

# TRADING

The 'Trading in the Russian Federation and Europe' segment includes seven companies that carry out trading operations for the export and import of electricity as well as the sale and purchase of electricity (capacity) in the countries where they operate. Electricity is supplied both under commercial contracts and as part of parallel work with foreign energy systems and emergency mutual assistance.

PJSC Inter RAO is the leading Russian electricity export and import operator and the sole participant in export and import operations on the Russian Wholesale Electricity and Capacity Market (WECM). The segment provides foreign electricity supplies from the subsidiary JSC Eastern Energy Company and a third-party company as an agent. The Group's trading companies in the countries of Northern Europe and the Baltic States carry out trading operations for the purchase and sale

of electricity on the unified exchange platform Nord Pool and Nasdaq OMX Commodities and on the national exchange PolPx in Poland.

In 2018, the segment conducted trade operations in the following countries: Finland, Belarus, Lithuania, Norway, Ukraine, Latvia, Estonia, Poland, Georgia, Azerbaijan, Kazakhstan, South Ossetia, Mongolia, and China.

The Group's geography encompasses

**14** countries

Company	Description	Country
PJSC Inter RAO	In this segment, PJSC Inter RAO acts as an export and import operator of electricity within the Russian Federation <sup>1</sup> . In 2018, electricity was supplied both under commercial contracts and as part of parallel work with foreign energy systems and emergency mutual assistance as is customary.	Russia
RAO Nordic Oy	The company is registered in Finland and is a subsidiary of the Group, as PJSC Inter RAO owns 100% of the company's charter capital. It purchases electricity from PJSC Inter RAO for its subsequent sale to Nordic countries. There are plans to maximize the volume of electricity supplies from Russia to Finland taking into account the economic viability.	Finland
AB INTER RAO Lietuva	One of the largest independent electricity suppliers in Lithuania and a leading player on the electricity market in the Baltic states.	Lithuania
SIA INTER RAO Latvia	One of the independent electricity suppliers on the Latvian energy market. In 2019, the company does not expect significant changes compared with 2018. In the future, it plans to develop activities on the retail market in the country.	Latvia
INTER RAO Eesti OU	Sells electricity on the highly competitive Estonian energy market. In 2019, the company does not expect significant changes compared with 2018. In the future, it plans to develop activities on the retail market in the country.	Estonia
IRL Polska Sp. z o.o.	Engages in electricity trading activities in Poland on the day-ahead market and intraday market (RDNiB) as well as the derivatives market (RTT).	Poland
JSC Eastern Energy Company	Supplies electricity to China and Mongolia and is involved in joint Russian-Chinese investment projects that aim to develop the export of Russian electricity to China as well as cooperation in the energy sector with other countries in Asia and the Asia-Pacific region. Development plans call for a phased increase in the export of electricity from Russia to China with the construction of a 1,000-MW thermal power plant in the Far Eastern Federal District using coal from the Yerkovetsky coal deposit as well as increasing electricity exports to Mongolia using the capacity of existing interstate power transmission lines.	Russia

<sup>1</sup> Directive No. 1715-r of the Government of the Russian Federation dated November 13, 2009.

**STRUCTURE OF ELECTRICITY EXPORTED BY THE GROUP ACROSS THE BORDER OF THE RUSSIAN FEDERATION EXCLUDING AGENCY CONTRACTS, MLN KWH**

Country	2016	2017	2018	Change vs. 2017, %	Comments
Export volume, including by direction	17,002	16,699	16,712	0.1	
China	3,320	3,319	3,109	-6.3	The slight decline in supplies compared with the 2016–2017 level is due to a decrease in the counterparty's demand for electricity in 2018.
Finland	5,282	5,040	6,903	37.0	Favorable prices on the NordPool market in this energy zone were the main factor that influenced the increase in supply.
Lithuania	3,019	3,131	4,415	41.0	
Belarus	3,181	2,733	49	-98.2	In 2018, supplies were only made as part of the parallel operation of energy systems. This is due to the existing balance in the integrated power system of Belarus (IES of Belarus) and the lack of an agreement with the counterparty regarding commercial electricity supplies from the UES of Russia.
Kazakhstan	1,164	1,294	1,347	4.1	Deviations in this segment are mainly related to the flow volume as part of the parallel operation of the energy systems of Russia and Kazakhstan.
Other countries	1,037	1,182	889	-24.8	The deviation relative to 2017 is mainly due to a projected decline in exports to Georgia in 2018 and is related to the balance of the foreign energy system.

