

Improving the quality of grid connection services

Effective and successful customer relations are a priority for the Rosseti Group's companies. To this end, the Company applied a customer-centric approach to its business processes, supported by the Uniform Quality Standards for Customer Service of the Rosseti Group's companies¹ approved the Management Board of PJSC Rosseti.

For the convenience of consumers, the Group has the following channels of interaction:

- Face-to-face service offices
- Power engineers' hotline called Bright Line 220 with federal number 8-800-220-0-220
- Digital services of PJSC Rosseti's power grid portal (grid connection (GC) portal)
- Mobile application Rosseti — My Account
- Light Country portal

Based on customer needs and high demand for digital technologies, the Group transforms processes and introduces digital services, e.g., more than 50 services and facilities for consumers, grid operators and sales organisations were digitised on the GC Portal. In 2023, electronic services were upgraded and the functionality of the GC Portal was expanded as it comes to grid connections and additional services, as well as smart metering services.

To improve the accessibility of energy infrastructure and ensure uniform standards of electronic interaction, the Unified Portal of State and Municipal Services (Functions) offers the service on Rosseti grid connection of power receivers, which covers all regions where the Rosseti Group operates. PJSC Rosseti helped to connect third-party LGOs to the Unified Portal via the GC Portal. As of the end of 2023, the Rosseti Group received 448,000 grid connection applications through the digital services of the GC and the Unified Portal of State and Municipal Services (Functions).

Submit a grid connection application on the website portal-tp.rf



Main values and principles of the Uniform Customer Service Quality Standards



Availability of infrastructure, services and facilities

- Non-discriminatory access to energy infrastructure in accordance with the laws of the Russian Federation
- Accessibility of services and facilities for all consumers, taking into account their specific characteristics, and elimination of barriers
- Focus on the needs of consumers in building customer services and facilities



Quality of services and facilities

- Achievement of the established indicators of reliability and quality of services
- Improvement of the quality of services and facilities
- Proactive service delivery based on feedback and analytics
- Integration of digital technologies and digitalisation of services and facilities



Openness and transparency

- Regular feedback from consumers
- Open dialogue with all categories of consumers, consideration of feedback and consumer needs
- Transparency of business processes and objective consideration of consumer complaints

Level of customer satisfaction with grid connection services, points (out of 10 possible)



Investment activities

Rosseti Group's Investment Programme for 2024–2028 approved in 2023:

- Financing of the Investment Programme — RUB 1,239.8 bln, VAT included
- Commissioning of fixed assets — RUB 1,236.9 bln, VAT excluded
- Commissioning of transformer capacity — 31.5 GVA
- Commissioning of power transmission lines — 78,900 km

The Rosseti Group has an extensive investment programme.

The goals of the Rosseti Group's investment programme are as follows:

- To develop main and interregional power grids as part of the electric power complex of the Russian Federation
- To ensure reliable and uninterrupted transmission of electric power to consumers
- To ensure functioning of the wholesale market
- To facilitate joint operation of the Russian electric power system and electric power systems of foreign countries
- To ensure the economically sustainable and profitable operation of the Rosseti Group
- To improve the quality and reliability of electricity supply for end consumers
- To maintain tariff-based sources of investment in grid renewal and expansion



- To grow the Company, while creating of added value both in the electric power industry and in new markets
- To bolster interaction with consumers, the Rosseti Group and investors

Main areas of the investment programme

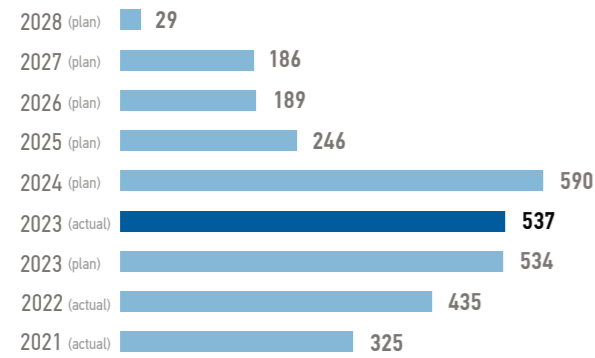
Renewal of equipment required for sufficient, reliable and uninterrupted power supply to consumers	Introduction of new capacities if necessary to cover load deficits or create a capacity margin
Reduction of production costs, in part by improving equipment efficiency, using more cost-effective technical solutions and reducing losses	Higher safety of equipment operation, including environmental safety
Upgrade and renewal of fixed assets	Provision for grid connections
Consolidation of power grid assets	

Rosseti Group's investment programme is reviewed annually to align it with industry development plans and customer needs.

