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**REPORT**

**ANALYSIS OF THE ELECTRICITY AND COAL MARKET OF KAZAKHSTAN**

**JANUARY-MAY 2021**

**DEPARTMENT "MARKET DEVELOPMENT"**

**June, 2021**

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# **SECTION I**

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

According to the System Operator, power plants of the Republic of Kazakhstan in January-May 2021 generated 48 801.1 million kWh of electricity, which is 7.1% more than the same period in 2020. A slight increase in generation was observed in the Western zone of the UES of Kazakhstan.

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Zone** | **Generation type** | **January-May** | | **Δ, %**  **2020** |
| **2020** | **2021** |
| **Kazakhstan** | **Total** | **45577.5** | **48801.1** | **7.1%** |
| *TPP* | *36552.9* | *39272.9* | *7.4%* |
| *GTES* | *4117.9* | *4382.9* | *6.4%* |
| *hydroelectric power station* | *4038.8* | *3823.2* | *-5.3%* |
| *WES* | *414.8* | *688.7* | *66.0%* |
| *SES* | *451.4* | *632.0* | *40.0%* |
| *BSU* | *1.7* | *1.4* | *-17.6%* |
| **Northern** | **Total** | **34646.0** | **37613.0** | **8.6%** |
| *TPP* | *30138.5* | *33013.8* | *9.5%* |
| *GTES* | *1371.4* | *1278.5* | *-6.8%* |
| *hydroelectric power station* | *2781.9* | *2760.9* | *-0.8%* |
| *WES* | *190.0* | *335.0* | *76.3%* |
| *SES* | *162.5* | *223.4* | *37.5%* |
| *BSU* | *1.7* | *1.4* | *-17.6%* |
| **South** | **Total** | **5081.0** | **5289.1** | **4.1%** |
| *TPP* | *3347.2* | *3470.3* | *3.7%* |
| *GTES* | *91.8* | *132.0* | *43.8%* |
| *hydroelectric power station* | *1256.9* | *1062.3* | *-15.5%* |
| *WES* | *97.4* | *217.2* | *123.0%* |
| *SES* | *287.7* | *407.3* | *41.6%* |
| **Western** | **Total** | **5850.5** | **5899.0** | **0.8%** |
| *TPP* | *3067.2* | *2788.8* | *-9.1%* |
| *GTES* | *2654.7* | *2972.4* | *12.0%* |
| *WES* | *127.4* | *136.5* | *7.1%* |
| *SES* | *1.2* | *1.3* | *8.3%* |

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

In January-May 2021, compared to the same period in 2020, electricity generation increased significantly (an increase of 15% or more) in the Zhambyl, Kyzylorda and Pavlodar regions. At the same time, a decrease in electricity generation was observed in Aktobe, Almaty, East Kazakhstan, Karaganda, Mangystau, North Kazakhstan regions.

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No. p / p** | **Region** | **January-May** | | **Δ, %** |
| **2020** | **2021** |
| 1 | Akmola | 2058.2 | 2360.7 | 14.7% |
| 2 | Aktobe | 1,736.8 | 1637.4 | -5.7% |
| 3 | Almaty | 3,127.9 | 3,000.2 | -4.1% |
| 4 | Atyrau | 2639.8 | 2908.4 | 10.2% |
| 5 | East Kazakhstan | 4,092.8 | 3985.1 | -2.6% |
| 6 | Zhambyl | 998.4 | 1203.7 | 20.6% |
| 7 | West Kazakhstan | 1012.3 | 1,008.3 | -0.4% |
| 8 | Karaganda | 7155.0 | 6,830.3 | -4.5% |
| 9 | Kostanay | 496.1 | 511.7 | 3.1% |
| 10 | Kyzylorda | 246.4 | 296.0 | 20.1% |
| 11 | Mangistau | 2198.4 | 1982.3 | -9.8% |
| 12 | Pavlodar | 17,604.6 | 20,938.9 | 18.9% |
| 13 | North Kazakhstan | 1502.5 | 1348.9 | -10.2% |
| 14 | Turkestan | 708.3 | 789.2 | 11.4% |
|  | **Total for Kazakhstan** | **45,577.5** | **48,801.1** | **7.1%** |

The volume of electricity production by energy producing organizations of Samruk-Energy JSC for January-May 2021 amounted to 15,212.4million kWh or an increase of 24.4% compared to the same period in 2020.

*million kWh*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2020** | | **2021** | | **Δ 2021/2020** | |
| **January-May** | **share in Kazakhstan, %** | **January-May** | **share in Kazakhstan, %** | **million kWh** | **%** |
|  | **JSC "Samruk-Energy"** | **12,225.6** | **26.8%** | **15,212.4** | **31.2%** | **2986.8** | **24.4%** |
| *1* | *JSC AlES* | *2449.3* | *5.4%* | 2332.6 | *4.8%* | *-116.7* | *-4.8%* |
| *2* | *LLP "Ekibastuz GRES-1"* | *7330.8* | *16.1%* | 9076.9 | *18.6%* | *1,746.1* | *23.8%* |
| *3* | *JSC "Ekibastuz GRES-2"* | *1,755.4* | *3.9%* | 3168.4 | *6.5%* | *1413.0* | *80.5%* |
| *4* | *JSC "Shardara HPP"* | *267.8* | *0.6%* | 267.7 | *0.5%* | *-0.1* | *0.0%* |
| *5* | *JSC "Moinak HPP"* | *345.4* | *0.8%* | 294.1 | *0.6%* | *-51.3* | *-14.9%* |
| *6* | *Samruk-Green Energy LLP* | *1.6* | *0.004%* | 9.1 | *0.019%* | *7.50* | *468.8%* |
| *7* | *LLP "First wind power plant"* | *75.3* | *0.2%* | 63.6 | *0.1%* | *-11.7* | *-15.5%* |

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

# *Consumption of electrical energy by zones and regions*

According to the System Operator, in January-May 2021, there was an increase in the dynamics of electricity consumption in the republic compared to January-May 2020 by 6%. So, in the northern zone of the republic, consumption increased by 6%, in the southern zone by 9% and in the western zone by 1%.

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **January -May 2020** | **January- May 2021** | **Δ,  million kWh** | **Δ, %** |
| **I** | **Kazakhstan** | **45 170** | **47820.9** | **2650.9** | **6%** |
| 1 | Northern zone | 29,808.2 | 31543.5 | 1735.3 | 6% |
| 2 | Western zone | 5,875.3 | 5906.5 | 31.2 | 1% |
| 3 | Southern zone | 9486.5 | 10371.0 | 884.5 | 9% |
|  | ***including by regions*** |  |  |  |  |
| 1 | East Kazakhstan | 4,034.3 | 4047.0 | 12.7 | 0% |
| 2 | Karaganda | 7,832.9 | 8154.5 | 321.6 | 4% |
| 3 | Akmola | 2,758.5 | 4461.1 | 1702.6 | 62% |
| 4 | North Kazakhstan | 1,887.2 | 767.7 | -1119.5 | -59% |
| 5 | Kostanay | 1966.7 | 2059.6 | 92.9 | 5% |
| 6 | Pavlodar | 8,588.6 | 9172.0 | 583.4 | 7% |
| 7 | Atyrau | 2,744.3 | 2708.4 | -35.9 | -1% |
| 8 | Mangistau | 2163.6 | 2148.5 | -15.1 | -1% |
| 9 | Aktobe | 2740 | 2881.5 | 141.5 | 5% |
| 10 | West Kazakhstan | 967.5 | 1049.6 | 82.1 | 8% |
| 11 | Almaty | 4,710.7 | 5180.7 | 470.0 | 10% |
| 12 | Turkestan | 2086.6 | 2270.7 | 184.1 | 9% |
| 13 | Zhambyl | 1953.6 | 2084.6 | 131.0 | 7% |
| 14 | Kyzylorda | 735.7 | 835.0 | 99.3 | 13% |

# **The results of the industry in January-May 2021**

*(express information of the Bureau of National Statistics ASPR RK)*

January-May 2021 compared to January-May 2020, the industrial production index (hereinafter referred to as IPP) amounted to 101.4%. An increase in production volumes was recorded in 14 regions of the republic, a decrease was observed in Atyrau, West Kazakhstan and Mangystau regions.

