

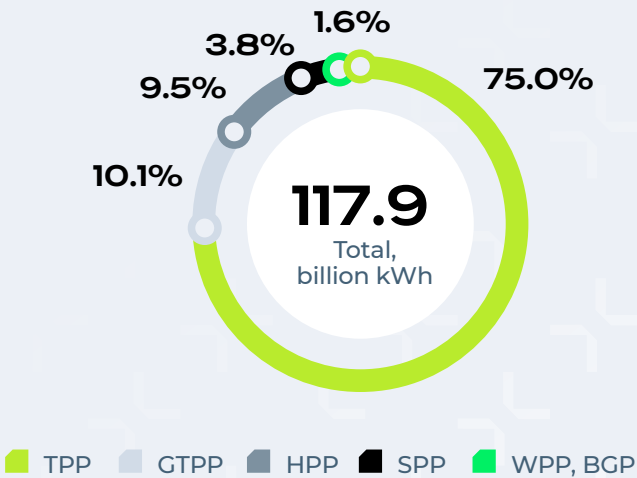
# ELECTRICITY BALANCE

Dynamics of electricity generation, billion kWh



Electricity generation in 2024 in the Republic of Kazakhstan amounted to 117,915.4 million kWh, which, in accordance with the output for the same period in 2023, increased by 5,072.7 million kWh or 4.5%.

Structure of electricity production by UPS power plants in the Republic of Kazakhstan in 2024



117,915.4  
mln kWh

electricity generation in 2024  
in the Republic of Kazakhstan

At the same time, an increase/decrease in output occurred at the following large power plants:

Power plants	mln kWh	%
CHP-2 JSC "Qarmet" (AMT)	▲ 548.2	33.1
JSC "Ekibastuz GRES-2 Station"	▲ 386.3	6.8
JSC "Zhambyl GRES"	▲ 371.3	12.1
CHP-3 JSC "Pavlodarenergo"	▲ 203.7	7.5
CHP-1 JSC "Aluminium of Kazakhstan"	▲ 170.5	8.7
Zhezkazgan CHP LLP "Kazakhmys Energy"	▲ 82.1	9.0
JSC "SevKazEnergoPetropavlovsk"	▲ 20.9	0.9
JSC "3-Energoortalyk"	▲ 18.0	2.1
LLP GRES "Topar"	▼ 524.9	13.3
JSC "EEC"	▼ 402.1	2.8
Ekibastuz GRES-1	▼ 324.8	1.4
ES AZF TNK "Kazchrome" (GTU)	▼ 127.2	16.0
JSC "AIES Almaty CHP-1"	▼ 101.7	23.7
JSC "AIES Almaty CHP-3"	▼ 76.3	8.0
JSC "AIES Almaty CHP-2"	▼ 53.5	2.1
Balkhash CHP LLP "Kazakhmys Energy"	▼ 15.0	1.6

In 2024, there was an increase in electricity generation at thermal power plants by 1,015.3 million kWh (+1.2%), at GTPP by 877.1 million kWh (+7.9%) and at RES (SPP, WPP, BGP) by 705.1 million kWh (+12.4%).

The renewable energy sources (RES) sector is showing steady growth and is becoming one of the most dynamically developing areas in the electric power industry of the Republic of Kazakhstan. The volume of electricity generation at RES facilities is increasing annually, which is facilitated by the implementation of government programs and initiatives aimed at developing “green” energy.

As part of its commitment to international low-carbon development goals, in May 2013, the Republic of Kazakhstan approved the Concept of Transition to a “green economy”, setting an ambitious goal: by 2050, the share of alternative and renewable energy sources should reach 50% in the country’s energy mix. In accordance with this Concept, as well as the Strategic Development Plan of the Republic of Kazakhstan until 2025, phased targets have been set for the share of RES in total electricity production:

- ◆ 3% by 2020,
- ◆ 6% by 2025,
- ◆ 10% by 2030,
- ◆ 50% (including alternative sources and RES) by 2050.

By the end of 2024 (according to NBC SO), 157 RES facilities with a total installed capacity of 3,038.6 MW operated in the Republic of Kazakhstan.:

- ◆ 57 WPP facilities with a capacity of 1,525.7 MW;
- ◆ 44 SPP facilities with a capacity of 1,216.6 MW;
- ◆ 55 HPP facilities with a capacity of 295.2 MW;
- ◆ 1 bioelectric power plant with a capacity of 1.1 MW.

