
| *3* | *Southern zone* | **16579.8** | **16643.2** | **63.4** | **0.4** |
|  | ***incl . \_ by regions*** |  |  |  |  |
| *1* | *East Kazakhstan* | *6150.6* | *6540.7* | *390.1* | *6.3* |
| *2* | *Karaganda* | *12443.7* | *6848.0* | *-5595.7* | *-45.0* |
| *3* | *Akmola* | *6549.1* | *6759.9* | *210.8* | *3.2* |
| *4* | *North Kazakhstan* | *1125.6* | *1030.4* | *-95.2* | *-8.5* |
| *5* | *Kostanay* | *3134.7* | *3027.7* | *-107.0* | *-3.4* |
| *6* | *Pavlodar* | *14361* | *12704.9* | *-1656.1* | *-11.5* |
| *7* | *Atyrau* | *4380.1* | *4471.2* | *91.1* | *2.1* |
| *8* | *Mangistau* | *3507.1* | *3536.8* | *29.7* | *0.8* |
| *9* | *Aktobe* | *4518.2* | *4569.7* | *51.5* | *1.1* |
| *10* | *West Kazakhstan* | *1667.3* | *1817.7* | *150.4* | *9.0* |
| *11* | *Almaty* | *8033.7* | *7397.6* | *-636.1* | *-7.9* |
| *12* | *Turkestan* | *3759.1* | *3923.4* | *164.3* | *4.4* |
| *13* | *Zhambyl* | *3491.1* | *3202.4* | *-288.7* | *-8.3* |
| *14* | *Kyzylorda* | *1296* | *1252.3* | *-43.7* | *-3.4* |
| *15* | *Ulytau* | *-* | *5569.845* | *-* | *-* |
| *16* | *Abai* | *-* | *187.539* | *-* | *-* |
| *17* | *Zhetysusky* | *-* | *867.632* | *-* | *-* |

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

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

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **January-August** | | **Δ, million kWh** | **Δ, %** |
| **2021** | **2022** |
|  | **Total** | **30,238.5** | **28,603.0** | **-1635.5** | **-5.4%** |
| *1.* | *ERG* | *10,078.1* | *9990.8* | *-87.3* | *-0.9%* |
| *2.* | *Kazakhmys Corporation LLP* | *2672.4* | *2547.3* | *-125.2* | *-4.7%* |
| *3.* | *Kazzinc LLP* | *1923.0* | *1481.0* | *-442.0* | *-23.0%* |
| *4.* | *Arcelor Mittal Temirtau JSC* | *2499.3* | *2396.5* | *-102.8* | *-4.1%* |
| *5.* | *KKS LLP* | *4,391.3* | *4483.9* | *92.6* | *2.1%* |
| *6.* | *CAEPCO JSC* | *3,762.4* | *3,577.9* | *-184.4* | *-4.9%* |
| *7.* | *Zhambyl GRES* | *1510.1* | *701.6* | *-808.5* | *-53.5%* |
| *8.* | *Oil and gas enterprises* | *3402.0* | *3424.0* | *22.1* | *0.6%* |

In January-August 2022, there is an increase in electricity consumption by the companies of Samruk-Energy JSC by 64.6 million kWh or by 1.2% compared to the same indicators in 2021.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **January-August** | | **Δ, million kWh** | **Δ, %** |
| **2021** | **2022** |
|  | **"Samruk-Energy" JSC** | **5243.99** | **5308.6** | **64.6** | **1.2%** |
| *1.* | "Bogatyr-Komir" LLP | *194.86* | *175.6* | *-19.2* | *-9.9%* |
| *2.* | Alatau Zharyk Companies » JSC | *622.52* | *657.7* | *35.2* | *5.7%* |
| *3.* | AlmatyEnergoSbyt LLP | *4426.61* | *4475.3* | *48.6* | *1.1%* |