**Changes in industrial output by region**

*in % to the corresponding period of the previous year*

In Almaty, due to an increase in the production of confectionery products from chocolate and sugar, ice cream, beer, ready-made animal feed, building prefabricated metal structures, ready-mixed concrete, cars and trucks, buses, the IPP amounted to 119.7%.

In Nur-Sultan, the IPP was 115.6%, mainly due to the growth in the production of soft drinks, ready-mixed concrete, refined gold, switchboards, prefabricated structures made of cement and concrete, production of railway cars and diesel locomotives.

In the Almaty region, the IPP amounted to 115.6% due to an increase in the production of tobacco products, the production of beverages, sugar, Portland cement and electric batteries.

In Shymkent, due to the increase in the production of sunflower oil, medicines, Portland cement, ready-mixed concrete, fuel oil, transformers, electrical wires and cables, the IPP amounted to 110.1%.

In the Kostanay region, the IPP amounted to 109.7% due to an increase in the extraction of iron and gold ores, iron ore concentrates, the production of flour, gold in doré, tractors and cars.

In the North Kazakhstan region, due to the growth in the production of milk, flour, butter, plastic pipes, an increase in the production of freight cars, the IPP amounted to 109.3%.

In the Aktobe region, the IPP amounted to 108.1% due to an increase in oil and gas condensate production, an increase in the provision of services in the mining industry.

In the Akmola region, due to the increase in the extraction of gold ores, the production of pesticides, the production of combines and tractors, the IPP amounted to 107.1%.

In the East Kazakhstan region, the IPP amounted to 106.9% due to an increase in the extraction of copper and gold ores, gold concentrates, the production of finished animal feed, refined gold and silver, blister copper, trucks and tractors.

In the Zhambyl region, due to the growth in the production of phosphate raw materials, the production of sugar, phosphate fertilizers, ferrosilicomanganese and diesel fuel, the IPP amounted to 106.7%.

In the Pavlodar region, the IPP amounted to 105.1% due to the growth in the extraction of copper ores, the production of pesticides, gasoline, diesel fuel, fuel oil and the processing of secondary metal raw materials.

In the Karaganda region, the growth of IPP amounted to 101.1% due to an increase in the production of gold concentrates, the production of medicines, non-alloyed steel, flat and galvanized rolled products.

In the Turkestan region, due to the growth in the production of flour, ready-mixed concrete, electrical transformers, circuit breakers, wires and cables, the IPP amounted to 100.9%.

In the Kyzylorda region, the IPP was 100.3% due to an increase in the production of rice, sulfuric acid, Portland cement, building prefabricated structures made of concrete and bituminous mixtures.

In West Kazakhstan IPP amounted to 94.1% due to a decrease in gas condensate production.

In Atyrau (86.8%) and Mangistau (93.7%) oblasts, the IPP declined mainly due to a reduction in crude oil production.

# *Electricity consumption by large consumers in Kazakhstan*

In January-May 2021, compared to the same period in 2020, electricity consumption by large consumers remained virtually unchanged (an increase of 0.61%).

*million kWh*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No. p / p** | **Consumer** | **January-May** | | |
| **2020** | **2021** | **Δ, %** |
| 1 | ArcelorMittal Temirtau JSC | 1563.5 | 1577.4 | 1% |
| 2 | JSC AFP (Aksu) "TNK Kazchrome" | 2451.9 | 2275.0 | -7% |
| 3 | Kazakhmys Smelting LLP | 501.7 | 500.3 | 0% |
| 4 | Kazzinc LLP | 1,191.2 | 1200.3 | 1% |
| 5 | JSC "Sokolovsko-Sarbayskoye GPO" | 739.7 | 691.2 | -7% |
| 6 | Kazakhmys Corporation LLP | 547.0 | 542.5 | -1% |
| 7 | AZF JSC (Aktobe) "TNK Kazchrome" | 1290.3 | 1321.9 | 2% |
| 8 | RSE “Channel them. Satpaev" | 69.9 | 86.0 | 23% |
| 9 | Kazphosphate LLP | 868.0 | 767.9 | -12% |
| 10 | NDFZ JSC (part of Kazphosphate LLP) | 750.4 | 638.0 | -15% |
| 11 | LLP "Taraz Metallurgical Plant" | 89.1 | 137.0 | 54% |
| 12 | JSC "Ust-Kamenogorsk titanium and magnesium plant" | 392.7 | 238.4 | -39% |
| 13 | Tengizchevroil LLP | 790.4 | 785.5 | -1% |
| 14 | PAZ JSC (Pavlodar Aluminum Smelter) | 401.0 | 393.6 | -2% |
| 15 | JSC "KEZ" (Kazakhstan electrolysis plant) | 1570.4 | 1,579.0 | 1% |
| 16 | TemirzholEnergo LLP | 589.7 | 666.7 | 13% |
| 17 | JSC "KEGOC" | 1,852.7 | 2236.6 | 21% |
| **Total** | | **14909.1** | **14,999.5** | **0.61%** |

*million kWh*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Name** | **January-May** | | **Deviation, million kWh** | **Δ , %**  **2020** |
| **2020** | **2021** |
| **I** | **JSC "Samruk-Energy"** | **3047.09** | **3,359.2** | **312.1** | **3047.09** |
| *1.* | *LLP "Bogatyr-Komir"* | 132.21 | 129.6 | ***-2.6*** | 132.21 |
| *2.* | *JSC "AlatauZharyk Kompaniyasy"* | 394.64 | 415.0 | ***20.4*** | 394.64 |
| *3.* | *AlmatyEnergoSbyt LLP* | 2520.23 | 2814.6 | ***294.4*** | 2520.23 |

# **Coal**

# *Thermal coal mining in Kazakhstan*

According to the Bureau of National Statistics, Kazakhstan produced 44,447.8 thousand tons of hard coal in January-May 2021, which is 1% less than in the same period in 2020 (44,951.9 thousand tons).

*thousand tons*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No. p / p** | **Region** | **January-May** | | **Δ, %** |
| **2020** | **2021** |
| 1 | Pavlodar | 29,187.4 | 27,658.8 | 95% |
| 2 | Karaganda | 13 101.9 | 13 502 | 103% |
| 3 | East Kazakhstan | 2604.1 | 3,098.6 | 119% |
|  | **Total for the Republic of Kazakhstan** | **44,951.9** | **44,447.8** | **99%** |

# *Coal mining by Samruk-Energy JSC*

In January-May 2021, Bogatyr Komir LLP produced 18,876 thousand tons, which is 2.8% less than in the corresponding period of 2020 (19,428 thousand tons).

# *Sale of coal Samruk-Energy JSC*

In January-May 2021, 19,102 thousand tons were sold, including:

- to the domestic market of the Republic of Kazakhstan 15,857 thousand tons, which is 4.7% more than in the corresponding period of 2020 (15,151 thousand tons);

- for export (RF) - 3,246 thousand tons, which is 25.3% less than in the corresponding period of 2020 (4,346 thousand tons).

*thousand tons*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No. p / p** | **Region** | **Sales volume, thousand tons** | | **Δ, %**  **2021/2020** |
| **January-May 2020** | **January-May 2021** |
| **Total to the domestic market of the Republic of Kazakhstan** | | **15 151** | **15 857** | **104.7%** |
| **Total for export to Russia** | | **4 346** | **3 246** | **74.7%** | **1 144** | **46.8%** |

According to the indicators for January-May 2021, compared to the same period in 2020, the Company observed a decrease in coal sales by 2%.

