

# Production activities

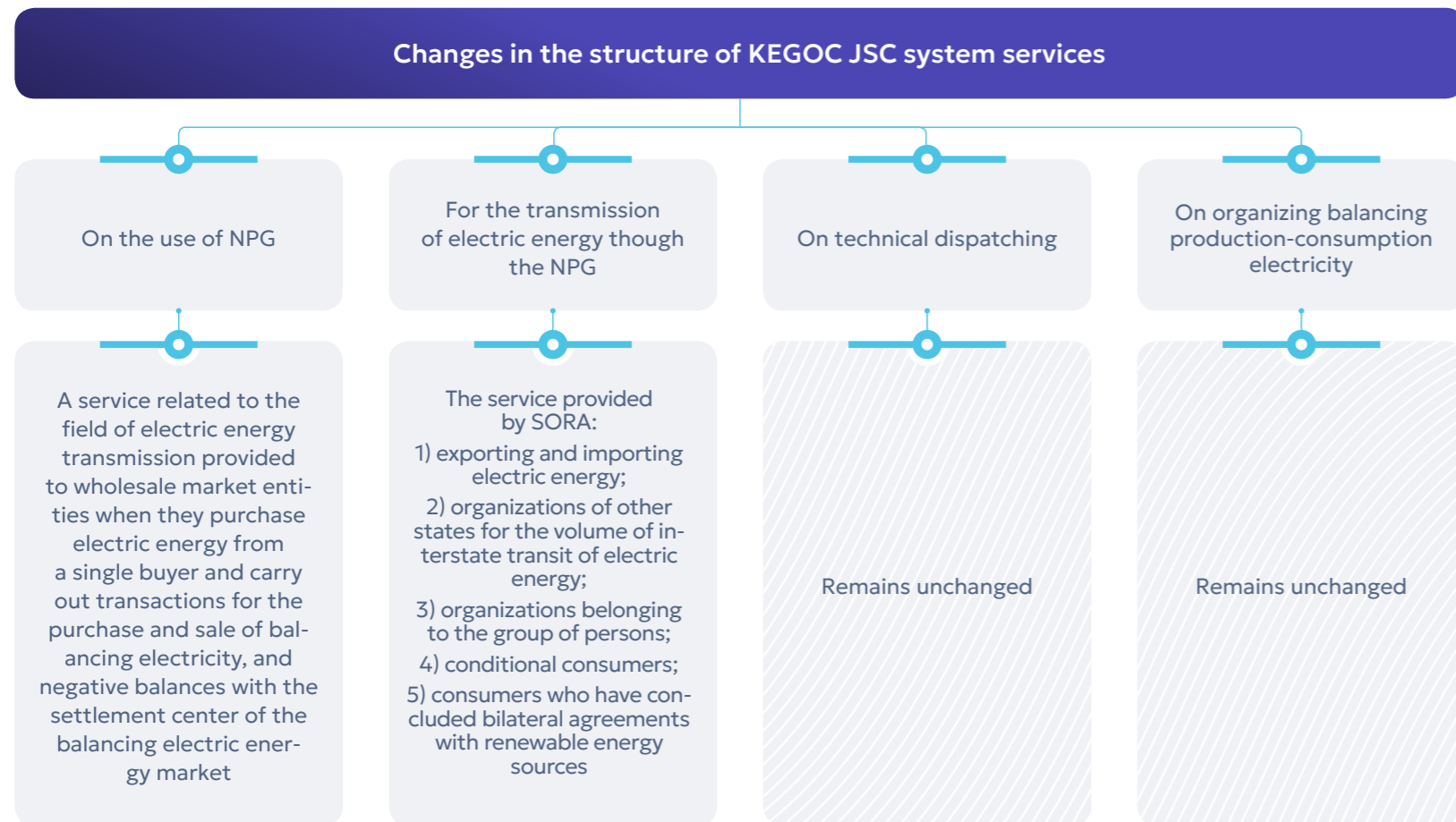
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IN 2023, THE LAW OF THE REPUBLIC OF KAZAKHSTAN ‘ON ELECTRIC POWER INDUSTRY’ WAS AMENDED IN TERMS OF THE INTRODUCTION OF A SINGLE ELECTRICITY BUYER MODEL FROM JULY 1, 2023 AND THE LAUNCH OF A BALANCING ELECTRICITY MARKET.