*2.3 Electricity consumption by large consumers in Kazakhstan*

In January-August 2022, compared to the same period in 2021, electricity consumption by large consumers decreased by 461.7 million kWh or 2%.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Consumer** | **January-August** | | **Δ, million kWh** | **Δ, %** |
| **2021** | **2022** |
| *1* | *JSC Arcelor Mittal Temirtau"* | *2499.3* | *2452.4* | *-46.8* | *-1.9* |
| *2* | *JSC AZF ( Aksuysky ) "TNK Kazchrome "* | *3505.3* | *3413.7* | *-91.7* | *-2.6* |
| *3* | *Kazakhmys LLP Smelting »* | *727.9* | *811.3* | *83.5* | *11.5* |
| *4* | *Kazzinc LLP \_* | *1,836.0* | *1810.3* | *-25.7* | *-1.4* |
| *5* | *JSC " Sokolovsko-Sarbayskoye GPO"* | *1,065.5* | *952.3* | *-113.2* | *-10.6* |
| *6* | *Kazakhmys Corporation LLP* | *857.0* | *875.9* | *18.9* | *2.2* |
| *7* | *AZF JSC (Aktobe) "TNK Kazchrome "* | *2122.8* | *2167.3* | *44.5* | *2.1* |
| *8* | *RSE “Channel them. Satpaev »* | *229.3* | *248.7* | *19.5* | *8.5* |
| *9* | *Kazphosphate LLP \_* | *1319.5* | *1328.0* | *8.5* | *0.6* |
| *10* | *JSC NDFZ*  *(part of the structure of Kazphosphate LLP )* | *1118.4* | *1,114.1* | *-4.2* | *-0.4* |
| *11* | *LLP " Taraz Metallurgical Plant"* | *199.5* | *30.3* | *-169.2* | *-84.8* |
| *12* | *JSC " Ust-Kamenogorsk titanium -magnesium plant"* | *437.3* | *483.8* | *46.5* | *10.6* |
| *13* | *Tengizchevroil LLP \_* | *1214.0* | *1250.9* | *36.9* | *3.0* |
| *14* | *PAZ JSC (Pavlodar Aluminum Smelter)* | *636.0* | *648.9* | *13.0* | *2.0* |
| *15* | *JSC "KEZ" (Kazakhstan electrolysis plant)* | *2516.7* | *2420.7* | *-96.0* | *-3.8* |
| *16* | *JSC "KEGOC"* | *3628.9* | *3,166.2* | *-12.7* | *-12.7* |
| **Total** | | **22,794.8** | **22,333.1** | *-461.7* | *-2.0* |

# *Export-import of electrical energy*

In order to balance the production and consumption of electricity in January-August 2022, exports to the Russian Federation amounted to 742.1 million kWh , imports from the Russian Federation 702.9 million kWh .

Including export from "KEGOC" JSC to the Russian Federation 713.5 million kWh, import of electricity for the reporting period in the amount of 585.9 million kWh .

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **January - August** | | **Δ, million kWh** | **Δ, %** |
| **2021** | **2022** |
| **Export of Kazakhstan** | **-1732.0** | **-1165.7** | **566.3** | **-32.7%** |
| *in Russia* | *-668.6* | *-742.1* | *-73.5* | *11.0%* |
| *in the IPS of Central Asia* | *-1063.4* | *-423.6* | *639.8* | *-60.2%* |
| **Import of Kazakhstan** | **885.6** | **1006.4** | **120.7** | **13.6%** |
| *From Russia* | *688.3* | *702.9* | *14.6* | *2.1%* |
| **Balance- flow "+" deficit, "-" excess** | **-846.4** | **-159.4** | **687.0** | **-81.2%** |

# **Coal**

According to the Bureau of National Statistics, in Kazakhstan in January-August   
In 2022, 73,733.9 thousand tons of hard coal were mined, which is 2.7% more than in the same period in 2021 (71,822.5 thousand tons).

*thousand tons*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Region** | **January- August** | | **Δ, thousand tons** | **Δ, %** |
| **2021** | **2022** |
| 1 | *Pavlodar* | *42,204.9* | *44,634.3* | *2429.4* | *5.8%* |
| 2 | *Karaganda* | *24,223.8* | *22,004.4* | *-2,219.4* | *-9.2%* |
| 3 | *East Kazakhstan* | *5,031.4* | *5477.8* | *446.4* | *8.9%* |
|  | **Total for the Republic of Kazakhstan** | **71,822.5** | **73,733.9** | **1911.4** | **2.7%** |

In January-August 2022, Bogatyr Komir LLP produced 28,412.3 thousand tons, which is 2.6% less than in the corresponding period of 2021 (29,158.8 thousand tons).

The sold volume of coal in January-August 2022 amounted to 28,369.3 thousand tons, of which 21,300.5 thousand tons went to the domestic market of the Republic of Kazakhstan, which is 8.2% less than in the same period in 2021 (23,202, 3 thousand tons) and for export (RF) - 7,068.8 thousand tons, which is 14.2% more than in the corresponding period of 2021 (6,192 thousand tons).

According to the indicators for January- August 2022, in comparison with similar indicators in 2021, Bogatyr Komir LLP observed a decrease in coal sales by 1,025 thousand tons or 3.5%.

*thousand tons*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Region** | **January-August** | | **Δ,** **thousand tons** | **Δ, %**  **2022/2021** |
| **2021** | **2022** |
| **Total to the domestic market of the Republic of Kazakhstan** | | **23,202.3** | **21,300.5** | **-1,901.8** | **-8.2%** |
| **Total for export to Russia** | | **6 192** | **7,068.8** | **876.8** | **14.2%** |

# 

# **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 for January-August 2022 amounted to 3,369.8 million kWh . Compared to January -August 2021 (2,840.2 million kWh ), the increase was 529.6 million kWh or 18.6 %. An increase in electricity generation is observed at wind farms, solar power plants and small hydropower plants compared to the same period in 2021, while biogas generation decreased compared to last year.

According to Ministry of Energy of the Republic of Kazakhstan, as of August 2022, totally there are 143 renewable energy facilities operating in Kazakhstan (wind farms - 894 MW; SPPs - 1,150 MW; Small HPPs - 281 MW; BioPP - 8 MW).

