

## Russian electric power market

Electricity consumption in the Unified Energy System (UES) of Russia in 2023 increased by 1.4% to 1,121.6 billion kWh<sup>1</sup>.

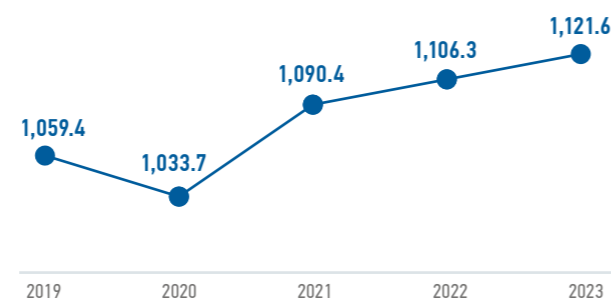
In accordance with the Scheme and Programme of Development of Electric Power Systems of Russia for 2024–2029, the electricity consumption in the UES of Russia is projected to increase by 2029 to 1,274.5 billion kWh, with increase in the maximum capacity consumption to 183,351 MW<sup>2</sup>. Given the anticipated expansion in energy and capacity consumption, the implementation of the planned actions on the development of generating capacities and power grids will ensure the reliable operation of electric power systems.

The Russian economy has undergone structural adjustments and transformation as a result of recent global events. The overall energy consumption in Russia will depend on the behaviour of key sectors of the economy and other significant factors.

Transition from coal and wood heating to electric heating is considered by the state as one of the environmental improvement measures for regions with unfavourable environmental situation under the federal project called Clean Air.



Variation of electricity demand in the UES of Russia, bln kWh



Source: operational data of JSC SO UPS.

### Possible drivers of growth in electricity demand by sector

Sector	Description
<b>Agriculture</b>	Demand will grow due to upgrade of ferrous metallurgy capacities.
<b>Construction</b>	Consumption will increase due to the growth in the number of illuminated and heated greenhouses in the vegetable growing sector, driven by the implementation of the Food Security Doctrine and increased exports of agricultural products.
<b>Trade</b>	The implementation of national projects and government programmes aimed at increasing the housing and the number of roads in Russia will lead to an increase in the production of energy-intensive building materials (including cement).
<b>Transport</b>	The most significant contribution to the growth of energy consumption in the trade sector will come from the development of e-commerce and the associated logistics and advertising infrastructure. Increased demand for data processing, storage and transmission will lead to an increase in the volume of data centre infrastructure commissioned.
<b>Transport</b>	Expansion of the electric vehicle and electric bus fleet will require the creation of a developed charging infrastructure and will increase the demand for electric power from electric transport.

## Main areas of international activities

The Company actively cooperates with partners from 13 foreign countries within the framework of concluded agreements and/or regular business contacts.

13 COUNTRIES	Asia and the Middle East	China, Iran, Mongolia, China, Vietnam and Iran
	Near-abroad countries and CIS	Abkhazia, Azerbaijan, Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Uzbekistan and South Ossetia

In addition, the Company's proposals are taken into account in 15 protocols of Intergovernmental Commissions on trade and economic co-operation with foreign countries.

15 COUNTRIES	Asia	China, India, Mongolia, Thailand, Vietnam, India, Mongolia and Thailand
	Near-abroad countries and CIS	Armenia, Azerbaijan, Kirgizia, Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan
	Middle East and Africa	Iran, Ethiopia
	Latin America	Cuba

<sup>1</sup> Report on the functioning of the UES in Russia in 2023 (based on operational data), SO UPS.  
<sup>2</sup> Order of the Minenergo of Russia No. 1095 dated 30 November 2023.



1.4%  
growth in electricity consumption in the UES of Russia in 2023

### Main areas of international co-operation

- Implementing instructions from the Government of the Russian Federation and the Ministry of Energy of the Russian Federation — promotion of national interests on the platforms of international organisations and associations
- Building strategic cooperation with foreign partners on the development of the electric power industry, exchanging experience and best practices, in particular in the field of innovative technologies and energy efficiency

- Promoting the Rosseti Group's own competences and developments in foreign markets, including through mechanisms of intergovernmental commissions of the Russian Federation with foreign countries and international organisations and associations
- Training and advanced training for foreign specialists under the training programmes of the Rosseti Group's training centres

For more details on the main areas of international activities, please see Appendix 1.

## Competitive Landscape

### Comparison of Rosseti with several Russian public companies in the electric power sector<sup>1</sup>

The results of the benchmarking study of PJSC Rosseti and the most comparable Russian public companies in the electric power sector by type of activity and size for 2023 demonstrate

the Company's high financial and economic efficiency, as well as high investor interest in the Company's shares despite the limited free-float.

Company name/Indicator <sup>2</sup>	PJSC Rosseti	PJSC RusHydro	PJSC InterRao	PJSC Unipro	PJSC EL5-Energo
Capitalisation, RUB bln	234.4 <sup>3</sup>	316.5	412.5	126	23.7
Average daily trading volume on the Moscow Exchange, RUB mln	388.6	222.1	431.6	352.8	149.0
Revenue, RUB bln	1,378.7	510.3	1,360.0	118.6	60.8
EBITDA, RUB bln	528.2	131.5	182.4	44.3	12.1
EBITDA margin, %	38.3	25.8	13.4	37.3	19.9

<sup>1</sup> Comparison covers the most liquid companies in the MOEXEU industry index.

<sup>2</sup> IFRS-based indicators for 2023.

<sup>3</sup> The capitalisation of PJSC Rosseti includes actual outstanding shares of the Company. The calculation is based on the closing price according to the data of the Moscow Exchange.