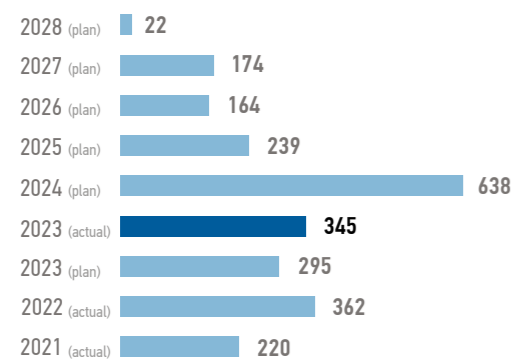
The investment programme is financed primarily from the Rosseti Group's own funds. The share of borrowed funds in the investment programme budgeting is 14%.

¹ Minutes of the Management Board of PJSC Rosseti No. 25 dated 23 May 2023.

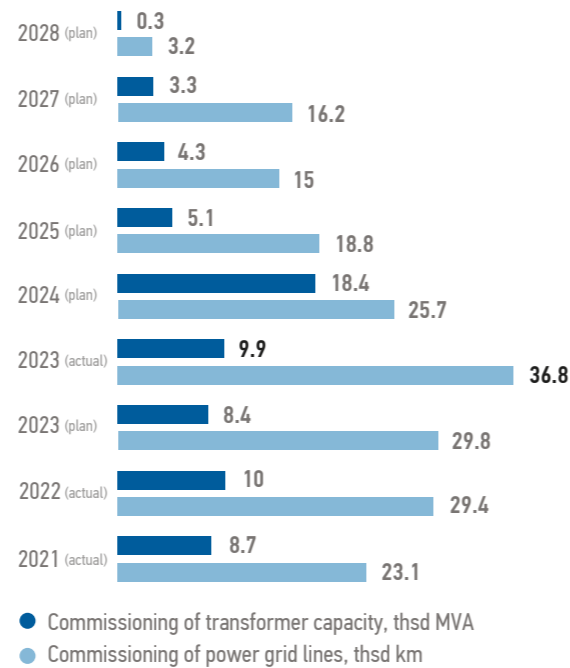
Budgeting of the Rosseti Group's investment programme, RUB bln (VAT included)



Commissioning by Rosseti Group, RUB bln (VAT excluded)



Rosseti Group's commissioning volumes



The indicators are on the downward trend, which is explained by the absence of approved long-term investment programmes for some subsidiaries of the Rosseti Group, including PJSC Rosseti, in the period from 2026 to 2028.



Rosseti Group's consolidated investment programme for 2024–2028 (approved in 2023)

Financing, RUB mln (VAT included)						
Indicator	2024	2025	2026	2027	2028	2024–2028
Distribution complex ¹	264,418	244,700	188,153	185,887	28,643	911,800
Transmission complex	325,907	1,032	1,030	0	0	327,969
Total for the Rosseti Group	590,325	245,732	189,183	185,887	28,643	1,239,769
Commissioning of fixed assets, RUB mln (VAT excluded)						
Distribution complex ¹	299,013	238,058	163,371	173,666	22,086	896,194
Transmission complex	338,976	696	1,018	0	0	340,690
Total for the Rosseti Group	637,988	238,754	164,389	173,666	22,086	1,236,884
Commissioning of PTLs as fixed assets, km						
Distribution complex ¹	23,753	18,754	15,046	16,196	3,203	76,951
Transmission complex	1,983	0	0	0	0	1,983
Total for the Rosseti Group	25,736	18,754	15,046	16,196	3,203	78,934
Commissioning of transformer capacity as fixed assets, MVA						
Distribution complex ¹	7,143	5,145	4,327	3,296	276	20,187
Transmission complex	11,263	0	0	0	0	11,263
Total for the Rosseti Group	18,406	5,145	4,327	3,296	276	31,450



Along with this, every year we see an increasing imbalance between target and system financing. Tariff sources along are not enough to fulfil of all existing tasks, and therefore the investment mechanisms need to be revised.