Since the beginning of the year, 9 facilities with a total capacity of 269.9 MW have been put into operation:

- SES 4.95 MW by "AlmatyEnergoProject" LLP;

- SPP "Aisha" 50 MW "AEC Asa" LLP;

- SPP "Makpal" 4.95 MW by "Engineering Arena" LLP;

- WPP Shelek 50MW by “Zheruyik Energy” LLP;

- WPP Shelek 60 MW by "Energy Semirechye" LLP;

- VES 100 MW by Abai-1 LLP;

- SPP Balkhash (as part of PMC), 50 MW by "KAZ GREEN ENERGY" LLP;

- Net consumer;

- SES Otrar by"Cascade NRG" LLP.

million kWh

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2021** | | **2022** | | **Δ, million kWh** | **Δ, %** |
| **January August** | **share in Kazakhstan, %** | **January August** | **share in Kazakhstan, %** |
| **1** | **Production in the Republic of Kazakhstan** | **75073.3** | **100%** | **73698.2** | **100%** | **-1375.1** | **-1.8%** |
| **2** | **RES generation in Kazakhstan** | **2840.2** | **3.8%** | **3369.8** | **4.6%** | **529.6** | **18.6%** |
| **3** | **RES generation, incl . by zones** | **share in the respective zone** | | | | | |
|  | *Northern zone* | *983.9* | *1.7%* | *1270.6* | *2.3%* | *286.7* | *29.1%* |
|  | *Southern zone* | *1651.5* | *20.3%* | *1900.6* | *19.6%* | *249.1* | *15.1%* |
|  | *Western zone* | *204.8* | *2.2%* | *198.6* | *2.0%* | *-6.2* | *-3.0%* |
| **4** | **RES generation, incl . by zones** | **share in RES of the Republic of Kazakhstan, %** | | | | | |
|  | *Northern zone* | *983.9* | *34.6%* | *1270.6* | *37.7%* | *286.7* | *29.1%* |
|  | *Southern zone* | *1651.5* | *58.1%* | *1900.6* | *56.4%* | *249.1* | *15.1%* |
|  | *Western zone* | *204.8* | *7.2%* | *198.6* | *5.9%* | *-6.2* | *-3.0%* |
| **5** | **RES generation, incl . by type** | **share in RES of the Republic of Kazakhstan, %** | | | | | |
|  | *SES* | *1208.5* | *42.5%* | *1294.7* | *38.4%* | *86.2* | *7.1%* |
|  | *WES* | *1047.8* | *36.9%* | *1373.1* | *40.7%* | *325.3* | *31.0%* |
|  | *Small HPPs* | *581.5* | *20.5%* | *702.0* | *20.8%* | *120.5* | *20.7%* |
|  | *BSU* | *2.4* | *0.1%* | *0.0* | *0.0%* | *-2.4* | *-100.0%* |

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

Samruk-Energy JSC (SPP, WPP and small HPPs) in January-August 2022 amounted to 246.8 million kWh , which is 14.4% higher compared to the same period in 2021 (215.7 million kWh ).

The share of RES electricity of Samruk-Energo JSC in January-August 2022 amounted to 7.3% of the volume of electricity generated by RES facilities in the Republic of Kazakhstan, while in January-August 2021 this figure was 7.6%. 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 in 2022 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 August** | **share in Kazakhstan, %** | **January August** | **share in Kazakhstan, %** |
|  | **RES S-E, including:** | **215.7** | **7.6%** | **246.8** | **7.3%** | **31.1** | **14.4%** |
| 1 | *Cascade of small HPPs of AlES JSC 43.7 MW* | *116.9* | *4.1%* | *125.7* | *3.7%* | *8.8* | *7.5%* |
| 2 | *Samruk - Green LLP Energy » SPP 2MW + SPP 1MW + SPP 0.4MW* | *3.8* | *0.1%* | *3.8* | *0.1%* | *0.0* | *0.0%* |
| 3 | *Samruk - Green Energy LLP WPP Shelek 5 MW* | *9.7* | *0.3%* | *9.6* | *0.3%* | *-0.1* | *-1.0%* |
| 4 | *First Wind Power Plant LLP WPP 45 MW* | *85.3* | *3.0%* | *87.2* | *2.6%* | *1.9* | *2.2%* |
| 5 | *Energy Semirechye LLP WPP Shelek 60 MW* | *-* | *-* | *20.5* | *-* | *-* | *-* |

# **International Relations**

# *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, two meetings of the Advisory Committee on the Electricity Industry under the EEC Board were held ( 17th meeting on January 19, 18th meeting on   
August 24-25 ), 16 meetings of the Subcommittee on the formation of the EAEU ERA of the Advisory Committee on the Electricity Industry under the EEC Board   
(79th meeting 13-14 January, 80th meeting 26-27 January, 81st meeting 11 February, 82nd meeting 25 February, 83rd meeting 17-18 March, 84th meeting 31 March, 85th meeting 8   
April 86th meeting 15 April 87th meeting 26 April 88th meeting   
17-18 May 89th meeting 90th meeting 30 June 91st meeting 92nd meeting   
22 July 93rd meeting on 29 July, 94th meeting on 10 August), and also on   
4 March

2022, the Kazakhstani and Russian parties took part in a working meeting on the procedure for registering free bilateral agreements for mutual trade in electricity on the common electricity market of the Eurasian Economic Union.