# **Renewable energy sources**

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-May 2021 amounted to 1584.8 million kWh. Compared to the period January-May 2020 (1170.2 million kWh), the increase was 2.6%.

million kWh

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2020** | | **20 2 1g** | | **Deviation 20 2 0/2021,** | |
| **January-May** | **share in Kazakhstan, %** | **January-May** | **share in Kazakhstan, %** | **million kWh** | **%** |
|  | **Total output in Kazakhstan** | **45577.4** | **100.0%** | **48801.1** | **100%** | **3223.7** | **1.1%** |
| **I** | **Total RES in the Republic of Kazakhstan, incl. by zones** | **1170.2** | **2.6%** | **1584.8** | **3.2%** | **414.6** | **1.4%** |
| 1. | *Northern zone* | *399.5* | *34.1%* | *618.3* | *39.0%* | *218.8* | *1.5%* |
| 2. | *Southern zone* | *588.4* | *50.3%* | *827.4* | *52.2%* | *239.0* | *1.4%* |
| 3. | *Western zone* | *182.3* | *15.6%* | *139.1* | *0.0%* | *-43.2* | *0.8%* |
| **II** | **Total RES in the Republic of Kazakhstan, incl. by type** | **1170.2** | **2.6%** | **1584.5** | **3.2%** | **414.6** | **1.4%** |
| 1. | *SES* | *505.0* | *43.2%* | *633.3* | *40.0%* | *128.3* | *1.3%* |
| 2. | *WES* | *412.3* | *35.2%* | *688.7* | *43.5%* | *276.4* | *1.7%* |
| 3. | *Small HPPs* | *251.2* | *21.5%* | *259.7* | *16.4%* | *8.5* | *1.0%* |
| 4. | *BiogasInstallations* | *1.7* | *0.1%* | *2.8* | *0.2%* | *1.1* | *1.6%* |

January-May 2021 there is an increase in electricity production by small hydropower plants compared to the same period in 2020.

million kWh

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2020** | | **2021** | | **Deviation 2020/2021,** | |
| **January-May** | **share in Kazakhstan, %** | **January-May** | **share in Kazakhstan, %** | **million kWh** | **%** |
|  | ***Electricity production in UES RK*** | **45577.4** | **100%** | **48801.1** | **100.0%** | **3223.7** | **1.1%** |
| 1. | Production of "clean" electricity (RES + Large HPPs) | *3726.9* | *8.2%* | *4170.1* | *8.5%* | *443.2* | *1.1%* |
| 2. | Production of "clean" electricity (RES excluding Large HPPs) | *1170.2* | *2.6%* | *1584.8* | *3.2%* | *414.6* | *1.4%* |

Electricity generation by renewable energy facilities of Samruk-Energy JSC (SPP, WPP, small HPPs) for January-May 2021 amounted to 130.9 million kWh or 8.3% of the total volume of electricity generated by RES facilities, which is 0.9 % lower compared to the same period in 2020 (in January-May 2020, the Company's RES generation amounted to 143.5 million kWh, RES of the Company 16.8%).

The Company's share in the production of "clean" electricity (SPP, WPP, small and large HPPs) for January-May 2021. decreased by 0.9% (980.4 million kWh) compared to the same period in 2020. (1051 million kWh).

million kWh

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **2020** | | **2021** | | **Deviation 2020/2021,** | |
| **January-May** | **share in Kazakhstan, %** | **January-May** | **share in Kazakhstan, %** | **million kWh** | **%** |
| 1 | ProductionJSC "Samruk-Energy" "clean" electricity (RES + Large HPPs) | **1051.0** | **28.2%** | **980.4** | **23.5%** | **-70.6** | **0.9%** |
| 2 | Production of “clean” electricity by Samruk-Energy JSC (RES excluding Large HPPs), including: | **143.5** | **16.8%** | **130.9** | **8.3%** | **-12.6** | **0.9%** |
|  | *JSC AlES Cascade of small HPPs* | *66.6* | *5.7%* | *58.2* | *3.7%* | *-8.4* | *0.9%* |
|  | *Samruk-Green Energy LLP SPP 2 MW* | *1.6* | *0.1%* | *1.9* | *0.1%* | *0.3* | *1.2%* |
|  | *Samruk-Green Energy LLP WPP Shelek 5 MW* | *0.0* | *0.0%* | *7.2* | *0.0%* | *7.2* |  |
|  | *First Wind Power Plant LLP WPP 45 MW* | *75.3* | *6.4%* | *63.6* | *4.0%* | *-11.7* | *0.8%* |

# **Centralized electricity trading JSC "KOREM"**

*(information of KOREM JSC)*

*General trading results*

Based on the results of the centralized electricity trading in May 2021, 29 transactions were concluded in the amount of 72,408 thousand kWh for a total amount of 662,119.5 thousand tenge (excluding VAT) (including spot trading in the "day ahead" mode and trades for the medium and long term), including:

* spot-trades in the "one day ahead" mode - 25 deals were made in the amount of 17,160 thousand kWh for a total amount of 118,781.1 thousand tenge. The minimum price at spot auctions in the “one day ahead” mode was 5.6 tenge/kWh (excluding VAT), the maximum price was 14.843 tenge/kWh (excluding VAT);
* spot trading “during the trading day” - no deals were made;
* trades in electricity for the medium and long term - 4 transactions were made in the amount of 55,248 thousand kWh for a total amount of 543,338.4 thousand tenge (excluding VAT). The minimum price for this type of centralized trading was 9.21 tenge/kWh (excluding VAT), the maximum price was 11.3 tenge/kWh (excluding VAT).

For the same period in 2020, the total volume of centralized trading amounted to 47,088 thousand kWh. The table below shows the price dynamics of transactions concluded at centralized trading in May 2020-2021.

Dynamics of prices established as a result of centralized trading

in May 2020-2021

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **May** | **spot trading in the "day ahead" mode** | | **trades for medium- and long-term periods** | | **during business days** | |
| MIN price | MAX price | MIN price | MAX price | MIN price | MAX price |
| **tg/kW\*h (excluding VAT)** | | | | | |
| **2020** | **5** | **7.3** | **1.1** | **1.1** | **-** | **-** |
| **2021** | **5.6** | **14.843** | **9.21** | **11.3** | **-** | **-** |

# 

# ***Results of spot trading in the "day ahead" mode***

Based on the results of spot trading in May 2021, 25 transactions were concluded in the amount of 17,160 thousand kWh, the minimum clearing price for spot trading in the “one day ahead” mode was 5.6 tenge/kWh (without VAT), and the maximum is 14.843 tenge/kWh (excluding VAT).

The table below shows the final day-ahead spot trading results for May 2021.



# The table shows that the total volume of demand amounted to 63,408 thousand kWh, while the total volume of supply amounted to 22,464 thousand kWh, with transactions made in the amount of 17,160 thousand kWh.

# Unsatisfied demand in May 2021 amounted to 46,248 thousand kWh, and unsatisfied supply - 5,304 thousand kWh. In the process of spot trading, 179 orders were accepted into the trading system, of which 154 were orders from buyers and 25 were orders from sellers.

# ***Results of spot trading "during the trading day"***

# Based on the results of the auctions held in May 2021, no deals were concluded. According to the results of the auctions held in May 2020, no deals were also concluded.

# ***Trading results for the medium and long term***

# In May 2021, following the results of trading for the medium and long term, 4 transactions were concluded with a volume of 55,248 thousand kWh for a total amount of 543,338.4 thousand tenge (excluding VAT). The minimum price for this type of centralized trading was 9.21 tenge/kWh (excluding VAT), and the maximum price was 11.3 tenge/kWh (excluding VAT).

# For the same period in 2020, for trading in electricity for the medium and long term, 2 transactions were concluded with a volume of 26,880 thousand kWh for a total amount of 29,568 thousand tenge (excluding VAT). The minimum and maximum price for this type of centralized trading was 1.1 tenge/kWh (excluding VAT).

# **Export-import of electrical energy**

In order to balance the production and consumption of electricity in January-May 2021, exports to the Russian Federation amounted to 517.5 million kWh, imports from the Russian Federation - 403.4 million kWh.