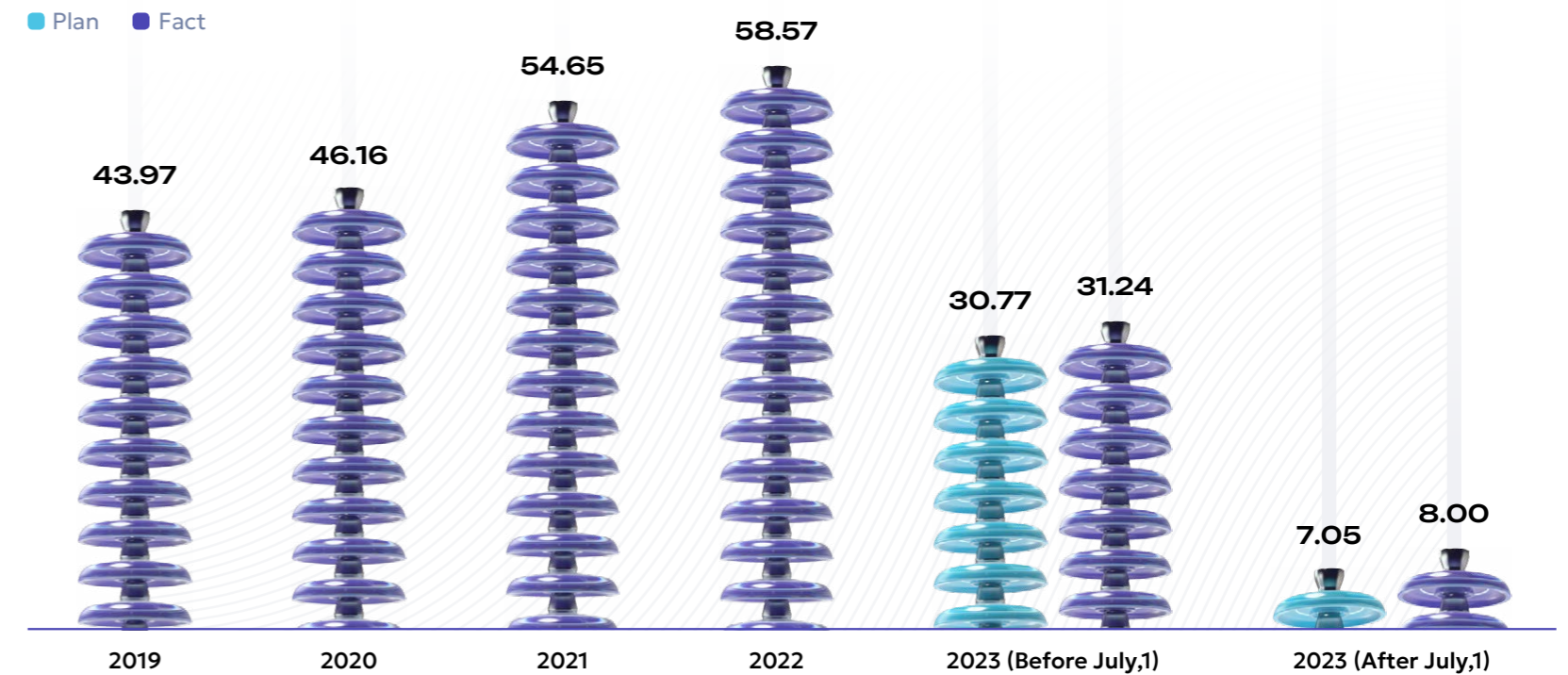
Within the framework of the Law ‘On Electric Power Industry’, a new service has been introduced for the use of NPG related to the field of transmission of electric energy in accordance with the legislation of the Republic of Kazakhstan ‘On Natural Monopolies’, provided by KEGOC JSC to subjects of the

wholesale electricity market when they purchase electricity from a Single buyer and carry out transactions for the purchase and sale of balancing electricity and negative imbalances with the settlement center of the balancing electricity market.

## Changes in the structure of KEGOC’s system services



## Transmission of electricity through the networks of KEGOC JSC, billion kWh



The actual volume of electricity transmission services through the NPG by July 1, 2023 amounted to 31.2 billion kWh, which is higher than planned by 1.42 billion kWh.