During the meetings discussed:

- timing of processes at the Union's OER;

- the possibility of setting prices (tariffs) for services for trade and non-trade interstate transmission of electric energy (capacity) for the planned year, the terms for publishing these prices (tariffs) and the terms for informing about adjusted prices (tariffs) during the year;

- reduction (zeroing) of hourly volumes of deliveries under fixed-term contracts in case of revealing the technical unfeasibility of electric energy balance flows through interstate sections (internal sections).

At the 17th meeting, the following issues were considered:

1. On the uncoordinated provisions of the draft rules for mutual trade in electric energy on the common electric power market of the Union (hereinafter referred to as the rules for mutual trade), including:

definition of the concept of "commercial accounting of electric energy";

exclusion (preservation) from the draft rules of mutual trade of the provision on the need for compensation by suppliers and buyers in the domestic wholesale electricity market in accordance with the legislation of the relevant Member State for deviations in the actual hourly volumes of production and consumption (supply) of the subjects of the internal wholesale electricity markets from the planned values determined in including taking into account transactions in the common electricity market of the Eurasian Economic Union (clause 8 of the draft rules for mutual trade);

procedure for registration of free bilateral agreements (proposal of the Russian Federation) (paragraphs 38, 40, 41 of the draft rules for mutual trade);

exclusion (preservation) from the draft rules of mutual trade of the provision on external balancing as one of the components of the magnitude of hourly deviations in the balance of electricity flows in the interstate section for each hour of the billing period (paragraphs 89, 90 of the draft rules of mutual trade);

the exclusion of paragraph 93, which contains the principle of equal prices for both the purchase and sale of electricity within the allowable range established in the agreements on parallel operation, if there is paragraph 94 of the draft rules for mutual trade (the proposal of the Russian side).

1. On the inconsistent provisions of the draft rules for access to services for the interstate transmission of electric energy (capacity) within the framework of the Eurasian Economic Union (hereinafter referred to as the access rules), including:

clarification of the condition “the person who applied for the conclusion of such an agreement has unfulfilled obligations to pay for the service of non-trade interstate transmission of electric energy (capacity)”, under which an organization authorized for non-trade interstate transmission has the right to refuse to conclude an non-trade interstate transmission agreement with the phrase “in with regard to volumes that do not cause disagreement between the parties under previously concluded agreements” (paragraph 17 of the draft access rules);

exclusion (preservation) from the draft access rules of the provision that the interstate transmission of electric energy (capacity) in the interests of electric power industry entities of third states (deliveries to third states and between third states, transfer from one part of a third state to another part of it) is regulated in accordance with paragraph 2 of the Protocol on the Common Electricity Market of the Union (paragraph 34 of the draft access rules).

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)*

**Armenia**

**In Armenia, in January-June, electricity generation increased by 14.8%.** In Armenia, in the first half of 2022, 3822.1 million kWh of electricity was generated, which is 14.8% more than in the same period in 2021.

At the same time, out of this indicator, TPPs account for 1,289.3 million kWh of generated electricity (an increase of 56.8%), HPPs account for 1,253.7 million kWh (a decrease of 10.4%), and ANPP accounts for 1 237.7 million kWh (down 7.9%). Wind power plants produced 0.8 million kWh of electricity for the reporting period (an increase of 54.3%), and solar plants - 40.6 million kWh (an increase of more than 2 times).

**The Eurasian Development Bank (EDB) will finance projects in Armenia worth about $100 million.** Relevant cooperation documents were signed in Yerevan on August 4-5.

[provides](http://arka.am/ru/news/economy/eabr_predostavit_30_mln_na_vnedrenie_v_armenii_mezhdunarodnykh_standartov_upravleniya_i_avtomatiziro/) for the EDB to provide $30 million to the [Tashir group of companies](http://arka.am/ru/news/economy/eabr_predostavit_30_mln_na_vnedrenie_v_armenii_mezhdunarodnykh_standartov_upravleniya_i_avtomatiziro/) for the introduction of international management standards and automated accounting systems in Armenia.

According to the second agreement signed with the [New Energy group of companies, the EDB will allocate up to](http://arka.am/ru/news/business/eabr_profinansiruet_v_armenii_tri_novykh_proekta_primerno_na_100/%20http:/arka.am/ru/news/economy/eabr_vydelit_37_mln_na_stroitelstvo_11_gelioelektrostantsiy_v_armenii/) $37 million to finance the construction of 11 solar power plants with a total capacity of up to 65 MW. They will be located in the Gegharkunik and Aragatsotn regions of Armenia.