Including export of JSC " KEGOC " - 488 million kWh, import of electricity from the Russian Federation for the reporting period in the amount of 377.4 million kWh.

million kWh

| **Name** | **2020** | **2021** | **Δ 2021/2020** | |
| --- | --- | --- | --- | --- |
| **January-May** | | **million kWh** | **%** |
| **Export of Kazakhstan** | **-863.2** | **-1,540.0** | **-676.8** | **78.4%** |
| **in Russia** | **-403.4** | **-517.5** | **-114.2** | **28.3%** |
| **in the IPS of Central Asia** | **-459.8** | **-1,022.4** | *-562.6* | 122.4% |
| **Import of Kazakhstan** | **455.7** | **559.7** | **104.0** | **22.8%** |
| **From Russia** | **453.1** | **559.7** | **106.7** | **23.5%** |
| **from IPS Central Asia** | **2.6** | **0.0** | **-2.6** | **-100.0%** |
| **Balance-flow "+" deficit, "-" excess** | *-407.5* | *-980.2* | *-572.8* | 140.6% |

# **SECTION II**

# **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.

May 29, 2019 as part of the celebration of the fifth anniversary of the signing of the Treaty on the Eurasian Economic Union 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).

On December 20, 2019, the Supreme Council adopted Decision No. 31 “On the plan of measures aimed at the formation of a common electricity market of the Eurasian Economic Union”, which establishes, among other things, the deadlines for the approval and entry into force of the rules for the functioning of the Union’s common electricity market, as well as other acts provided for by the specified protocol.

At present, the EAEU Member States are working on the development and harmonization of the rules for the functioning of the EAEU CER.

In 2021, one meeting of the Advisory Committee on the Electricity Industry under the EEC Board (hereinafter referred to as the Advisory Committee) was held   
(14th meeting, January 21, 2021) and one meeting of the Subcommittee on the formation of the EAEU ERA of the Advisory Committee on the Electricity Industry under the EEC Board (hereinafter referred to as the Subcommittee) (56th meeting 14 January , 57th meeting 5 February, 58th meeting 25-26 February, 59th meeting 11-12 March, 60th meeting 26 March, 61st meeting 9 April, 63rd May 13 meeting).

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

# **Status of formation of the Electricity market of the CIS**

Since 1992, 55 meetings of the Electric Power Council of the Commonwealth of Independent States (hereinafter - CIS EEC) have been held.

By decision of the EEC of the CIS (Minutes No. 50 dated October 21, 2016), the Consolidated Schedule for the Formation of a Common Electricity Market of the CIS Member States was approved.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Events** | **Period of execution** | **Current status** |
| 1 | Implementation of activities in accordance with Section II . Action Plan for Cooperation between the EEC and the EEC of the CIS, approved on June 10, 2016. | 2016-2020 | Permanent participation of the EEC representatives at the meetings of the EEC of the CIS, representatives of the EC of the EEC of the CIS - at the meetings on the formation of the EER of the EAEU is ensured. |
| 2 | Preparation of a draft procedure for the settlement of deviations from the agreed values of interstate power flows. | 2016-2017 | The decision to develop a procedure for settling deviations from the agreed values of interstate power flows was taken at the 45th meeting of the EEC of the CIS. The draft Procedure was considered at the 29th meeting of the Working Group "Formation of a common electric power market of the CIS countries" on September 15, 2016 in Moscow (RF). In accordance with the Decision of the 47th meeting of the EEC of the CIS, the Action Plan of the EEC of the CIS for 2016 includes the development and approval of draft documents on determining the magnitude of deviations from the agreed values of interstate electricity flows and the settlement of deviations from the agreed values of interstate electricity flows. Work continues. |
| 3 | Preparation of a draft procedure for the distribution of throughput capacity of interstate sections / export-import sections between participants in export-import activities. | 2018-2020 | By the decision of the 50th meeting of the EEC of the CIS, Methodological recommendations for the metrological support of measuring complexes for metering electric energy at interstate  power lines.  By the decision of the 50th meeting of the EEC of the CIS, the Schedule for monitoring the application of regulatory technical documents in the field of metrology of electrical measurements and electricity metering in the production activities of the energy systems of the CIS member states was approved. |
| 4 | Preparation of a draft procedure for compensation of costs associated with the implementation of the transit / transmission / movement of electricity through the energy systems of the CIS member states. | 2018-2020 | The unified format of the data exchange layout for accounting of interstate electricity flows, developed by the Working Group on metrological support of the electric power industry of the Commonwealth of Independent States, was approved by the decision of the 33rd meeting of the CIS EEC and recommended to the electric power industry management bodies of the CIS member states for use in organizing the accounting of interstate electricity flows and data exchange on interstate flows. |
| 5 | Harmonization of national legislation in the field of electric power industry, development and adoption of national regulatory legal documents necessary for the formation and functioning of the CIS EER. | 2020-2025 | The decision of the 51st meeting of the EEC of the CIS approved the Conceptual approaches to technical regulation and standardization in the field of electric power industry. The Regulations on the Working Group “Updating and Harmonizing the Regulatory and Technical Base for Regulating the Electricity Industry” were also approved. By the decision of the 51st meeting of the CIS EEC, the Work Plan of this Working Group was approved. |

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

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

**REPUBLIC** **ARMENIA**

**Electricity tariff may be lowered - Head of the Fund** **renewable energy and energy saving in Armenia.** The liberalization of the electricity market will lead to cheaper electricity. In January 2021, the "Strategic Program for the Development of the Energy Sector until 2040" was adopted. The program pays special attention to the creation of new capacities through the construction of new solar and wind farms.

So, taking into account the potential of the republic in this area, and the potential was calculated within the framework of the program launched in 2016 jointly with the World Bank, the strategy included plans for the construction of solar photovoltaic stations up to 1,000 MW by 2030. Electricity accumulated through these stations will be about 15% of electricity produced in the republic.

In addition to the construction of solar stations, the plans include the development of wind energy - by 2040 wind stations of systemic importance with a capacity of up to 500 MW will be built.

Within the framework of the strategic document, Armenia will implement plans to liberalize the energy market. Such a concept as the purchase and sale of electricity will be introduced, and each licensed "seller" of electricity will be able to make a public offer to the subscriber. The tariff, therefore, as a result of the creation of a competitive environment, should become cheaper.

The "Strategic Program for the Development of the Energy Sector until 2040" also provides for the development of energy conservation. So, today the available technologies allow achieving energy savings of up to 30-40%. Each saved kilowatt of electricity costs 2.2 times less than the cost of generating electricity itself.

**The first floating solar power plant will be built in Armenia.** The Renewable Energy and Energy Saving Fund of Armenia, together with the French company Trans Energy, applied to the French government and received a grant for the construction of the first floating solar station in the Republic of Armenia. Karen Asatryan, director of the Renewable Energy and Energy Saving Fund of Armenia, stated this on May 7, presenting the sphere's plans for 2021.

Within the framework of this project, "studies to study the suitability of water resources for the construction of a floating solar station" will be carried out. The first floating solar power plant with an installed capacity of 151 kW will be built.

In general, by 2030 the volume of planned investments in the field of solar energy will reach $600 million, and in the field of wind energy - $500 million.

At the same time, since 2017, an energy saving program has been launched in Armenia in non-gasified communities of the republic. Thus, for 37,000 households in 180 non-gasified communities, funds were allocated to purchase 3,400 water heaters. With the funding of the Fund, solar stations with a capacity of about 1 MW were installed.

**New solar and wind power plants will be built in Armenia.** By 2040, new solar and wind power plants will be built in Armenia. Armenia plans to build solar photovoltaic stations with a capacity of up to 1000 MW by 2030. The volume of electricity supplied by these stations will be up to 15% of the total energy produced.

Until 2040, it is planned to have wind power plants for system purposes up to 500 MW. The stations will be created with the cooperation of the state and the private sector.

**The operation of the large Masrik-1 solar station in Armenia will begin in 2024.** The program to launch the Masrik-1 solar power plant with a capacity of 55 MW in Armenia is under construction, its operation is scheduled for 2024.

"The station is being built in the Masrik community of the Gegharkunik region. First of all, it (the Masrik-1 station) is a source of" green "energy and a reduction in carbon dioxide emissions.

At the moment, work is underway to implement similar programs for solar stations with a capacity of up to 120 MW in various regions.