The Law of the Republic of Kazakhstan ‘On Amendments and Additions to Certain Legislative Acts of the Republic of Kazakhstan on administrative reform in the Republic of Kazakhstan’ amended the Law ‘On Electric Power Industry’ regarding the introduction of a Single Electricity Buyer model from July 1, 2023 and the launch of a balancing electricity market.

In this regard, the structure of the volume of services for the transmission of electric energy through the NPG has been changed.

Thus, according to paragraph 27-1) of Article 1 of the Law ‘On Electric Power Industry’, the service for the transmission of electric energy through the NPG — a service provided by a system operator to entities of the wholesale electric energy market exporting and importing electric energy, and organizations of other states for the volume of interstate transit of electric energy, organizations belonging to a group of persons engaged in the transmission of electric energy through NPG for facilities that are part of these organizations, conditional consumers, as well as consumers who have concluded bilateral agreements with energy-producing organizations using renewable energy sources.

Actual volumes of transmission services Electricity transmission services by NPG until July 1, 2023

**31.2 billion kWh**

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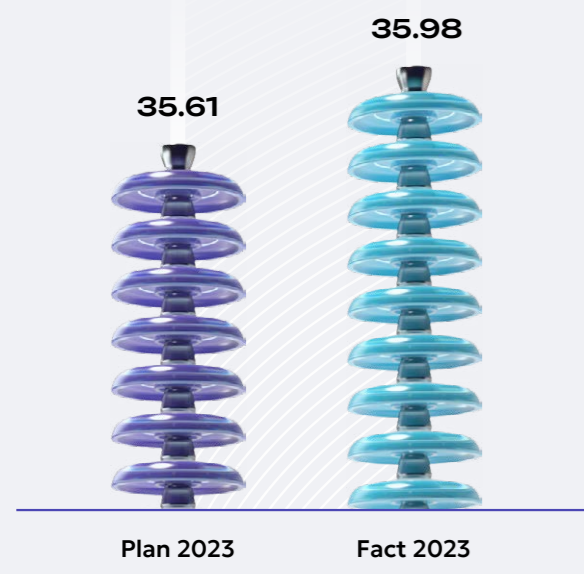
In 2023, interstate transmission (transit) of electricity was carried out through the networks of KEGOC JSC along the route Russia — Kazakhstan — Russia and the route Russia — Kazakhstan — Kyrgyzstan. The volume of electricity transit services provided amounted to 5.2 billion kWh. In addition, exports from the energy system of the Republic of Kazakhstan to the Kyrgyz Republic via the networks of KEGOC JSC in the amount of 1.1 billion kWh were carried out.



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### Use of the NPG

Use of NPG (from July 1, 2023), billion kWh



Actual volumes of services for the use of NPG in 2023 amounted to

**36.0** billion kWh

Volume of services rendered for technical dispatching of supply to the grid and consumption of electric power