In 2024, 8 RES facilities with a total capacity of 154.6 MW were commissioned.

By the end of 2024, the volume of electricity (according to NDC SO) generated by RES facilities amounted to 7.55 billion kWh (WPP — 4,497.6 million kWh; SPP — 1,895.6 million kWh; HPP — 1,161.3 million kWh; BioPPs — 0.6 million kWh) or 6.4% of the total electricity production, which is a 12.5% increase compared to 2023.

Information on the production of electric energy by RES facilities for 2024

Indicators	Units of measurement	2024
Installed capacity including:	MW	3,038.6
wind power plants	MW	1,525.7
small HPP	MW	295.2
solar power plants	MW	1,216.6
bio power plants	MW	1.1
Electricity generation including:	mIn kWh	7,555.1
wind power plants	mIn kWh	4,497.6
small HPP	mIn kWh	1,161.3
solar power plants	mIn kWh	1,895.6
bio power plants	mIn kWh	0.6
The share of generated electricity RES in the total volume of electric energy production	%	6.4

8  
RES facilities

were commissioned  
in 2024

154.6  
MW

total RES capacity  
of commissioned  
facilities in 2024



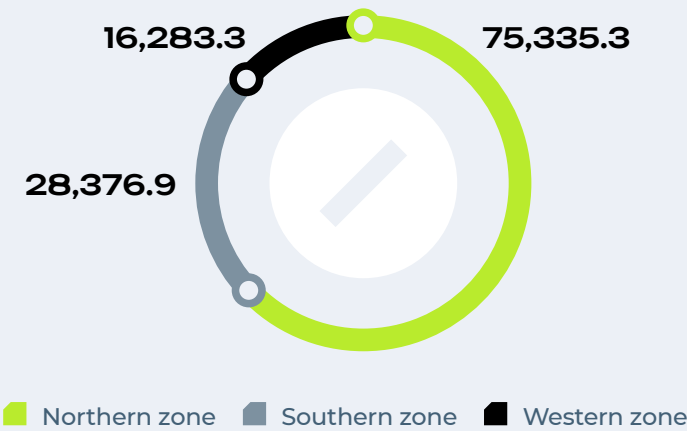
Electricity consumption by the Republic of Kazakhstan in the reporting period of 2024 increased by 4,908.3 million kWh (4.3%) compared to the same period of 2023 and amounted to 119,995.5 million kWh. In the Northern zone, electricity consumption increased by 1,814.1 million kWh (2.5%), in the Western zone of Kazakhstan by 1,588.3 million kWh (10.8%), in the Southern zone by 1,505.9 million kWh (5.6%).

In comparison with 2023, the changes in electricity consumption were as follows:

The volume of electricity consumption in 2024 compared to 2023

Consumers	mIn kWh	%
"TNK Kazchrome" JSC (AZF)	▲ 342.4	10.8
TNK Kazchrome "Aksu Ferroalloy Plant"	▲ 276.5	5.4
"Sokolovsko-Sarbayskoe MPP" JSC (Mining and Processing Association)	▲ 158.6	12.4
"Kazakhmys Smelting" LLP	▲ 106.3	9.2
"Kazzinc" LLP	▲ 65.8	2.4
"ANPZ" LLP (Atyrau Oil Refinery)	▲ 65.3	8.6
"Aluminium of Kazakhstan" JSC	▲ 52.4	4.9
"Kazakhstan Electrolysis Plant" JSC	▲ 31.3	0.8
"Corporation Kazakhmys" LLP (ZCM, BCM, KCM — likely plant names like Zhezkazgan Copper Smelter, Balkhash Copper Smelter, Kounrad Copper Smelter)	▲ 22.5	1.4
"Qarmet" JSC	▼ 240.3	7.3
"Kazphosphate" LLP	▼ 86.0	4.4
"UKTMK" JSC (Ust-Kamenogorsk Titanium-Magnesium Plant)	▼ 6.0	0.9