The Masrik-1 solar power plant with a capacity of 55 MW, located in the Mets-Masrik municipality of the Gegharkunik region, will be the first of its kind - it will be the largest industrial solar power plant in Armenia.

The energy generated by this plant will be enough to provide electricity to more than 20 thousand homes and reduce carbon dioxide emissions by 40 thousand tons per year.

The program is financed by Fotowatio Renewable Ventures (FRV, a member of Abdul Latif Jameel), together with IFC, EBRD and Ameribank, the total cost of the project is $38.4 million.

**The firing of the reactor begins at the Armenian NPP.** A key scheduled preventive maintenance (PPR-2021) has started at the Armenian NPP as part of a project to modernize and extend the life of the plant.

The NPP will stop for 141 days - this is the longest outage since the start of the modernization project. Such a long stop is connected with the final important work on the modernization of the second power unit. Restorative annealing of the reactor vessel will be carried out, the emergency core cooling system and the reliable power supply system will be modernized. Last year, a plant for restorative annealing (heat treatment) of the reactor vessel metal was delivered to the Armenian NPP. The station is ready for the final part of the life extension work. It is during these days that the reactor will be annealed, which will allow the reactor to return to its original state by 80-85%.

**Investments in the construction of three solar stations in the Gegharkunik and Aragatsotn regions of Armenia will amount to 4.7 billion drams.** Bari Arev LLC will invest 4.7 billion drams in the construction of three solar stations with a capacity of 5 MW in the Gegharkunik and Aragatsotn regions of Armenia. On May 20, the Armenian government delayed the payment of VAT on imported equipment for 3 years.

Thus, according to the investment program launched in 2019, two solar power plants are located in the Aragatsotn community of the region of the same name, and the third is in the Astghadzor community of the Gegharkunik region. The project is expected to be completed in the third quarter of this year.

Of the promised investments of 4.7 billion drams, 80% have already been spent. Within the framework of the investment program, it is planned to create 20 new jobs with an average salary of 250 thousand drams in three years. The entire volume of produced energy in the amount of approximately 871 million drams will be purchased by ENA CJSC.

**Amber Capital Armenia Fund, with the support of the EBRD and the EU, acquired the Solis company for the construction and operation of a solar photovoltaic station.** Amber Capital Armenia Private Equity Fund, with the support of the European Bank for Reconstruction and Development (EBRD) and the European Union (EU), has acquired the Armenian solar power plant operator Solis in Aragatsotn in western Armenia to build and operate a 4 MW photovoltaic solar power plant, the press reported. EBRD service.

The facility is expected to be operational by the end of 2021 and will produce 7.5 GWh of clean energy per year, avoiding 3,200 tons of CO2 emissions per year. The power plant will contribute to the "green" recovery of Armenia and will create about 50 jobs in the construction and operation of the power plant.

The EU, together with the EBRD, decided to allocate 16 million euros to the fund's capital. In total, the Fund intended to attract 70 million euros, which will be invested in the SME sector of Armenia. The fund manager is the international investment company AmberCapital, which has an office and a team of specialists in Armenia.

**REPUBLIC OF BELARUS**

**The first power unit of BelNPP is connected to the grid.** [**The physical launch of the second power unit of the BelNPP is planned for autumn**](https://www.belta.by/economics/view/fizicheskij-pusk-vtorogo-energobloka-belaes-planiruetsja-osenjju-442142-2021/) **.** On May 6, the first power unit of the Belarusian nuclear power plant was connected to the grid after carrying out routine maintenance, provided for by the stage of pilot operation. Specialists have begun a comprehensive testing of the equipment of the power unit at the nominal power level of the reactor plant. Comprehensive testing will complete the stage of pilot operation of the unit.

**A new wind power plant has appeared near the village of Kopachi in the Mstislavsky district of the Mogilev region.** It is the highest not only in Belarus, but throughout the CIS. The project was implemented thanks to the partnership between Belinvestbank OJSC and REAG Mogilev CJSC. The official launch and commissioning of the wind power plant took place in early May 2021. The capacity of the wind power plant is 3.4 MW per hour.

**The Ministry of Energy initiated a discussion of measures to implement the decree on the development of the electric power industry** . The project is aimed at improving the regulation of public relations in the field of electricity supply, including through the settlement of relations for the transmission and (or) distribution of electricity through the electric networks of energy supply organizations that are part of the State Production Association "Belenergo", for operational dispatch management in the electric power industry, as well as the purchase - sale of electricity between housing and communal services organizations that are owners of block stations and (or) consumers of electricity, using the electrical networks of these energy supply organizations.

**The first gas turbine unit and generator arrived at the construction site of the Novopolotsk CHPP.** On the territory of the Novopolotsk CHPP branch, construction of a peak-reserve energy source continues. Works on the installation of foundations for gas turbines and step-up transformers have already been completed, BelTA learned from RUE Vitebskenergo. Step-up transformers, which are installed on the foundation, were brought to the enterprise. The installation work is nearing completion. Siemens recently delivered the first gas turbine and generator. "Representatives of the company unloaded them onto the foundation by a unique truck crane with a lattice boom with a lifting capacity of 600 tons, which is presented in a single copy in the CIS. Delivery of the second gas turbine plant is expected in the second half of May," Vitebskenergo noted.

**A project in the field of wind energy is being completed in Belarus.** Among the activities of the project is the improvement of the state cadastre of renewable energy sources, making proposals for changes to the legislation. In particular, proposals have been developed for calculating the tariff for renewable energy facilities, including wind energy, based on the invested capital method. Draft documents aimed at the implementation of the Paris climate agreement have been prepared. A package of proposals has also been prepared for the introduction of a system of green certificates in the country, which confirm each kilowatt of green energy already produced. The project also touched upon the issues of technical regulation and standardization. In addition, among the important components of the project is the reduction of risks of investments in wind energy in Belarus.

**Power Grid Complex: Results and Prospects.** On April 22, in the branch "Baranovichi Electric Networks" of RUE "Brestenergo" a meeting was held on the issues of improving the reliability and development of electric networks of the energy system of the Republic of Belarus. The event was attended by technical managers of State Production Association "Belenergo", chief engineers of RUE-oblenergo, as well as chief engineers of power grid branches. The planned targets for 2020 for the overhaul of 0.4–750 kV power transmission lines and measures to improve their reliability have been met in full. The same applies to the clearing and expansion of clearings and programs to replace wires on high-voltage overhead lines. In 2020, the clearing of 35–330 kV overhead lines was expanded on an area of 930.03 hectares (105.5% of the target for 2020). The length of 10 kV overhead lines passing through the lands of the forest fund, using protected (covered) wires, amounted to 7625.79 km, 60.6% of the total length in forest areas). RUE-oblenergo completed the replacement of 6–10 kV cable lines in regional, district cities of the republic and in Minsk in the amount of 348.62 km (115.91% of the target for 2020). Last year, the main efforts were directed at expanding the 35–110 kV glades, using protected wires for 10 kV overhead lines, self-supporting insulated wires for 0.4 kV overhead lines, cables with XLPE insulation during the reconstruction of 0.4–10 kV networks, and in the construction of 110 kV overhead lines - the use of linear suspension polymer insulators of a new generation and lightweight supports of an increased type.

In 2020, amendments were prepared to the Decree of the President of the Republic of Belarus dated May 28, 2020 No. 93rp, in accordance with which the currently established prohibitions on the expansion of glades of overhead lines of 35 kV and above, located within the boundaries of specially protected natural territories and natural areas subject to special protection (PTPS). At present, the draft order has been approved by the state administration bodies and is under consideration by the Council of Ministers of the Republic of Belarus. It will be possible to start work on expanding the glades of overhead lines of 35 kV and above, located within the boundaries of the PTSSO (coastal strips of rivers and reservoirs, recreational and health-improving and protective forests), it will be possible to proceed immediately after the approval of the order.