**STRUCTURE OF ELECTRICITY IMPORTED BY PJSC INTER RAO ACROSS THE BORDER OF THE RUSSIAN FEDERATION EXCLUDING AGENCY CONTRACTS, MLN KWH**

Country	2016	2017	2018	Change vs. 2017, %	Comments
Import volume, including by direction	3,143	6,230	5,122	-17.8	
Kazakhstan	2,726	5,736	4,825	-15.9	The reduction in electricity imports from Kazakhstan is due to a decrease in commercial electricity supplies under a contract with LLP Ekibastuzskaya TPP-1 as a result of their termination starting from August 2018.
Georgia	148	262	97	-63.0	
Other countries	270	232	200	-13.8	

The main strategic objective traditionally faced by companies in the segment is to conduct foreign trade operations with electricity generated in Russia and foreign countries as efficiently as possible as well as enhance the efficiency of foreign trade activities. To meet these objectives, key KPIs have been established for the management and employees of PJSC Inter RAO as well as for the senior executives of key subsidiaries on reaching the electricity sales volumes and marginal profits approved in the companies' business plans.

Main objectives faced by management for the development of the Trading segment within the context of strategic priorities:

- to maintain and consolidate existing positions as an export-import operator taking into account integration processes on Russian and foreign energy markets within the Eurasian Economic Union
- to conduct foreign trade operations with electricity generated in Russia and foreign countries as efficiently as possible

In 2018, all the objectives set for the 'Trading in the Russian Federation and Europe' segment were achieved.

No significant changes in the activities of the companies in the segment are projected in the short term. In 2019, cumulative sales volumes are expected to remain at the 2018 level, although weather and man-made factors in the countries where the companies operate as well as exchange rates could significantly affect the segment's activities. If these factors have a positive influence, the companies in the segment traditionally set the goal of maximizing supply volumes and profits.

## Changes to the regulatory framework

In 2018, amendments were made to the Eurasian Economic Union (EEU) Treaty in connection with the accession of the Kyrgyz Republic and the Republic of Armenia to the EEU<sup>2</sup>. Based on this decision, changes were made to the Methodology for the Interstate Transmission of Electric Power (Capacity) between Member States.

Resolution No. 1496 of the Government of the Russian Federation dated December 8, 2018 was published on issues concerning the accession of the western and central districts of the electric power system of the Republic of Sakha (Yakutia) to the Unified Energy System of Russia as well as amendments and the repeal of certain acts of the Government of the Russian Federation.

## Measures to reduce country and regulatory risks

Current risks for the European region include strengthening ties between power systems within the EU (ENTSO-E) and a desire for energy independence from third countries. In particular, the commissioning of new interstate power transmission lines will have a significant impact on the volume of electricity supplies from Russia.

Key measures to reduce risks in trading activities include:

- diversification of the portfolio of trade contracts with different price levels
- flexible changes in the electricity supply schedule under contracts depending on the current price situation
- conclusion of foreign economic contracts at a fixed price or with established restrictions on price parameters
- management of supply volumes in the trade portfolio on the domestic and foreign energy markets, including the planning of export-import electricity supplies, taking into account repairs to the electrical equipment of the UES

### ELECTRICITY SALES, MLN KWH

Country	2016	2017	2018	Change vs. 2017, %	Comments
Sold, including:	22,134	25,108	24,194	-3.6	
Russia	3,143	6,230	5,122	-17.8	This decline is mainly attributable to a reduction in electricity imports from Kazakhstan due to a decrease in commercial electricity supplies under a contract with LLP Ekibastuzskaya TPP-1 as a result of their termination starting from August 2018.
Finland	5,701	5,578	7,476	34.0	PJSC Inter RAO was able to significantly increase exports compared with the actual volumes supplied in previous periods.
Lithuania	3,452	3,698	5,315	43.7	Favorable prices on the NordPool market in these energy zones were the main factor that influenced the increase in supply.
Belarus	3,181	2,733	49	-98.2	In 2018, supplies were only made as part of the parallel operation of energy systems. This is due to the existing balance in the integrated energy system of Belarus (IES of Belarus) and the lack of an agreement with the counterparty regarding commercial electricity supplies from the UES of Russia. Flows that are comparable with 2018 are expected in 2019 and beyond.
China	3,320	3,319	3,109	-6.3	The slight decline in supplies compared with the 2016–2017 level is due to a decrease in the counterparty's demand for electricity. It should be noted that exports exceeded the plan for 2018 thanks to the agreements reached with the counterparty.
Other countries	3,337	3,550	3,123	-12.0	The deviation relative to 2017 is mainly due to a projected decline in exports to Georgia in 2018 and is related to the balance of the foreign energy system.

<sup>2</sup> Resolution No. 494 of the Government of the Russian Federation dated April 21, 2018.