Though there are federal budget funds allocated, which are planned for reliability improvement programmes, however, electrification of the Eastern Range and debottlenecking are system projects that are implemented upon targeted business requests. For these projects, we suggest financing mechanisms that are similar to capacity delivery agreements (CDA) in the generation sector. Another option is to use funds from the positive unbalance of the Nodal Price Difference Fund (NPDF).

— Will there be any changes to project financing given the tasks currently facing the united Company?

— Grid infrastructure is one of the basic systems that influence the national energy security and lay the groundwork for social and economic growth. The Rosseti Group is now dealing with ambitious tasks associated with the electrification of the Eastern Railway Range and higher reliability of power supply to consumers, including in the North Caucasus, as well as other fundamental issues.

Alexey Molsky,
Deputy General Director for Investments and Capital Construction

¹ Including interdependent companies.

Implementation of Rosseti Group's investment programme in 2023

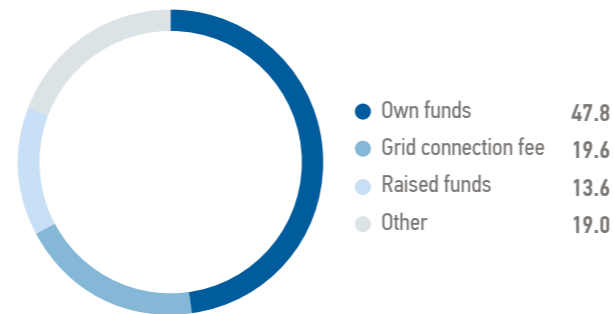
In 2023, the Rosseti Group implemented a record-setting investment programme, covering the power supply to new transport, industrial and social facilities, and residential complexes, including those built under national projects in accordance with the Decree of the President of the Russian Federation, Vladimir Putin¹.

536.9 RUB BLN

total financing of the Rosseti Group's investment programme in 2023

In the reporting year, the Rosseti Group managed to meet the investment programme targets, while maintaining the planned level of financing. Commissioning of fixed assets in value terms exceeded the target by 17%, commissioning of transformer capacity — by 18%, and commissioning of PTLs — by 24%.

Sources of financing for the investment programme in 2023, %



Key performance parameters of the Rosseti Group's consolidated investment programme in 2023

S&A/SoS	Financing, RUB mln, VAT included	Commissioning, RUB mln, VAT excluded	Commissioning, km	Commissioning, MVA
Distribution complex				
PJSC Rosseti Siberia	13,518	8,811	1,802	336
PJSC TDC	954	587	111	24
JSC Rosseti Tyumen	16,182	8,477	311	144
PJSC Rosseti Ural	20,239	14,446	7,605	1,652
PJSC Rosseti Volga	9,862	8,968	1,448	127
PJSC Rosseti South	5,417	3,523	681	115
PJSC Rosseti Kuban	18,235	11,960	1,052	606
PJSC Rosseti Northen Caucasus	4,502	3,246	288	67
JSC Chechenenergo	3,975	758	324	14
PJSC Rosseti Centre and Volga Region	31,484	24,919	7,515	1,122
PJSC Rosseti North-West	8,841	7,678	1,830	223
PJSC Rosseti Lenenergo	46,823	36,946	2,467	907
JSC Rosseti Yantar	4,116	3,665	375	67
PJSC Rosseti Centre	20,666	18,443	3,366	451
PJSC Rosseti Moscow Region	71,664	72,715	5,480	1,737
PJSC Rosseti Siberia Tyvaenergo	527	440	187	28
JSC RES	5,554	4,292	490	390
JSC EESK (Ekaterinburg Power Grid Company)	3,090	1,925	352	206
JSC TGES	553	446	53	14
JSC VMES	374	385	128	21
Total for the distribution complex	286,577	232,631	35,865	8,251
Transmission complex				
PJSC Rosseti	248,808	111,787	909	1,594
JSC Electromagistral	1,512	806	0.7	63
Total for the transmission complex	250,320	112,593	909	1,657
Total for the Rosseti Group	536,897	345,224	36,774	9,908

¹ Presidential Decree No. 204 dated 7 May 2018 "On National Goals and Strategic Objectives for the Development of the Russian Federation until 2024".