Most of the power grid complex requires renovation. The length of 0.4–750 kV overhead lines that have completed their standard service life is 48.77% of the total length of overhead lines. The largest length with 100% wear is 10(6) kV overhead lines - 58% (59,138 km). The length of overhead lines of 35 kV and above with a service life of 40 years or more is 59.1% of the total length of overhead lines. Almost 43.7% (10,462 km) of 10(6) kV cable lines as of 01/01/2021 have completely exhausted their resource. An integrated approach to the automation of 0.4–10 kV distribution networks among rural distribution networks continues to be applied. Among the largest implemented automation facilities, one can single out the Bobruisk rural distribution zone, the Borisov rural distribution zone, the Pinsk rural distribution zone and the Lioznensky distribution zone. In the part of the "urban" RES, the project "Modernization of the upper level of the ASDU of the branch "Minsk Cable Networks" of RUE "Minskenergo" is being implemented.

Also during the event, priority plans for the coming years to develop electrical networks and improve their reliability were named. The priority tasks included the following: - expansion of glades by order of the President of the Republic of Belarus dated May 28, 2020 No. 93rp; - the use of insulated wires and supports of an increased type in the construction and reconstruction of electrical networks of 35 kV and above; - replacement of wires and ground wires based on the results of their diagnostics on power lines that had outages with a break in these elements no later than 6 months after receiving the diagnostic results; – replacement by the end of 2023 of uninsulated wires passing through the forest areas of the state forest fund with insulated ones; – bringing the share of isolated 6–10 kV overhead lines passing through forest areas outside the state forest fund to the level of 50% by 2025; – transfer of shock-absorbing overhead lines with bare wires to cable version with XLPE insulation; – conducting emergency drills in accordance with the regulation on the procedure for organizing, preparing and conducting drills and exercises in the management apparatus of the State Production Association “Belenergo” and organizations that are part of it.

**THE REPUBLIC OF KAZAKHSTAN**

**AZhK JSC will introduce a system with elements of artificial intelligence.** Samruk-Energo JSC started working with this technology. The purpose of the Digital Transformation Program project is to analyze the data collected in the automated system for control and accounting of electricity (ASKUE). This will help to timely identify excess losses in the networks of Alatau Zharyk Kompaniyasy JSC.

The project team is currently building a model of predicted electricity consumption and an automated comparison of the forecast with actual consumption. Further, the places of illegal connection to the power grids will be determined in terms of the supplied and received electricity in the context of transformer substations. More than 200,000 meters are installed at the stations of AZhK JSC, from which readings are regularly taken in case of detection of excess losses in the networks. To date, documents for tender procedures for the implementation of the system are being prepared under the project.

The expected benefits of the project will be about 600 million tenge.

The project completion date is December 2022.

**Investment projects of Samruk-Kazyna JSC in the energy sector are in the focus of attention of the Government.** Major projects were presented in the fields of energy, mechanical engineering, the metallurgical industry and the production of building materials, including:

- on the modernization of the largest thermal power plant of the Republic of Kazakhstan - Ekibastuz GRES-1, work on the restoration of power unit No. 1 with the installation of electrostatic precipitators. The implementation of the project worth 123.7 billion tenge will increase the plant's capacity by 550 MW to 4,050 MW. In addition, the impact on the environment will be significantly reduced due to the installation of a modern cleaning system. It is planned to reduce the time for commissioning the station and complete the project in 2023.

- construction of a new power unit No. 3 at the Ekibastuz GRES-2 and other investment projects in the electric power industry.

In the near future, it is planned to introduce an additional 1,200 MW of capacity at the enterprises of the Samruk-Kazyna group to implement large industrial projects and provide for the economy of Kazakhstan.

**President Kassym-Jomart Tokayev held a meeting on the development of the electric power industry. During the event, which was held via videoconference, reports were made by the Minister of Energy Nurlan Nogayev, the Minister of Industry and Infrastructure Development Beibut Atamkulov, the Minister of Ecology, Geology and Natural Resources Magzum Mirzagaliev, the Chairman of JSC NWF Samruk-Kazyna Almasadam Satkaliyev, the Chairman of the Board of Directors of the Kazakhstan Solar Energy Association Nurlan Kapenov, General Director of Total Energies Kazakhstan Alem Friga-Noy. This was reported by the press service of Akorda.**

In his speech, the President paid special attention to the efficient use and saving of energy.

Kassym-Jomart Tokayev believes that the fairness and affordability of tariffs is an important economic and social issue. In order to mitigate the negative impact of the pandemic, all tariffs were frozen until the end of the 1st quarter of this year. At the same time, it is not possible to keep tariffs at the same level all the time. Tariffs should cover reasonable costs and allow the industry to develop.

Noting the importance of modernizing and launching new generating capacities, the Head of State dwelled separately on the project of converting Almaty CHPP-2 to gas.

***“This issue is of strategic importance. The ecology of the city of Almaty and, of course, improving the quality of life of citizens depends on the solution of this problem. Therefore, I instruct the Government, the Samruk-Kazyna fund, together with the akimat, to finally decide on the project for the modernization of CHP 2 and begin implementation as soon as possible. Delay is already completely unacceptable,”*** Kassym-Jomart Tokayev said.

On behalf of the President, the Concept for Low-Carbon Development of Kazakhstan until 2050 is being developed. The government is also working on the National Electricity Development Project, preparing the country's energy balance until 2035.

***“The main generating capacities in Kazakhstan, including thermal stations, have been in operation for 40 years or more. According to experts, their total wear is more than 50%. This leads to an increase in technological disturbances at power plants. In 2019 - 4010 violations, in 2020 - 4458 violations, an increase of 11%. There is a need for a large-scale technical audit of energy sources. We must clearly understand where and when the launch or retirement of energy facilities, their repair and modernization will take place,”*** Kassym-Jomart Tokayev said.

Kazakhstan has taken a steady course towards the development of renewable and alternative energy sources. The country managed to achieve a qualitative increase in RES in the structure of the overall energy balance - it reached 3%.

***“Earlier, we set a goal to bring this figure to 10% by 2030. Taking into account the new realities and the current positive dynamics, I set the task of increasing the share of renewable energy sources in power generation to 15% by 2030,”*** the Head of State instructed.

***“The share of local content in RES projects is still extremely small. We have to learn not only to build new sparkling stations, but also to develop local production, science and technology, and raise qualified domestic personnel. Otherwise, it will turn out that the whole country is investing in foreign goods and technologies, paying for it through tariffs. I instruct the Government to carefully study and apply the best international experience in localization in the field of renewable energy and energy in general,”*** Kassym-Jomart Tokayev said.

The President noted the need to stimulate the use of renewable energy sources among the population and proposed, as part of the development of "smart" cities, to implement pilot projects for the operation of solar panels and microstations.

Kassym-Zhomart Tokayev agreed with the opinion of experts who believe that it is premature and wrong to completely write off nuclear energy.

The speech also noted the need to bring order to the activities of electric grid companies. The government and akimats of the regions were instructed to take a set of measures to gradually reduce the level of physical deterioration of power networks. In addition, the personnel problem is of critical importance.

The head of state called it an important task to attract international investors to the development of the industry. On his behalf, negotiations are underway with investors from the United Arab Emirates, France and other European countries.

The Ministry of Energy, together with the Agency for the Protection of Competition, was instructed to carefully study this issue. In addition, the Government will have to ensure the restart of the greenhouse gas emissions trading system.

**Kazakhstan has taken a steady course towards the development of renewable and alternative energy sources. The country managed to achieve a qualitative increase in RES in the structure of the overall energy balance - it reached 3%.**

– Previously, we set a goal to bring this figure to 10% by 2030. Taking into account the new realities and the current positive dynamics, I set the task of increasing the share of renewable energy sources in power generation to 15% by 2030, the Head of State instructed.

The President believes that Kazakhstan, being a large energy country, must maintain its leading position in the new energy sector in the future.

– The share of local content in RES projects is still extremely small. We have to learn not only to build new sparkling stations, but also to develop local production, science and technology, and raise qualified domestic personnel. Otherwise, it will turn out that the whole country is investing in foreign goods and technologies, paying for it through tariffs. I instruct the Government to carefully study and apply the best international experience in localization in the field of renewable energy and energy in general, Kassym-Jomart Tokayev said.