The third agreement signed by the Chairman of the Board of the EDB Nikolay Podguzov , the Minister of Economy of Armenia Vahan Kerobyan and General Director of the [Yeremyan Group of Companies Projects by](http://arka.am/ru/news/business/eabr_profinansiruet_v_armenii_tri_novykh_proekta_primerno_na_100/%20http:/arka.am/ru/news/business/eabr_pravitelstvo_armenii_i_eremyan_farm_zaklyuchili_memorandum_o_razvitii_agrosektora_na_eti_tseli_/) David Yeremyan is aimed at ensuring food security and sustainable economic development of Armenia in the field of agro-industrial complex. The bank will allocate $25 million for these purposes.

**Kazakhstan**

**HPP cascade for $1 billion: Kyrgyzstan and Kazakhstan signed a memorandum on the construction project of the Kazarman HPP cascade.**

Electric Stations OJSC and Kazakhstani company Orient Trade investment Company on August 22, 2022 in Bishkek signed a memorandum of understanding and cooperation in the implementation of the project "Construction and operation of the Kazarmansky cascade of HPPs on the Naryn River" in the Kyrgyz Republic.

The countries agreed that the Kazakh company will start construction of the Kazarman HPP cascade, consisting of 4 HPPs ( Alabuginskaya HPP, Karabulunskaya HPP-1, Karabulunskaya HPP-2, Toguztorouzskaya HPP), and complete it within 5-6 years.

The total capacity of the cascade will be 1,160 MW, and the estimated cost of construction work will be over 1 billion US dollars.

**In Kazakhstan, the marginal tariffs for the production of electricity have been revised** . The average increase in the marginal tariffs of energy producing organizations in Kazakhstan is projected at the level of 10-12% (9.9%).

The current level of marginal tariffs of energy producing organizations (hereinafter - EPO) does not fully cover the costs of EPO.

The draft marginal tariff also takes into account bringing the levels of wages of station personnel to the average for the respective regions as part of the execution of the instructions of the Head of State.

In April, applications for adjustment of marginal tariffs by groups were submitted by 26 out of 47 energy producing organizations. When considering them, the Ministry applied an individual approach to each case. Applications requiring a timely decision were taken into account.

The tariffs were adjusted on June 30 of the current year by the Order of the Minister of Energy of the Republic of Kazakhstan “On Amendments to the Order of the Minister of Energy of the Republic of Kazakhstan dated December 14, 2018 No. 514 “On Approval of Maximum Tariffs for Electricity”, which came into force on July 1, 2022.

At the same time, the marginal tariff of Ekibastuz GRES-1, which sells electricity in almost all regions of Kazakhstan except for the western zone of the unified electric power system of Kazakhstan, remained unchanged. For 21 out of 47 energy producing organizations, the tariff was kept at the same level.

In addition, the revision of marginal tariffs for electricity will save about 30,000 jobs for production personnel of 47 energy-producing organizations.

**Introduction and implementation of low-capacity renewable energy projects in Kazakhstan**

UNDP in Kazakhstan has prepared an information package of materials on the introduction and implementation of small-scale renewable energy projects in Kazakhstan. The collection is intended for representatives of small and medium-sized businesses (SMEs), potential investors, local executive bodies, farmers, financial organizations, etc.

Kazakhstan is one of the largest emitters of greenhouse gases (GHG) in the world - the country is in the top ‑30 countries in terms of GHG emissions. GHG emissions in Kazakhstan are mainly associated with energy production: 82% of all generated emissions in the country are concentrated here. Thus, the replacement of fossil fuels with renewable energy sources in the production of heat and electricity in any volume will lead to a reduction in GHG emissions. To increase the share of renewable energy in the country's electricity production structure, it is necessary to attract private sector investments in renewable energy.

The information package is a systematic document that contains complete information on investment opportunities in small-scale renewable energy projects in Kazakhstan. The "Step by step guide" section presents algorithms and financial instruments for different target groups, for example, for investors who have already planned and budgeted the project.

The presented collection will be useful to potential investors, as experts have developed instructions, recommendations and successful examples for the implementation of small-scale renewable energy projects.

In addition, renewable energy technology producers will also receive information about existing programs and support measures for the introduction of technologies in various sectors of the economy. For representatives of agriculture, an information base is provided here on the possibilities of introducing renewable energy technologies located in remote areas.

**The implementation of the Program to increase the income of the population until 2025 will create 34,000 jobs in the energy sector of the Republic of Kazakhstan.** In 2022, 14 projects will be implemented through the Ministry of Energy and 9.5 thousand jobs will be created, of which about 6 thousand jobs have already been created in the first half of the year.

In particular, it is planned to implement 17 investment projects in the electric power industry until 2025 and to launch 40 renewable energy projects.

To date, work has already begun on the modernization of existing thermal power plants, the reconstruction of cable networks in Almaty and the construction of a second transit chain between the West Kazakhstan and Atyrau regions are also underway.

In 2022, it is planned to commission 11 RES projects, including HPPs - 2 facilities (28 MW), WPPs - 6 facilities (217 MW), SPPs - 3 facilities (59.9 MW).