Structure of electricity consumption  
by zone, million kWh



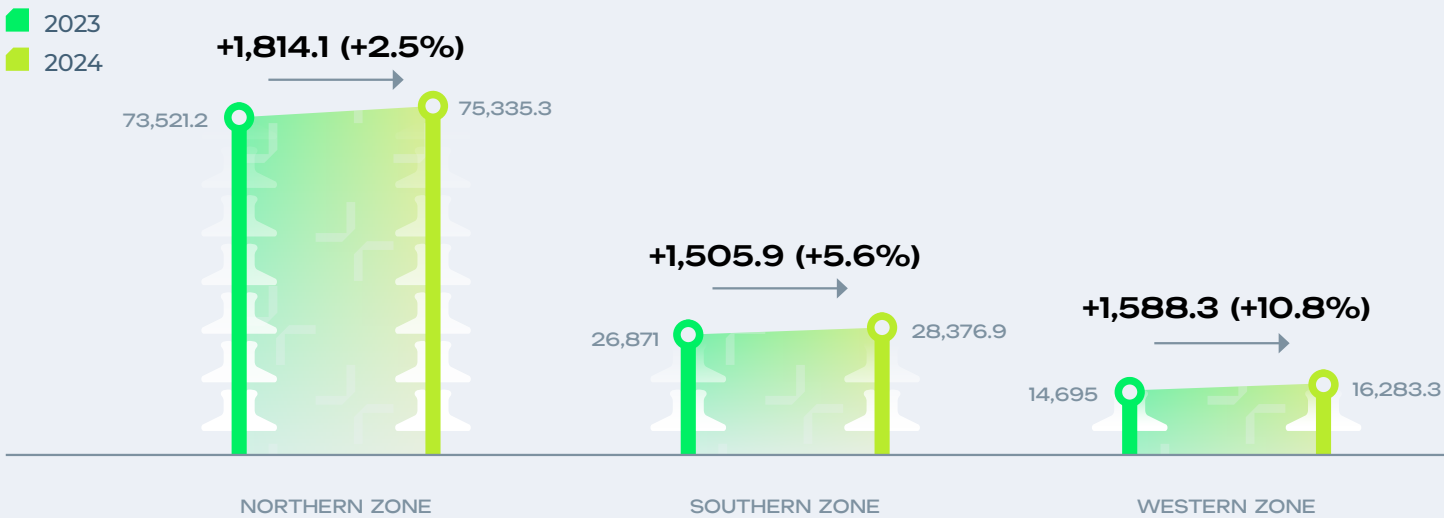
2,080.1  
million kWh

was the excess of electricity  
consumption over production  
in 2024



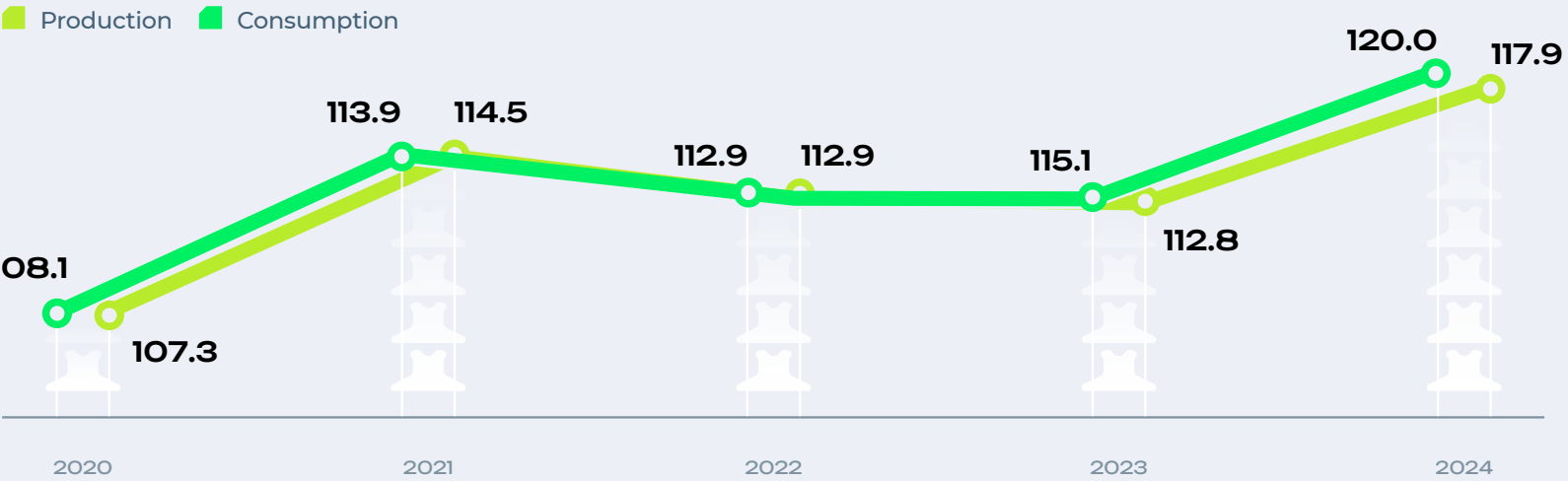
In 2024, compared with 2023, the maximum increase in electricity consumption was noted in Atyrau region by 11,416.1 million kWh (16.2%), Akmola region by 651.5 million kWh (5.9%), Almaty region by 621.6 million kWh (5.2%), Altai Territory by 10.6 million kWh (5.2%). Turkestan region by 497.7 million kWh (7.7%).