The President noted the need to stimulate the use of renewable energy sources among the population and proposed, as part of the development of "smart" cities, to implement pilot projects for the operation of solar panels and microstations.

- I am a supporter, and a firm supporter, of the development of clean energy, and in general green technologies. I support the construction of power plants using renewable energy sources,” the Head of State said.

**REPUBLIC OF KYRGYZSTAN**

[**In 2020, income from electricity amounted to more than 8 billion soms, thermal energy - 1.1 billion soms, - "Electric Power Plants"**](https://live.kg/akipress-kg/113506/#respond)

Based on the results of the activities of Electric Stations OJSC for 2020, the actual volume of marketable products amounted to 9 billion 408.2 million soms. According to the company, the actual volume of all marketable products for 2020 is higher than the plan by 73.4 million soms, which is caused by an increase in the consumption of thermal energy. Also, the actual volume of marketable products for 2020 is higher compared to 2019 by 182 million soms or 2%.

The actual income from electricity for 2020 amounted to 8 billion 90 million soms, which is lower than the plan by 22.3 million soms, which is mainly due to a decrease in income from the checkpoint and Kumtor by 215.2 million soms, with an increase in income from the REC by 199, 1 million soms.

Incomes from heat energy for 2020 amounted to 1 billion 155.1 million soms. They increased by 170.1 million soms compared to 2019. At the same time, the growth from the plan amounted to 93.5 million soms, which was due to an increase in the consumption of thermal energy due to the early start of the heating period.

Incomes from make-up water for 2020 amounted to 163.1 million soms, which is higher compared to 2019 by 1.3 million soms or 0.8%.

**In April, electricity losses in the energy system of Kyrgyzstan amounted to 125 million 965.383 thousand kWh.**

In general, in April, the country's energy system generated 893 million 200.597 thousand kWh of electricity. Of this volume, Electric Stations OJSC generated 877 million 303.480 thousand kWh. Including: HPP - 752 million 110.880 thousand kWh, CHP - 125 million 192.600 thousand kWh. Other suppliers (Small HPPs) - 15 million 897.117 thousand kWh. The network of Kyrgyzstan received 1 billion 219 million 419.717 thousand kWh of electricity.

According to the operational data of the central dispatching service of the National Electric Grid of Kyrgyzstan OJSC for April 2021, electricity consumption in the Kyrgyz energy system amounted to 1 billion 249 million 841 thousand kWh; in [2020](https://knews.kg/tag/2020/) , for the same period, consumption amounted to 1 billion 000 million 719 thousand kWh, reports the National Electric Grid of Kyrgyzstan OJSC.

**The World Bank supported the revision of electricity tariffs in Kyrgyzstan. The organization notes that today the Kyrgyz Republic has the lowest electricity tariffs in Europe and Central Asia.**

On April 21, President Sadyr Japarov made a proposal [to change electricity tariffs.](https://ru.sputnik.kg/society/20210422/1052219629/kyrgyzstan-tarify-predlozheniya-vse-kategorii.html) He suggested the following:

* reduce the payment per kilowatt-hour for low-income families by 3 tyiyn to 74 tyiyn;
* establish a tariff of 1.04 soms for residents of remote and mountainous areas with difficult living conditions;
* establish a tariff of 1.48 soms for well-to-do families, removing restrictions on kilowatt-hours (in winter, the tariff for this category of the population may be 2.29 soms for consumption of more than a thousand kilowatt-hours).

**Kyrgyzstanis were asked to use electricity economically, not turn on electrical appliances unnecessarily, stop using incandescent lamps and switch to alternative sources of heating and water heating.**

The company noted that the following measures have been taken to reduce the electricity shortage:

* The first measure is the exchange of electricity with Kazakhstan and Uzbekistan. In the period from March 2021 to March 2022, **1.65 billion kWh will be received from them** and returned in three stages of 550 million kWh each in the summer months of 2021-2023
* The second measure is the additional loading of the Bishkek thermal power plant, which will provide about **1 billion kWh** to cover the electricity shortage
* The next effective measure is a strict limitation of electricity consumption by both distribution energy companies (RECs) and wholesale electricity resellers (WPPs)

**The National Energy Holding will launch the Unified Purchasing Center for Energy Companies. This issue was discussed at a meeting between the Minister of Energy of the Kyrgyz Republic and the chairman of the board of the holding, according to the company's website.** A single procurement center is being created to monitor procurement activities in energy companies.

**RUSSIAN FEDERATION**

**The Russian Ministry of Energy intends to keep the growth of tariffs on the wholesale** electricity and capacity market (WECM) in 2026-2032 within the inflation rate. The growth rate of the cost of electricity in 2026-2032 may be 1.2-2.6 times higher than inflation due to the decisions taken in 2020-2021 on, among other things, the extension of the mechanism for subsidizing tariffs in the Far East through a surcharge for consumers of the first (European part of Russia and the Urals) and the second (Siberia) price zones of the wholesale market, as well as the adoption of the second state program to support the development of renewable energy and the need to increase the installed capacity of generation facilities for the Eastern range of Russian Railways.

**For the first time, the system operator introduced a digital system for monitoring stability margins into the Altai energy system. The branch** of the system operator - "Regional Dispatch Office of the Energy Systems of the Novosibirsk Region, Altai Territory and the Republic of Altai" (Novosibirsk RDU) began monitoring the maximum allowable active power flows in two controlled sections of the power system of the Republic of Altai and Altai Territory using a digital stability margin monitoring system (SMZU ).

The control of the maximum allowable active power flows using SMZU is carried out in controlled sections, through which the power shortage is compensated from the 500 kV network in the largest industrial centers of the Altai Territory - Barnaul and Biysk energy districts.

The use of SMZU to determine the MDP when managing the electric power regime of the power system of the Republic of Altai and the Altai Territory will increase the degree of use of the transmission capacity of the electrical network up to 15% (by 150 MW) and, in general, will ensure the possibility of using up to 1000 MW of its transmission capacity without reducing the level of reliability of power supply to consumers.

**Hevel plans to commission 1.7 GW of capacity in 2021**

At the end of 2020, Hevel's revenue increased by 21%, and total assets grew by 76% to 109 billion rubles. The total capacity of new solar power plants (SPP), which Hevel plans to put into operation in 2021, will be 1.7 GW.

Last year, the company commissioned 1.1 GW of solar parks, including 355 MW in Kazakhstan. At the end of the year, it is expected that the consolidated volume of commissioning of new solar power plants will be 1.7 GW, including projects within the retail business of the group.

**The Market Council has updated the forecast for the dynamics of the cost of electricity for industry, taking into account the collapse in consumption in 2020. The regulator expects the most noticeable price growth in 2021-2022. In the European part of the Russian Federation and the Urals, they will grow by 6% for two years in a row. In Siberia, a jump of 15% is expected this year, and 7% next year. Then growth will slow down due to lower payments for the capacity of new TPPs. But experts warn that after 2025 prices will go up again with the launch of new investment programs in the energy sector. Consumers talk about a decrease in the competitiveness of Russian products due to an increase in cost, and the Ministry of Economy proposes mechanisms to limit the growth of energy prices.** In the first price zone (the European part of the Russian Federation and the Urals), demand is expected to recover to the level of 2019 next year, and in the second price zone (Siberia) this year (see chart). Moreover, in 2021–2022, in both price zones, the one-part price may rise above the forecast inflation rate (about 4%). In Europe and the Urals in 2021, the indicator will increase by 5.87%, to 2.66 thousand rubles. per 1 MWh, in 2022 — by 5.62%, up to 2.8 thousand rubles. In Siberia, in 2021, the one-part price will increase by 15.39%, breaking through the ceiling of 2 thousand rubles for the first time, in 2022 - by 6.84%, to 2.15 thousand rubles.