Key investment projects in 2023



1 BAM and Trans-Siberian Railway facilities:

- Nizhneangarskaya – Ust-Kut 500 kV OTL with Nizhneangarskaya 500 kV substation
- Zilovo – Kholbon 220 kV OTL, Zilovo – Mogocho 220 kV OTL
- Ust-Ilimskaya HPP – Ust-Kut No. 3 500 kV OTL
- Komsomolskaya – Start No. 1 220 kV OTL

1,002 MVA 1,171 km

2 Retrofitting of Dmitrov 220 kV substation and Raduga 220 kV OTL

- Yartsevo (grid connection of JSC Special Economic Zone of Technology and Innovation Dubna)

18.6 km

3 Comprehensive renovation of Zavod Ilyich 330 kV substation

376 MVA

4 Renovation of 110 kV power supply centres in the Sochi energy district

- Renovation of Pasechnaya 110 kV substation
- Renovation of Adler 110 kV substation
- Renovation of Kudepsta 110 kV substation

210 MVA

5 Renovation of Raduga 500 kV substation (grid connection of JSC Vyksa Metallurgical Plant)

250 MVA

6 Grid connection of oil and gas facilities in Khanty-Mansi Autonomous District — Yugra

- Renovation of Tavricheskaya – KNS-5 110 kV OTL
- Sorovskaya 2 110/35/6 kV substation with 110 kV OTL

80 MVA 31 km

7 Grid connection of industrial facilities of the Siberian Federal District

- Ust-Kut – Kovykta 220 kV OTL
- Renovation of NPS-7 – NPS-9 220 kV OTL
- Ozernaya 220 kV substation and Chita – Ozernaya 220 kV OTL
- Renovation of Taiga 220 kV substation – Razdolinskaya 220 kV substation, Priangarskaya – Razdolinskaya 220 kV OTL

876 MVA 761 km

8 Grid connection of industrial facilities of the Far Eastern Federal District

- Nyuya 220 kV substation and Nyuya – Chayanda 220 kV OTL
- Khimkombinat 500 kV substation with renovation of Zeyskaya HPP – Amurskaya 500 kV OTL
- Nergen 500 kV substation