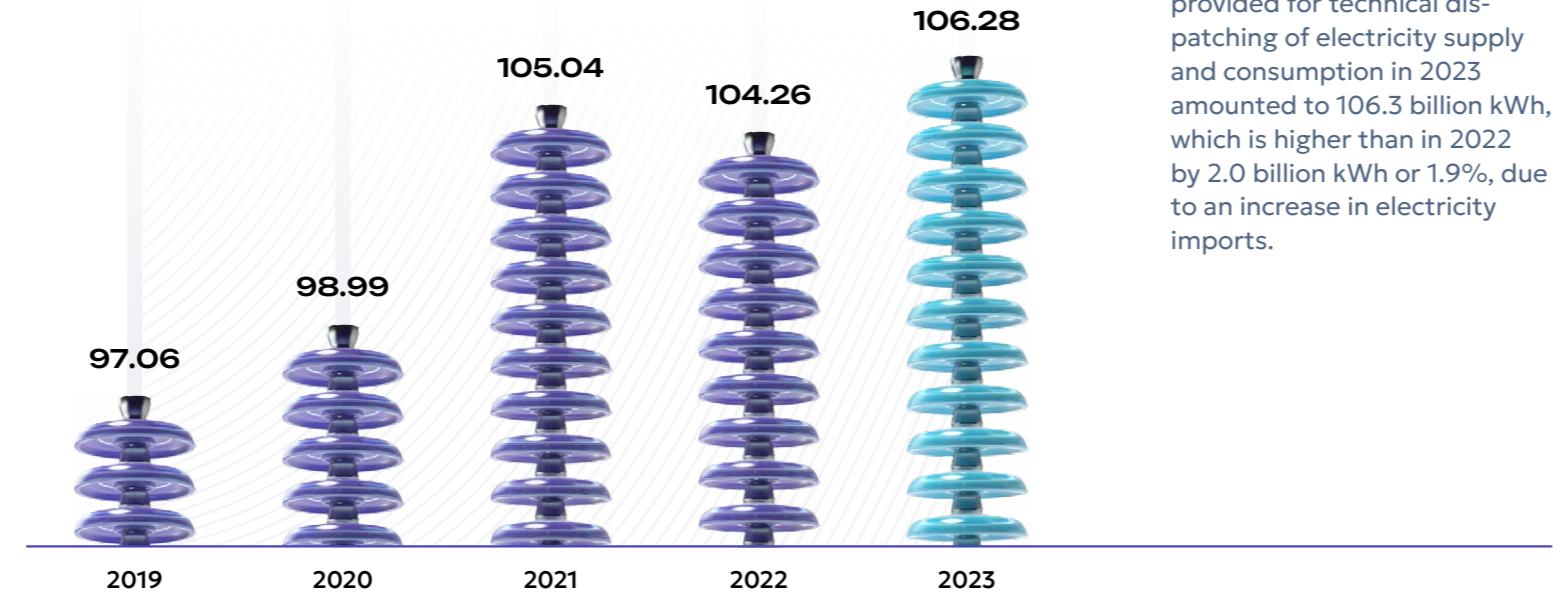
**106.3** ▲ 1.9% billion kWh

Volume of services for balancing production and consumption of electric energy

**205.4** ▲ 1.1% billion kWh

### Technical dispatching

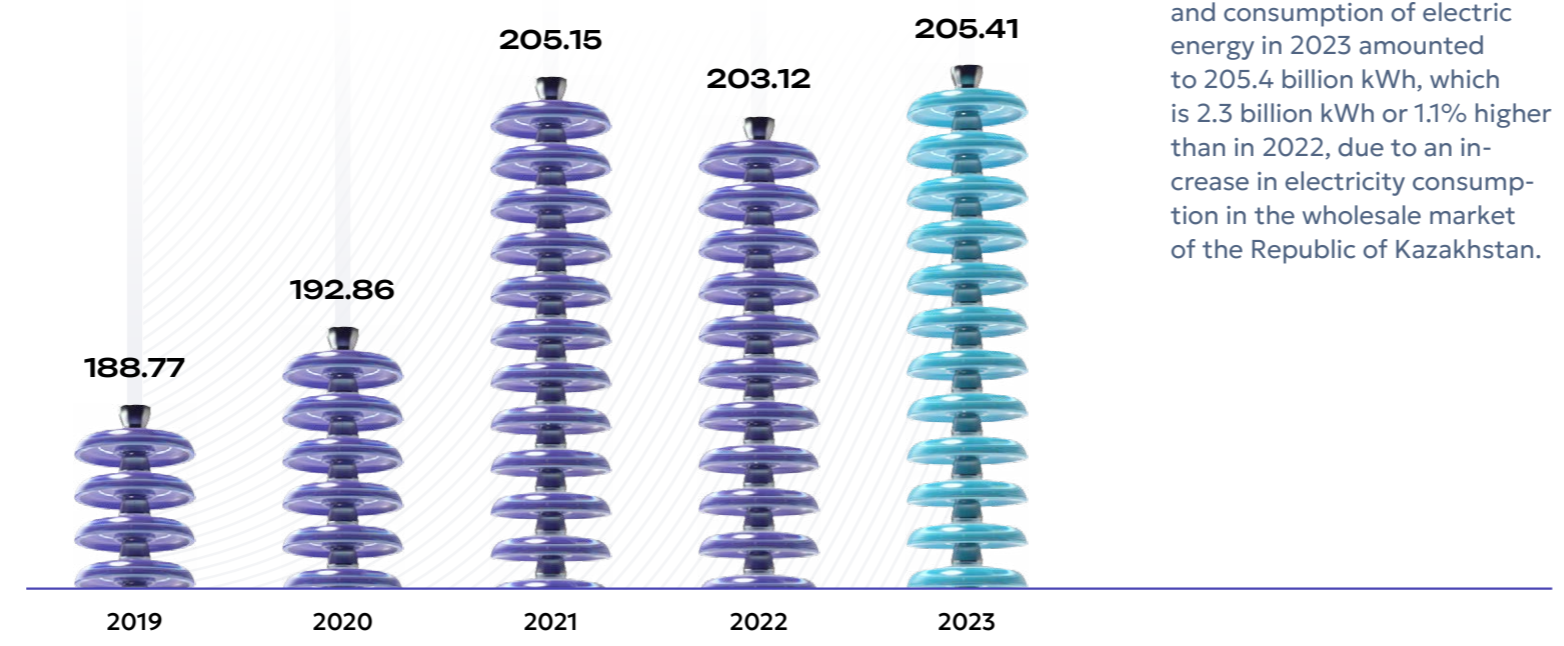
Technical dispatching of KEGOC JSC, billion kWh