**Kyrgyzstan**

**A meeting of the Eurasian Intergovernmental Council was held in Kyrgyzstan.** The agenda of the meeting included issues of developing cooperation between the EAEU member states in the areas of transport, energy, e-commerce and reinsurance. In addition to the heads of governments of the five EAEU member states, the Prime Minister of the Republic of Azerbaijan Ali Asadov and the Prime Minister of the Republic of Uzbekistan Abdulla Nigmatovich also took part in the meeting of the EMPS Aripov .

**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, 455.6 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 which the line will stretch through Jalal-Abad , Osh and Batken regions to the border with Tajikistan.

To date, the following construction works have been completed:

The construction of access roads to the construction sites of supports was completed for 1164 supports (93.9%), digging pits for supports - 1164 (93.9%), reinforcement and pouring concrete - 1107 (89.2%), installation of supports - 744 (60 %). 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 150 units of special equipment, special vehicles, vehicles and 329 workers, of which about 70% are local residents.

In addition, today in the Jalal-Abad region, construction and installation work has begun on a 500 kV cell at the Datka substation under the CASA-1000 project.

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

**Reference:** CASA-1000 is designed to connect the energy systems of Central Asia with South Asia - Kyrgyzstan, Tajikistan with Afghanistan and Pakistan and develop mechanisms for electricity trade in accordance with international standards.

**Kyrgyz engineers have made a wind generator - it will be able to generate 100 kWh of electricity.** The main components of the wind turbine were produced in Kyrgyzstan. The fiberglass composite part is imported from abroad.

The wind generator will be installed on a mast 24 meters high and will generate 100 kWh of electricity. Taking into account the local relief and features of the wind potential, a team of engineers in the Kyrgyz Republic launched the production of wind turbines with a capacity of up to 500 kW for remote and hard-to-reach areas of the republic, as well as mining enterprises and border areas.

**The National Energy Holding of Kyrgyzstan is implementing reforms in the energy sector management system** . To date, by holding extraordinary general meetings of shareholders, appropriate decisions have been made on the reorganization of companies and their affiliation.

Also, by September, it is planned to complete one of the priority important stages of reforms - the restructuring of the energy sector management system of the Kyrgyz Republic.

According to the concept, as a result of the consolidation of companies, funds of up to 1 billion soms will be saved, which will be redirected to increase capacities. Thus, in November last year, the Security Council of the Kyrgyz Republic decided to reform the energy sector management system .

The reform process also includes measures to automate production and management processes in energy companies. In parallel, work is underway to evaluate business processes and study the best options for modernizing the management of energy companies.

**the Kyrgyz Republic "On Renewable Energy Sources" has come into force** . Part 2 of Article 17 of this Law of the Kyrgyz Republic requires the Cabinet of Ministers of the Kyrgyz Republic to bring its regulatory legal acts in line with the above Law of the Kyrgyz Republic within three months .

In this regard, in accordance with Article 8 of the Law of the Kyrgyz Republic   
"On Normative Legal Acts of the Kyrgyz Republic", paragraph three of paragraph 132 of the List of Certain Rule-Making Powers of the Government of the Kyrgyz Republic Delegated to State Bodies and Executive Bodies of Local Self-Government, approved by the Decree of the Government of the Kyrgyz Republic dated September 15 2014 No. 530, the Ministry submits for public discussion a draft Order of the Ministry of Energy of the Kyrgyz Republic “On Approval of the Standard Contract for the Supply of Electricity Generated Using Renewable Energy Sources”.

The draft Standard Contract for the supply of electricity generated using renewable energy sources differs from the contracts currently in force on the electricity supply market. A certain peculiarity is caused by the specificity of such an agreement as a long-term one, taking into account the specifics of the preferences provided by the legislation for energy entities using renewable energy sources, as well as investment legislation that guarantees protection for investors from long-term risks.

**Uzbekistan**

**Uzbekistan and Azerbaijan signed a "road map" to expand cooperation in the field of energy.**

Based on this roadmap, during 2022-2023, the parties will be invited to participate in relevant competitions for the introduction of renewable energy sources, and exchange of knowledge in the field of construction of new thermal power plants through private investment is envisaged.

The document also provides for the promotion of mutual investments in energy projects (including electricity and natural gas), the exchange of experience in liberalization and the creation of markets, and the participation of the parties in privatization.

It is also planned to develop cooperation in the field of efficient use of energy resources, attracting the private sector to investments, training personnel, organizing joint events for the export/import of chemical and oil and gas products.

It is planned to expand the partnership between Uzbekneftegaz JSC and SOCAR (Azerbaijan), including the development of opportunities for the joint implementation of projects for the exploration and production of hydrocarbons, the organization of production practices for employees of Uzbekneftegaz enterprises and the exchange of experience, expanding cooperation on the implementation of renewable energy projects on the principles of public-private partnerships.

**In Uzbekistan, 125 km of main transmission lines and two 220 kV substations will be built in 2022 .**

In 2021, in order to provide consumers with stable electricity, 235.4 km of power transmission lines were built, 14 substations were modernized, the capacity of which was increased to 1,855 MW. Also, 849.5 km of power lines, 7 transformers, 15 compressors and 59 switches at substations were completely repaired.