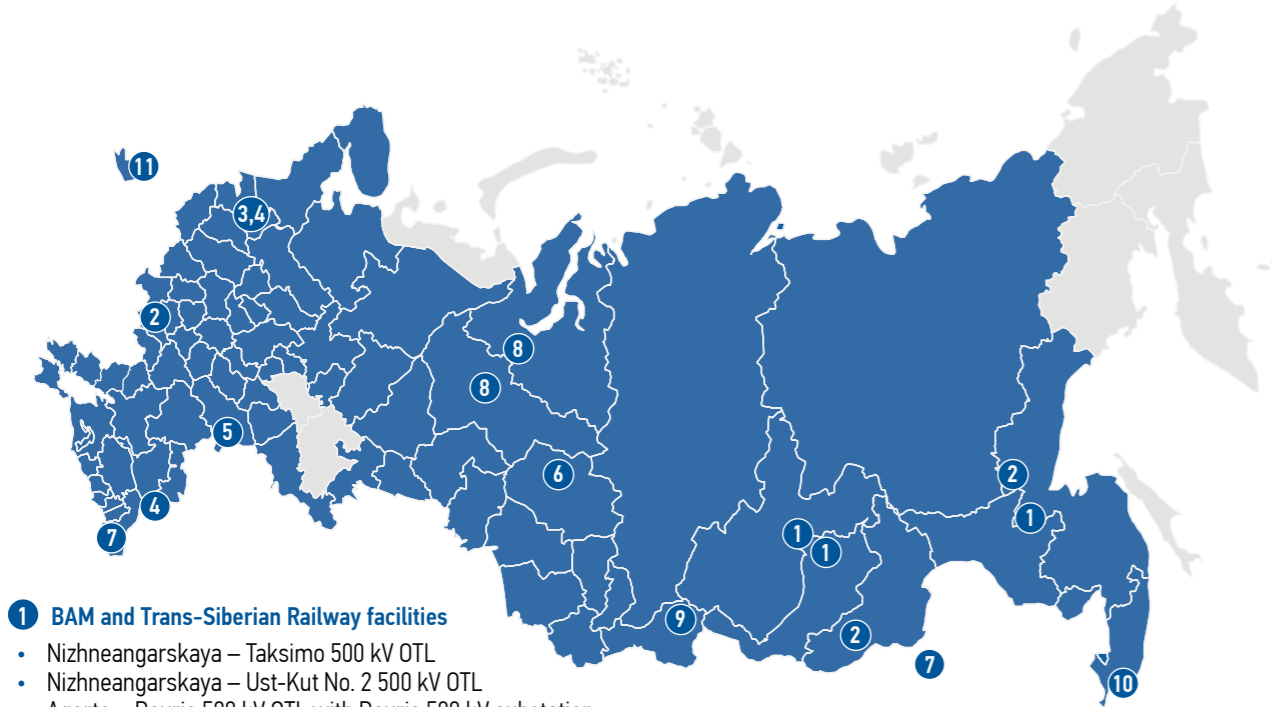
126 MVA 101 km

9 Renovation of 6–10 kV distribution grids in Kaliningrad

- Upgrade of 300 transformer substations/power distribution substations

14 km

Key investment projects in 2024



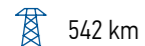
1 BAM and Trans-Siberian Railway facilities

- Nizhneangarskaya – Taksimo 500 kV OTL
- Nizhneangarskaya – Ust-Kut No. 2 500 kV OTL
- Agorta – Dauria 500 kV OTL with Dauria 500 kV substation and Agorta 500 kV substation



2 Comprehensive Infrastructure Modernisation and Development Plan (RF Government Order No. 2101-r dated 30.09.2018)

- Makkaveevo – Chita 220 kV OTL
- Prizeyskaya – Elgaugol 220 kV OTL with Elgaugol 220 kV substation
- 330 kV OTL from Kursk NPP – Sumy Severnaya 330 kV OTL to Belgorod 330 kV substation



3 Construction of Centralnaya – RP-9 20 kV, DC high-temperature superconducting cable line



4 Grid connection JSC Obukhov Plant (MIC)

- Troitskaya 110 kV substation with 110 kV PTL



5 Grid connection of a data centre PJSC Sberbank

- Chapaevskaya 220 kV substation with 220 kV OTL



6 Construction of power grid facilities in the Southern Federal District

- Novaya 220 kV substation with 110–220 kV PTL



7 Reliability improvement programmes in the North Caucasian Federal District

- Renovation of 17 facilities in the Republic of Dagestan
- Renovation of 4 facilities in the Chechen Republic



8 Reliability and grid connection facilities for large consumers in the Tyumen Region

- Moskovskaya 110 kV substation with 110 kV OTL
- Shakurovskaya 110 kV substation with 110 kV OTL
- Renovation of Snezhnaya – Khanty Mansiyskaya 110 kV OTL



9 Objects of the Integrated Development Plan of the Republic of Tyva

- Turan – Tumannaya 220 kV OTL
- Renovation of Oznachennoye 500 kV substation
- Renovation of Kyzylskaya 220 kV substation



10 Grid connection of CJSC Nakhodka Fertiliser Plant

- Renovation of Lozovaya – Nakhodka 220 kV aerial cable line



11 Grid connection of LLC RENERA-Enertek

- Zavodskaya 110 kV with 110 kV OTL



Implementation of PJSC Rosseti's Investment Programme

PJSC Rosseti's investment programme is aligned with opinions of key stakeholders, including consumers, federal and regional authorities, and relevant ministries and agencies, as well as strategic objectives for developing grid infrastructure and strengthening the national energy security.

Thus, the programme for 2023–2024 incorporated the comments and proposals received during the public discussion of the draft document in March 2023, initiatives of federal executive authorities, constituent entities of the Russian Federation¹, as well as decisions of the Minenergo of Russia.