**For the second year in a row, electricity for industry in Russia turned out to be more expensive than in a number of foreign countries. In 2020, the final energy prices in the Russian Federation, according to the calculations of the "Community of Consumers of Energy", were higher than in the USA, Turkey and four EU countries. Despite this, the Ministry of Energy assures that energy prices in the Russian Federation remain among the lowest in the world. Energy officials explain that in 2020, prices abroad fell due to an atypical drop in demand, but are now rising again.**

**From 2010 to 2020, the number of accidents at industrial enterprises and energy facilities decreased by 64.2% (from 355 to 127 accidents), and the number of fatal accidents - by 59.1% (from 367 to 150 accidents).**

According to Rostechnadzor, in 2020 compared to 2019, the accident rate at industrial enterprises and energy facilities decreased by 12.3%, and the number of deaths - by 14.8%.

The largest decrease in the number of accidents was noted at the facilities of the petrochemical and oil refining industries, lifting facilities, gas distribution and gas consumption facilities, as well as enterprises of the military-industrial complex. The increase in the number of accidents occurred at the facilities of the chemical complex, main pipeline transport, mining and non-metallic industry, underground construction and coal industry. In total, in 2020, the Service controlled 1.2 million objects.

**Power engineers of the Adygei branch of Rosseti Kuban completed the technological connection to the grid infrastructure of the company of a solar generation facility in the Shovgenovsky district of the Republic of Adygea with a capacity of 4.5 MW.** This is the second solar power plant in the Republic. Earlier, modules of the Adygei SPP with a total capacity of 4 MW were put into operation. For the technical connection of a new energy facility, Rosseti Kuban built a 10 kV overhead line and expanded the 110 kV Shovgenovskaya substation (mounted additional cells of a complete outdoor switchgear). This is the key food center of the district of the same name in the north of Adygea, where more than 16,000 people live.

**The capacity of solar power plants in the Volgograd region has increased to 120 MW.** 14.5 billion rubles were invested in the creation of all power plant facilities. A new solar power plant (SPP), opened on the territory of the company "LUKOIL-Volgogradneftepererabotka" in the Volgograd region, has increased the capacity of solar power plants in the region up to 120 MW.

**Rosseti FGC UES for the first time implemented machine vision technology in the grid complex of the Russian Federation.** Rosseti FGC UES implemented machine vision technology in the largest power supply center in the Saratov region. The project was first implemented in the power grid complex of Russia. The energy company's specialists installed the system at the 500 kV Kurdyum substation, with a capacity of 1242 MVA and on which the power supply of the region with a population of 2.4 million people depends, as well as the output of the power of the Saratov hydroelectric power station and the Balakovo nuclear power plant.

**New wind farms will be built in two districts of the Stavropol Territory.** By 2024, wind and solar generation facilities with a total capacity of 1 gigawatt will operate in the region. Investors are already building two new wind farms in the Ipatovsky and Kochubeevsky districts. Two more projects are being prepared in the Trunovsky and Petrovsky districts. Now wind power plants are being built in the region with a total investment of about 40 billion rubles. The construction of solar and wind energy facilities began in the region in 2019, by 2024 their total number should reach ten.

**The Russian government has adopted a roadmap** for the development of electricity transmission technologies for the next three years. It involves, among other things, the transition to intelligent energy metering, which will allow refusing to transfer data manually, prevent theft and promptly learn about accidents.

**THE REPUBLIC OF TAJIKISTAN**

**Issues of modernization of the Nurek HPP discussed in Dushanbe**

Andritz Hydro won the tender for the modernization of the Nurek hydropower plant. The reconstruction of the object consists of two phases.

The first phase of the project consists of three stages - replacement of 3 units and their auxiliary equipment, replacement of autotransformers (6 single-phase autotransformers 220/500 kV) and ensuring the safety of the dam. The implementation period of the first phase is 5 years. (2019-2023). $326.9 million was allocated for the implementation of the first phase of the project. The World Bank allocated $169.1 million in loans and $57.8 million in grants for these purposes. In addition, the Asian Infrastructure Investment Bank allocated $60 million and another $40 million is a loan from the Eurasian Development Bank.

The second phase of the project includes the reconstruction of the remaining 6 units and the overhaul of the hydraulic turbine units, the replacement of high-voltage transformers, the replacement of 6 kV switchgear in the engine room and loading mechanisms with a lifting capacity of 360 tons, and so on. The implementation period of the second phase of the project is 5 years (2024-2028). The cost of the project is $148.6 million.

**The Ministry of Energy and Water Resources of Tajikistan called on French contracting companies to participate in the tender for the implementation of the Sebzor HPP construction project.** The Sebzor HPP construction project provides for the construction of a run-of-river station on the Shokhdara River with an estimated generation capacity of 74.5 million kWh per year.

**Tajikistan launches new energy program worth $39 million**

The United States Agency for International Development (USAID), together with the Ministry of Energy and Water Resources of the Republic of Tajikistan, has launched a new five-year, $39 million regional energy program - "USAID - Energy in Central Asia" in Tajikistan.

The program will assist the five countries of Central Asia—Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan—to achieve priority national energy goals, gain economic benefits from cross-border energy trade, and improve energy security through greater regional integration.

**A working group has been set up under the Tajik antimonopoly agency to review electricity tariffs.** It included representatives of authorized ministries and departments of the republic.

**Current rates.** At present, the population of the country pays 22.66 dirams for each kilowatt of electricity. The same price - 22.66 dirams - is paid by consumers of the public sector, public utilities and sports complexes. The tariff for industrial and non-industrial consumers is 55.14 dirams, for water pumps and pumping stations for mechanical irrigation, repair and production bases of the Agency for Melioration and Irrigation - 7.87 dirams (from April 1 to September 30) and 22.66 dirams (from October 1 to March 31), for reclamation vertical wells, reclamation pumping stations - 7.87 dirams. For the use of electricity in electric boilers and electrical equipment to provide hot water and heating buildings, 136.62 dirams per kilowatt (for non-public sector) and 40.37 dirams (for budgetary organizations and institutions) are charged. For drinking water supply pumps (excluding individual pumps) and sewerage 10.76 dirams. The Tajik Metallurgical Plant receives each kilowatt of electricity for 9.68 dirams (from April 1 to September 30) and 55.14 dirams (from October 1 to March 31). Tariffs for the main consumer of Tajik electricity - SUE "Tajik Aluminum Company" - at the moment are: from May 1 to September 30 - 7.20 dirams per kWh, in winter (from October 1 to April 30) - 11.80 dirams.

**Canceled promotion.** Electricity tariffs in 2010-2016 increased strictly in even years, and then on an annual basis. The year 2020 was an exception: in the context of the spread of the new coronavirus, the President of the country instructed to refrain from raising the cost of goods and services that are a natural state monopoly (electricity, water, public transport, etc.). During 2010-2019, electricity tariffs for the population of the country were increased by 2.5 times: from 9 dirams from January 2010 to 22.66 dirams from September 2019.

**The Rogun HPP is exempted from paying interest on tax debts, which were formed as a result of the generation and transmission of electricity. At the suggestion of the government of Tajikistan, no interest will be accrued on the tax debt of Rogun HPP OJSC this year.**

Rogun HPP OJSC is one of the largest tax debtors: the size of the debt, according to the tax department, at the beginning of this year amounted to about 50 million somoni ($4.4 million). In accordance with the Tax Code of the Republic, interest is charged in the amount of 0.05% of the amount of tax debt for each calendar day of underpayment. Earlier, by order of the government, the debts of Rogun HPP OJSC in the amount of more than 3.2 million somoni to 22 companies involved in the completion of the station were reduced. These companies were forgiven tax debts for the corresponding amount.

**The World Bank will continue to support Tajikistan in the production of clean electricity. World Bank Vice-President for Europe and Central Asia Anna Bjerde announced the organization's readiness to support Tajikistan's efforts to use cleaner and renewable energy sources.** The current World Bank investment in the energy sector in Tajikistan is about $500 million.

**The shareholders plan to increase the authorized capital of the Rogun HPP. The annual meeting of shareholders of Rogun HPP OJSC will be held on June 18 this year in the building of the National Library of Tajikistan. The authorized capital of** the Company increases annually, taking into account the amount of financing for the completion of this station. Currently, the size of the authorized capital of Rogun is more than 30 billion somoni.