As part of the program for the repair and reconstruction of distribution networks, 15,030 km of power transmission networks and 4,000 transformer points were updated and reconstructed, 26,000 km of low-voltage power lines and more than 9,000 transformer points were completely repaired. Also, 63 substations were reconstructed, where 668 MVA of additional capacity was created.

**An agreement was signed between the Ministries of Energy of Uzbekistan and Saudi Arabia.** The agreement was signed within the framework of the state visit of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to the Kingdom of Saudi Arabia.

The agreement provides for the creation of a common framework for cooperation in the field of renewable energy, power plants, hydrogen energy, oil and gas in Uzbekistan with major energy companies in Saudi Arabia.

The areas of cooperation also include projects on digitalization in the energy sector, reduction of greenhouse gas emissions, training and advanced training of specialists.

The signing of this Agreement is a cardinal step towards a new stage of Uzbek -Saudi energy cooperation, including investment in order to increase generation and research, taking into account the experience and leadership of Saudi Arabian companies in the field of energy and the development of the human and technical potential of the sphere.

*The Ministry of Energy of the Republic of Uzbekistan, the Ministry of Energy of Saudi Arabia and Saudi companies signed three major development agreements worth 12 billion US dollars, the implementation of which will be a cardinal step towards a new stage of Uzbek-Saudi energy cooperation .*

The agreements are intended to become a platform for developing cooperation in the fuel and energy complex between the two countries. In particular, interaction is envisaged, including investments by the Saudi side, in the development of green hydrogen in Uzbekistan.

The first document is the Construction Agreement by ACWA Power wind farm with a capacity of 1.5 GW in the Republic of Karakalpakstan. This project will become the largest wind farm not only in the region, but throughout the world. It is planned that the wind farm capacity will be able to provide electricity to 1.65 million households and offset 2.4 million tons of carbon emissions per year.

The second Cooperation Agreement, focused on the development of research and development and subsequent production of green hydrogen in the Republic of Uzbekistan, was signed with ACWA Power and Air products .

Also, a document was signed expressing the intention of the Saudi side to invest 10 billion dollars in the energy complex of the Republic of Uzbekistan in the next 5 years. Within its framework, it is planned to implement projects in a number of promising areas. Among them:

- continuation of cooperation in the field of renewable energy - generation based on wind and solar energy, as well as concentrated solar energy projects for electricity generation;

- further cooperation on generation projects using natural gas as a fuel, in particular, on power plants with a combined cycle based on gas turbines;

- projects aimed at using the most modern technologies for the storage and accumulation of electricity to ensure the stability of the network, for storage stations based on hydroelectric power plants;

- partnership in the field of localization of production of equipment, spare parts and services used in the energy sector, in the field of human capacity building and joint scientific developments.

**Tajikistan**

**In January-July of this year, Tajikistan exported electricity worth over $64.5 million.** This is 17.2% more than in the same period in 2021, when Tajik electricity worth $55 million was supplied to foreign consumers.

The main consumer of Tajik electricity is Afghanistan, and supplies are also made to Uzbekistan in relatively smaller volumes.

In accordance with the agreements signed, Afghanistan pays 4.67 cents for each kilowatt-hour of Tajik electricity, and Uzbekistan pays 2 cents.

The low tariff for Uzbekistan is due to the fact that Tajikistan, in turn, receives Uzbek natural gas at a reduced price.

**Russia**

**The Ministry of Energy of the Russian Federation proposes to optimize the procedure for investigating the causes of accidents in the electric power industry.** The Ministry of Energy [has developed a draft](http://regulation.gov.ru/p/131004) resolution of the Government of the Russian Federation, which separates the concepts of an accident, an emergency situation and a systemic accident. The corresponding document is published on the federal portal of draft regulatory legal acts.

The project assumes that the composition of the commission and the level of investigation of the causes are determined depending on the consequences of a technological violation.

The project will ensure systematic work to update the regulatory and technical base in this area, and will allow developing measures to prevent possible violations.

**As a result of the All-Russian meeting, instructions will be issued on the transition to a new system for planning long-term development in the electric power industry.**

According to [Federal Law No. 174-FZ of June 11, 2022](https://www.so-ups.ru/fileadmin/files/laws/fz174_110622.pdf) “On Amendments to [the Federal Law “On the Electric Power Industry”](https://www.so-ups.ru/fileadmin/files/laws/fz35_260303.pdf) and Certain Legislative Acts of the Russian Federation”, a new planning system is being introduced in the electric power industry from January 1, 2023. The system operator in it will ensure the development of policy documents in the field of the long-term development of the industry: the general layout of electric power facilities for the long term and the Scheme and program for the development of electric power systems (EPS EES ) for the medium term, including decisions on the development of the UES of Russia and regional energy systems.

# **The Russian Federation has approved a new national standard for the construction of low-voltage power lines, taking into account modern technologies.**

[GOST R 70237-2022](https://protect.gost.ru/v.aspx?control=8&amp;baseC=6&amp;page=2&amp;month=8&amp;year=2022&amp;search=&amp;RegNum=1&amp;DocOnPageCount=15&amp;id=234260) standard was developed by the Rosseti Group to update the requirements for the design and construction of power transmission lines with voltage up to 1 kV.