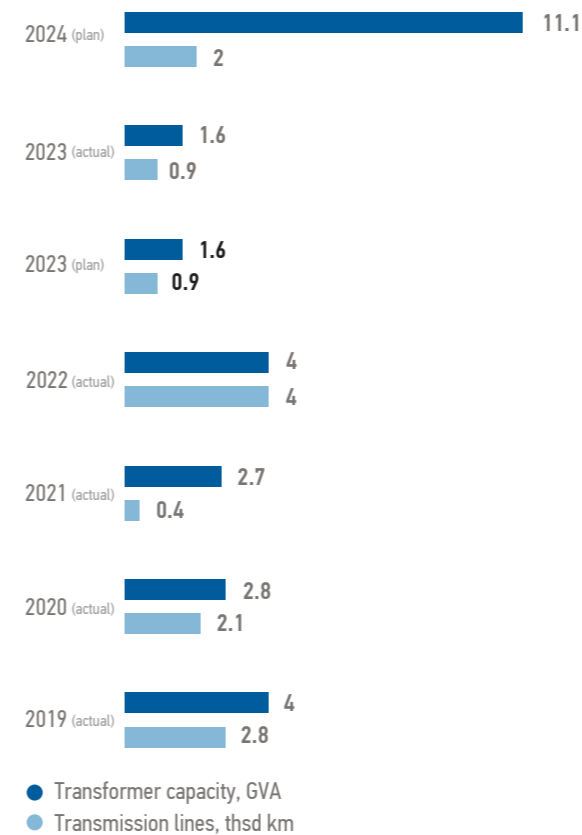
The document includes measures to improve energy security of the Russian Federation, increase the capacity of controlled cross-sections between the Interconnected Power System (ICPS) of the Urals and the ICPS of Siberia, increase the efficiency of interconnection capacity utilisation, and ensure the possibility of additional transmission of electric power and capacity from the ICPS of the Urals to the ICPS of Siberia in low-water years.

PJSC Rosseti's investment programme also takes into account grid connection projects, as well as new interconnection measures for parallel synchronous operation of the ICPS of Siberia and the ICPS of the East. This will make it possible to launch a competitive market pricing mechanism for electricity and capacity in the eastern regions and improve the reliability and quality of power supply to consumers.

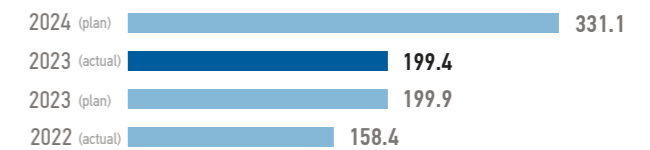
The total amount of investments planned for 2023–2024 is RUB 583.6 billion. Implementation of PJSC Rosseti's investment programme will address the main crucial tasks of maintaining the technical condition of the UNPG, including the nationwide tasks of ensuring the operation of critical facilities, including socially important ones.

According to its investment programme, the Company plans to commission 11.1 GVA of capacity and 2,000 km of power transmission lines as part of the fixed assets in 2024.

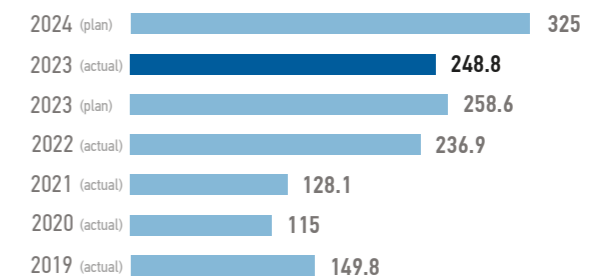
Dynamic pattern of capacity commissioning



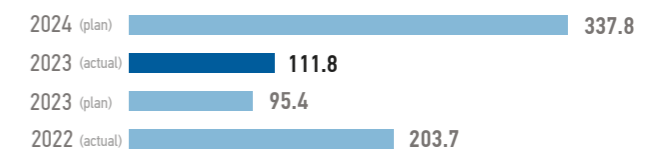
Volume of capital investment utilisation (VAT excluded), RUB bln



Amount of financing, RUB bln



Commissioning of grid capacity as part of fixed assets, RUB bln



¹ In accordance with the procedure defined by Resolution of the Government of the Russian Federation No. 977 dated 1 December 2009.