Dynamics of electricity consumption by zone for 2023-2024, million kWh



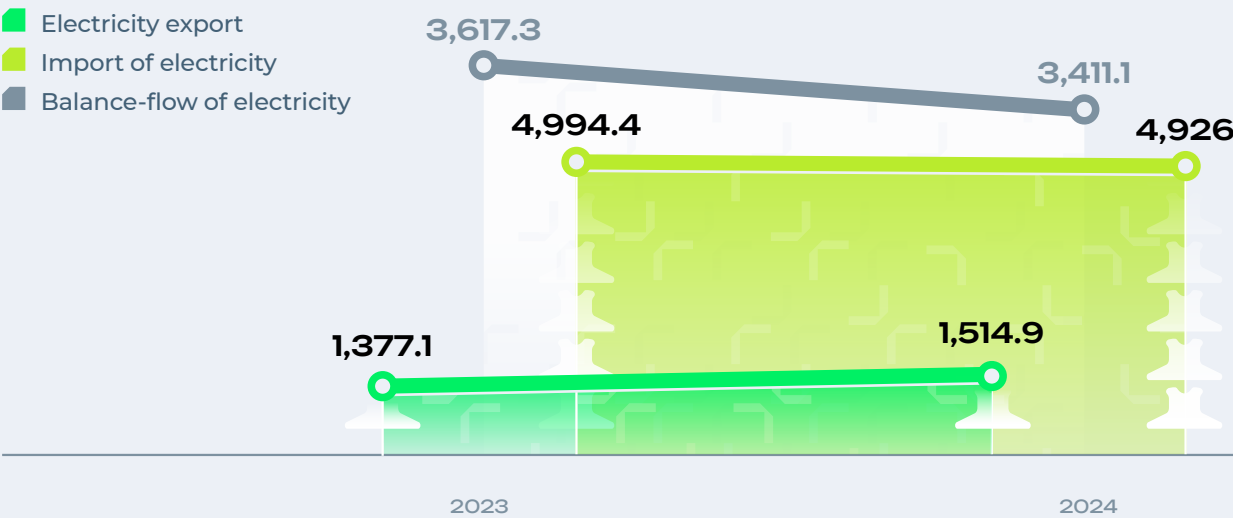
In 2024, electricity consumption exceeded production by 2,080.1 million kWh.

Dynamics of electricity production and consumption, billion kWh



During the reporting period, the balance of electricity flows with the Russian Federation amounted to 3,411.1 million kWh (in 2023, with the Russian Federation — 3,617.3 million kWh). At the same time, electricity exports to the Russian Federation amount to 1,514.9 million kWh (in 2023 — 1,377.1 million kWh). Electricity imports from the Russian Federation amount to 4,926.0 million kWh (in 2023 — 4,994.4 million kWh). Exports and imports are based on the volumes of balancing electricity with the Russian Federation.

Balance of electricity flow with the Russian Federation, million kWh



The flow balance with Central Asia is 1,331.0 million kWh (in 2023 from Central Asia 1,372.8 million kWh). At the same time, exports to Central Asia amounted to 1,624.1 million kWh (in 2023 — 1,441.0 million kWh). Electricity imports from Central Asia are 293.1 million kWh (in 2023 — 68.2 million kWh).