The actual volume of services provided for technical dispatching of electricity supply and consumption in 2023 amounted to 106.3 billion kWh, which is higher than in 2022 by 2.0 billion kWh or 1.9%, due to an increase in electricity imports.

### Organization of balancing electricity production and consumption

Organization of balancing production and consumption of electricity, billion kWh



The actual volume of services for balancing production and consumption of electric energy in 2023 amounted to 205.4 billion kWh, which is 2.3 billion kWh or 1.1% higher than in 2022, due to an increase in electricity consumption in the wholesale market of the Republic of Kazakhstan.

### Transactions for the purchase and sale of electric energy

In accordance with the Law 'On Electric Power Industry', KEGOC JSC performs the function of the System Operator of the UPS of the Republic of Kazakhstan for interaction with the energy systems of neighboring states to manage and ensure the stability of parallel operation modes.

Electricity consumption in the UPS of the Republic of Kazakhstan during the day has a pronounced unevenness: consumption falls at night, increases by the beginning of the working day and reaches peak (maximum) values in the evening hours. At the same time, the UPS of the Republic of Kazakhstan, where the main share of generating capacity is accounted for by thermal power plants, which, according to their technology, operate in the basic mode (they cannot quickly change their load), cannot fully cover the variable consumption schedule with their own power plants. As a result, imbalances between electricity production and consumption arise in the UPS of the Republic of Kazakhstan. The situation of shortage of maneuverable generating capacities in the UPS of the Republic of Kazakhstan is also aggravated by emergency shutdowns of equipment of existing power plants and high rates of commissioning of renewable energy facilities, which are characterized by generation instability. In this regard, maintaining the frequency and covering the emerging imbalances in the UPS of the Republic of Kazakhstan is ensured, inter alia, through interaction within the framework of parallel work with the UPS of the Russian Federation.

In accordance with the Agreement between the Governments of the Republic of Kazakhstan and the Russian Federation on measures to ensure parallel operation of the energy systems of the parties dated November 20, 2009, KEGOC JSC and Inter RAO PJSC conclude electricity purchase and sale agreements on an annual basis in order to compensate for hourly deviations in the actual interstate balance of electricity flow from the planned one at the border. The UPS of the Republic of Kazakhstan and the UPS of the Russian Federation. In accordance with this Agreement, the financial result of the purchase and sale of deviations is a fair payment for the physical settlement of deviations of the UPS of the Republic of Kazakhstan by the energy system of the Russian Federation.

In 2023, the purchase of electricity by KEGOC JSC in order to compensate for hourly deviations in the actual interstate balance of electricity flow from the planned one at the border of the UPS of the Republic of Kazakhstan and the UPS of the Russian Federation amounted to 1,752.8 million kWh in the amount of KZT 31,116.9 million (KZT 17.75 /kWh).

The sale of electric energy by KEGOC JSC, in order to compensate for hourly deviations in the actual interstate balance of electric energy flows from the planned one at the border of the UPS of the Republic of Kazakhstan and the UPS of the Russian Federation, was carried out in the amount of 1,329.2 million kWh in the amount of KZT 8,621.9 million (KZT 6.49 /kWh).