The document mainly concerns the construction of overhead lines with self-supporting insulated wires in accordance with modern and innovative solutions used in the construction of distribution networks of PJSC Rosseti .

Rosseti Group is systematically working to update or cancel obsolete requirements and regulations, including those approved in the Soviet years. In particular, the “Rules for Electrical Installations” are currently being revised and a number of national standards are being approved on their basis.

# **RES generation in UES of Russia increased by 33.4% in July 2022, by 48% since the beginning of the year**

The total generation of RES (wind and solar power plants) in the UES of Russia in July 2022 amounted to 584.8 million kWh , which is 33.4% more than in July 2021. In general, for 7 months of this year, the indicator increased in annual terms by 48% and reached 4688.2 million kWh .

In the structure of electricity generation in July 2022, the share of renewable energy sources was at the level of 0.7%. According to the results of 7 months of the current year, it also amounted to 0.7% of the total electricity production in the UES of Russia.

At the same time, the generation of wind farms in July 2022 reached 264.7 million kWh (+74.7%), since the beginning of the year - 3059.2 million kWh (+78.4%).

And the generation of solar power plants in July amounted to 320.1 million kWh (+11.6 %), since the beginning of the year - 1629.0 million kWh (+12.1%).

**Belarus**

# **The Ministry of Energy of the Republic of Belarus proposes to discuss the use of protected zones of power grids.** The Ministry of Energy of the Republic of Belarus has submitted for public discussion a draft resolution of the Council of Ministers "On the protected zones of electrical networks, the size and mode of their use."

The draft resolution is aimed at ensuring systemic and comprehensive legal regulation of land relations in connection with the establishment of protective zones of electrical networks and the mode of their use.

At the same time, such tasks are set as ensuring the safety of electrical networks, creating a regime for their safe operation, preventing accidents and fires as a result of exposure to electric current, preventing harm to consumers of electrical energy and organizations that own, manage or manage electrical networks. .

# **In Belarus, more than half of consumers and heat sources have received readiness certificates for the autumn-winter period.**

As of August 19, the country registered 17.3 thousand thermal energy consumer readiness certificates, or 59% of their total number, as well as 5.5 thousand departmental heat source readiness certificates - 54% of their total number.

The leaders are Gomel and Mogilev regions, where 81% and 67% of the total number of thermal energy consumers received readiness certificates, and 84% and 76% received readiness certificates for departmental heat sources, respectively.

Registration is carried out in accordance with the terms approved by local executive and administrative bodies.

# **Energy companies of Belarus and Russia plan to develop cooperation in the field of VR technologies.**

The possibilities of interaction on the implementation of VR technologies in educational programs for the training and retraining of personnel for electric power facilities were discussed in Yekaterinburg on the sidelines of the open championship of professional skills of PJSC Rosseti "Young Professionals" according to the WorldSkills methodology .   
As part of the event, the Belarusian side presented one of the latest innovations in the field of VR technologies - the "Virtual Test Site", developed by the training center of RUE " Vitebskenergo ".

Its use allows operational and operational-repair personnel to develop the skills of operational switching, as well as solve important tasks for the operational maintenance of electrical equipment of 0.4-35 kV distribution networks. The educational process is as close as possible to real working conditions. In virtual reality, specialists deal with equipment and systems that are installed on real objects.

At the same time, there are no restrictions in virtual reality, so you can program any, including serious emergencies. Overcoming them helps the staff to improve their experience and knowledge. The simulator provides several modes - learning and testing knowledge.

The project aroused interest among the participants of the competition and received good feedback from Russian colleagues .

# **The Ministry of Energy of the Republic of Belarus proposed to discuss issues of state energy and gas supervision.** A draft government decree "On changing the resolutions of the Council of Ministers" has been submitted for public discussion, aimed at reviewing technical (technological, verification) measures in accordance with the goals, objectives and functions carried out by the state energy and gas supervision body.

The document is supposed to clarify the name of the controlling (supervisory) body in paragraph 13 of the list in order to bring it into line with Presidential Decree No. 92 of February 28, 2019 "On the Establishment of an Institution", to exclude duplicating functions with the Department of State Labor Inspection of the Ministry of Labor and Social Protection on measures to investigate technological violations in the operation of energy facilities and a special investigation of industrial accidents related to the operation of electrical and (or) thermal installations , as well as to change the measures taken by the state energy and gas supervision body and bring them into line with the scope of supervision, including established by the rules for the use of gas in everyday life, approved by the Council of Ministers of November 19, 2007 No. 1539.

In addition, it is proposed to supplement the list with a technical (technological, verification) measure - an assessment of compliance by service organizations that carry out maintenance and repair of gas equipment and in-house gas supply systems of the operated housing stock of citizens, the requirements of legislative acts and technical regulatory legal acts.

The organizer of the public discussion is the Ministry of Energy. Comments and suggestions can be expressed in a special topic at the Legal Forum from 12 to 22 August 2022.