## Market share held by the Rosseti Group's companies

As a result of restructuring in 2023, PJSC Rosseti now is one of the world's largest power grid holdings, providing power supply to consumers in 82 regions of Russia, managing the Unified National (All-Russian) Power Grid (UNPG) and the distribution grid complex. It manages 2.56 million kilometres of power transmission lines and substations with a total capacity of 877 GVA.

PJSC Rosseti and subsidiaries engaged in electric power transmission and grid connection services are natural monopolies and critical entities of information infrastructure. PJSC Rosseti is included on the list of strategic joint stock companies<sup>1</sup>.

Required gross revenue (RGR) is an economically justified amount of financial resources required for regulated power grid companies to carry out their operations during the estimated regulation period. RGR serves as the basis for the approved tariffs for electricity transmission services in the regions where the Rosseti Group's companies operate. As a matter of fact, a share of distribution company in the total regional RGR fully corresponds to the market share in the Russian grid market.

### Share in the regional market for electricity transmission services under comparable tariff regulation conditions, %

Indicators	2022	2023
PJSC Rosseti (by region of operation)	73.4	74.2
<b>Distribution complex</b>		
PJSC Rosseti Centre	90.5	91.0
PJSC Rosseti Centre and Volga Region	79.3	79.9
PJSC Rosseti North-West	72.8	73.0
PJSC Rosseti Volga	63.1	63.0
PJSC Rosseti Lenenergo	80.2	81.0
PJSC Rosseti Siberia	63.3	65.3
PJSC Rosseti South	70.9	70.5
PJSC Rosseti Northern Caucasus	82.0	83.5
PJSC Rosseti Lenenergo	89.5	89.3
JSC Rosseti Tyumen	67.8	67.9
PJSC Rosseti Moscow Region	62.1	63.8
JSC Rosseti Yantar	81.6	82.7
PJSC Rosseti Kuban	77.2	77.1
PJSC TDC	71.0	72.6

**74.2%**

market share by RGR in the regions here the Rosseti Group operates

## Industry Consolidation

As one of the key measures for improving the efficiency of the electric power industry, the Energy Strategy of the Russian Federation envisages the gradual creation of a unified state-owned power grid complex. In this regard, one of the most important areas of PJSC Rosseti's activities is the consolidation of assets of the Russian power grid sector. Consolidation of power grid assets is a set of measures aimed at establishing Rosseti Group's control over power grid assets that are not part of and/or are not under the management of the Rosseti Group.

The main goals of power grid asset consolidation are as follows:

- To create a single centre of responsibility for ensuring reliable, high-quality, and affordable power supply
- To increase the share of PJSC Rosseti's subsidiaries in the 'common pot' revenue for electricity transmission services received from regional consumers of services
- To build an optimal power grid infrastructure and introduce digital grid elements

## Results of 2023

In the first half of 2023, the Rosseti Group took property consolidation measures with respect to the following projects:

- OJSC Tomsk Main Power Grids
- JSC DVEUK — UNPG
- JSC Kuban Main Power Grids

In the second half of 2023, the following were transferred to the authorised capital of PJSC Rosseti:

- Power grid facilities (UNPG) located in the Republic of Crimea, the Krasnoyarsk Territory and the Irkutsk Region
- Power grid facilities (distribution complex) located in the Maikop district of the Republic of Adygeya and the Kola district of the Murmansk Region
- Shares of JSC RES, Novosibirsk Region
- Shares of JSC Electromagistral, Novosibirsk Region
- Shares of JSC Energetik, Novosibirsk Region

### Consolidation of power grid facilities in 2023

Power grid equipment, thsd c.u.	434.1
Transmission lines, thsd km	89.8
Transformer capacity, thsd MVA	31.7
Value of contributed property and shareholdings, amount of financing for acquired property, RUB bln	149.1

**149.1 RUB BLN**

value of contributed property and shareholdings, amount of financing for acquired property



#### — How does PJSC Rosseti participate in the creation of the system of systemically important grid operators (SGOs) in Russia?

— We support the amendments to legislation proposed by the Minenergo of Russia that provide for the gradual consolidation of grid assets. This work is carried out in fulfilment of the instructions of the President of the Russian Federation and is aimed at improving the reliability of power supply to consumers.

Many small local grid operators (LGOs) have worn-out grids, no emergency provisions, no proper repairs and no upgrade programmes in place. However, along with other companies, they receive money through tariffs from the common pot that distributes the load to consumers. The problem should be addressed by consolidation of grids as envisaged by the industry development strategy.

In order to implement it, the Government of the Russian Federation approved in 2023 additional criteria for LGOs pertaining to the length of PTLs and the capacity of power supply centres. If a company does not meet these criteria, it ceases to operate as a LGO. However, the operation of its grids must continue in any case so that consumers are not affected. This task is supposed to be assigned to a systemically important LGO (SGO), as envisaged by the draft amendments to the Federal law "On Electric Power Industry" developed by the Minenergo of Russia.

In addition, the SGO will be responsible for the operation of ownerless grids and will be obliged to eliminate the consequences of accidents at the facilities of other owners upon the decision of the regional headquarters. This will make it possible to legalise the situation that already exists. The regional authorities are to decide which LGO is to be the SGO in accordance with the criteria approved by the Government of the Russian Federation.

The draft law does not give SGO the right to force consolidation of all grids. LGOs that retain their status will continue to operate, receive economically justified volumes of tariff revenue, connect new consumers and grow their grids. Thus, a SGO is, first of all, an instrument with a social and energy security function.

**Daniil Krainskiy,**  
Deputy General Director for Legal Support

<sup>1</sup> Decree of the President of the Russian Federation No. 1009 dated 4 August 2004.